

**REVIEWED**

*By Mike Buchanan at 3:14 pm, Oct 16, 2023*

**Jaquez GC B 003 E  
nJK1129233406  
30-045-24217  
2022 Annual SVE/GWMW**

Review of the  
Jaquez GC B 003  
2022 Annual SVE/  
GWMW Report:

**Content**

**Satisfactory.**

1. Continue to operate the SVE system and conduct routine O&M as scheduled.
2. Please continue to send reporting on a quarterly basis or annually.

**SIMCOE LLC - Jaquez Gas Com B 003E****Summary SVE System Monitoring Data**

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H <sub>2</sub> O Drained from drum?	H <sub>2</sub> O Amt. Drained (Gal.)?	Comments
8/27/2019	see comments	1,765	24	50	-	-	-	Initial start up (SVE - #2,#3,#4,#5,#6,#7 open)
8/28/2019	see comments	1,727	24	50	YES	NO		(SVE - #2,#3,#4,#5,#6,#7 open), drum water below drain plug
8/29/2019	see comments	1,441	24	NA	YES	NO		(SVE - #2,#3,#4,#5,#6,#7 open), drum water below drain plug
8/30/2019	see comments	3,755	25	50	YES	NO		(SVE - #2,#3,#4,#5,#6,#7 open), drum water below drain plug
8/31/2019	see comments	3,549	25	50	YES	NO		(SVE - #2,#3,#4,#5,#6,#7 open), drum water below drain plug
9/3/2019	see comments	1,718	20	50	YES	NO		All 9 SVE pts. open; drum water below drain plug
9/4/2019	#3,#5,#7	2,257	42	50	YES	NO		drum water below drain plug
9/5/2019	#3,#5,#7	2,090	42	60	YES	NO		drum water below drain plug
9/10/2019	#3,#5,#7	1,757	42	60	YES	NO		drum water below drain plug
9/12/2019	#3,#5,#7	1,757	41	60	YES	NO		drum water below drain plug
9/19/2019	#3,#5,#7	3,600	41	50	YES	NO		drum water below drain plug
9/25/2019	#3,#5,#7	3,040	41	NA	YES	NO		Water in drum 2.5" above drain plug
10/3/2019	#3,#5,#7	1,057	40	50	YES	NO		Water in drum not measured
10/8/2019	#3,#5,#7	2,603	40	NA	YES	YES	15.50	Peak reading for OVM recorded
10/16/2019	#3,#5,#7	1,695	39	NA	YES	YES	17.00	Drained, restarted
10/22/2019	#3,#5,#7	830	39	50	YES	YES	14.00	Drained, restarted
10/29/2019	#3,#5,#7	1,384	38	NA	YES	YES	20.50	Drained, restarted
11/1/2019	#3,#5,#7	NA	38	NA	YES	YES	14.00	Drained, restarted
11/6/2019	#3,#5,#7	800	36	NA	YES	YES	16.00	Drained, restarted
11/12/2019	#3,#5,#7	917	36	NA	YES	YES	17.00	Drained, restarted
11/22/2019	#3,#5,#7	NA	NA	NA	NO	NO		high water level shut off, drum water below drain plug, restarted
11/29/2019	#3,#5,#7	1,015	34	80	YES	YES	25.50	Drained, restarted
12/6/2019	#3,#5,#7	NA	33	NA	NO	YES	9.00	Drained, restarted, then collected data
12/10/2019	#3,#5,#7	836	34	NA	YES	YES	14.00	Drained, restarted

**SIMCOE LLC - Jaquez Gas Com B 003E****Summary SVE System Monitoring Data**

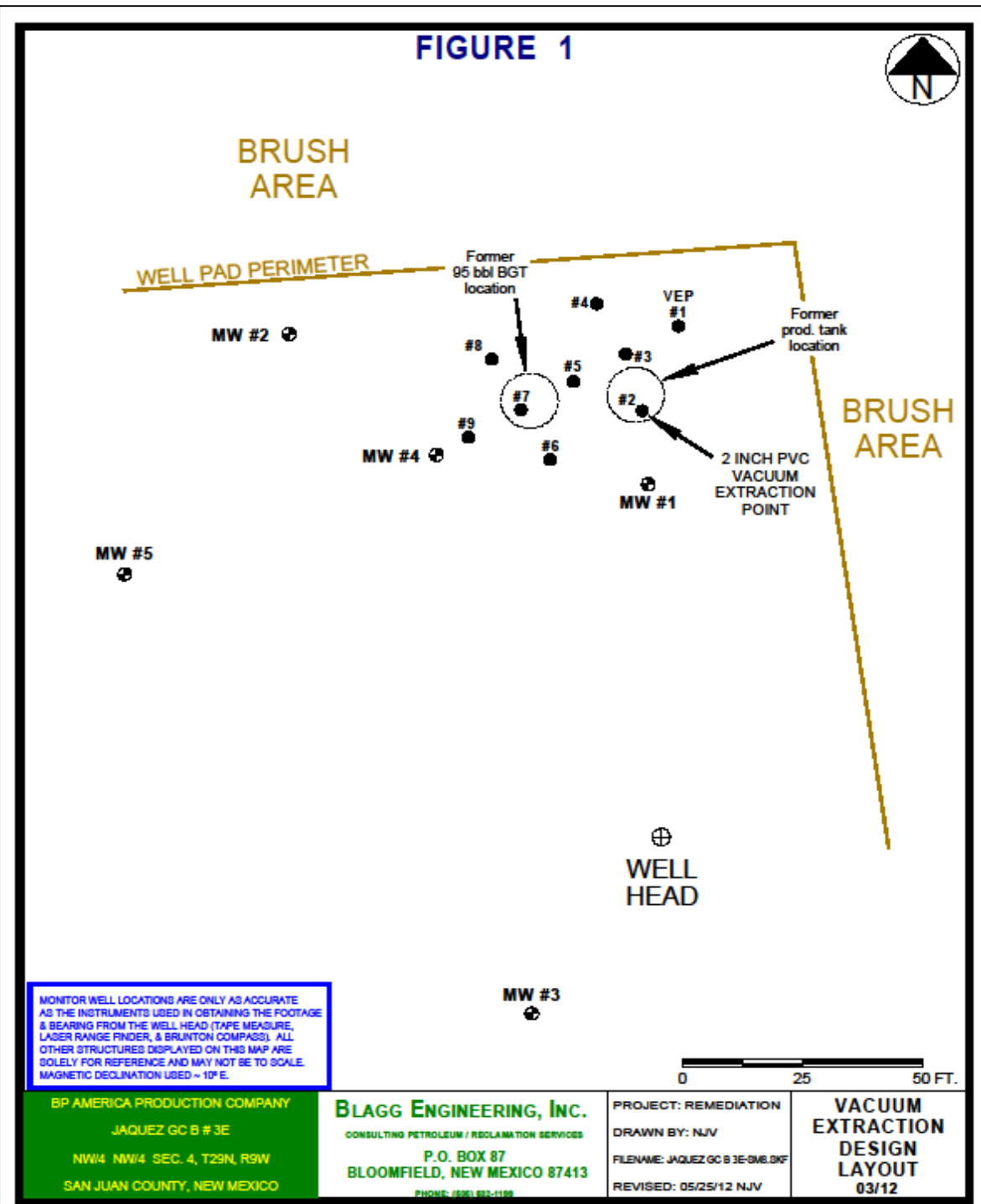
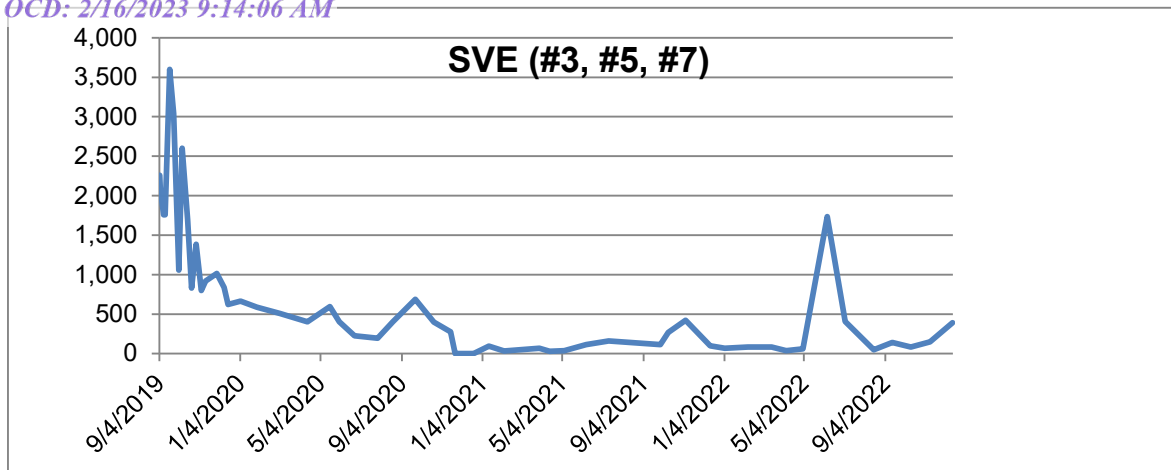
Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H <sub>2</sub> O Drained from drum?	H <sub>2</sub> O Amt. Drained (Gal.)?	Comments
12/16/2019	#3,#5,#7	623	33	95	YES	YES	22.00	Drained, restarted
12/21/2019	#3,#5,#7	NA	33	NA	YES	YES	23.50	Drained, restarted
12/24/2019	#3,#5,#7	NA	33	NA	YES	YES	15.50	Drained, restarted
12/30/2019	#3,#5,#7	NA	32	NA	YES	YES	14.00	Drained, restarted
1/4/2020	#3,#5,#7	665	33	NA	YES	YES	23.50	Drained, restarted
1/9/2020	#3,#5,#7	NA	13	NA	YES	NO		
1/10/2020	#3,#5,#7	NA	32	NA	YES	YES	12.00	Temp. repair of pvc near VEP #1. drained, restarted, then collected data
1/14/2020	#3,#5,#7	NA	30	65	NO	NO		Water in drum below drain port, restarted, then collected data
1/17/2020	#3,#5,#7	NA	32	55	YES	YES	8.00	Drained, restarted
1/22/2020	#3,#5,#7	NA	33	NA	YES	YES	18.50	Drained, restarted
1/29/2020	#3,#5,#7	587	30	70	NO	NO		Dry drum, restarted, then collected data
2/3/2020	#3,#5,#7	NA	34	NA	YES	YES	13.00	Drained, restarted
2/10/2020	#3,#5,#7	NA	NA	NA	NO	NO		High water level shut off, water in drum below drain port, restarted
2/18/2020	#3,#5,#7	NA	34	60	YES	YES	21.00	Drained, restarted
2/25/2020	#3,#5,#7	NA	35	50	YES	YES	22.00	Drained, restarted
3/4/2020	#3,#5,#7	508	34	70	YES	YES	22.00	Drained, restarted
3/12/2020	#3,#5,#7	NA	30	50	YES	YES	13.50	Drained, restarted
3/25/2020	#3,#5,#7	NA	NA	NA	NO	NO		High water level shut off, water in drum below drain port, restarted
4/14/2020	#3,#5,#7	404	31	50	YES	YES	23.50	Drained, restarted
5/18/2020	#3,#5,#7	596	30	NA	YES	YES	2.00	Drained, restarted
6/1/2020	#3,#5,#7	402	28	NA	YES	NO		Water in drum not measured, AIR SAMPLE COLLECTED
6/24/2020	#3,#5,#7	226	26	NA	YES	NO		Water in drum not measured
7/29/2020	#3,#5,#7	194	26	NA	YES	NO		Water in drum not measured
8/21/2020	#3,#5,#7	401	30	NA	YES	NO		Dry drum

**SIMCOE LLC - Jaquez Gas Com B 003E****Summary SVE System Monitoring Data**

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H <sub>2</sub> O Drained from drum?	H <sub>2</sub> O Amt. Drained (Gal.)?	Comments
9/24/2020	#3,#5,#7	689	28	NA	YES	NO		Water in drum below drain port
10/22/2020	#3,#5,#7	398	24	NA	YES	NO		Water in drum just above drain
10/29/2020	#3,#5,#7	NA	24	NA	YES	NO	17.00	
11/5/2020	#3,#5,#7	NA	26	NA	YES	YES	7.00	
11/11/2020	#3,#5,#7	NA	26	NA	YES	YES	10.50	
11/16/2020	#3,#5,#7	274	22	NA	YES	YES	10.50	
11/23/2020	#3,#5,#7	NA	14	NA	YES	NO		Water in drum below drain port
12/4/2020	#3,#5,#7	NA	14	NA	NO	NO		Water in drum below drain port, restarted, then collected readings
12/10/2020	#3,#5,#7	NA	20	NA	YES	YES	17.00	
12/15/2020	#3,#5,#7	NA	14	NA	YES	YES	18.50	Drum bottom leaking badly after removing top cap to measure water
12/21/2020	#3,#5,#7	NA	25	NA	YES	YES	10.50	Drum bottom leaking badly after removing top cap to measure water
1/31/2021	#3,#5,#7	94	-	NA	YES	NO	-	
2/5/2021	#3,#5,#7	34	-	NA	YES	NO	-	
3/30/2021	#3,#5,#7	69	-	NA	YES	NO	-	
4/15/2021	#3,#5,#7	27	-	NA	YES	NO	-	
5/7/2021	#3,#5,#7	38	-	NA	YES	NO	-	
6/9/2021	#3,#5,#7	113	-	NA	YES	NO	-	
7/13/2021	#3,#5,#7	159	-	NA	YES	NO	-	
9/29/2021	#3,#5,#7	113	29	NA	YES	YES	1.00	
10/11/2021	#3,#5,#7	267	28	NA	YES	YES	10.69	
11/6/2021	#3,#5,#7	422	20	NA	NO	NO	-	Dry Drum Restarted system then collected data
12/13/2021	#3,#5,#7	100	12	NA	NO	NO	-	Dry Drum Restarted system then collected data
1/4/2022	#3,#5,#7	69	-12	-	NO	NO	0.00	Below port
2/8/2022	#3,#5,#7	84	12	-	YES	NO	0.00	water below port

**SIMCOE LLC - Jaquez Gas Com B 003E****Summary SVE System Monitoring Data**

Date	SVE Pt.	Exhaust OVM (ppm)	Exhaust Vacuum (in)	Exhaust Rate (cfm)	System Operational at Time of Arrival?	H <sub>2</sub> O Drained from drum?	H <sub>2</sub> O Amt. Drained (Gal.)?	Comments
3/16/2022	#3,#5,#7	83	12	-	YES	NO	0.00	Did not shut down system
4/7/2022	#3,#5,#7	38	10	-	YES	NO	0.00	Drum dry
5/2/2022	#3,#5,#7	59	-12	-	YES	NO	0.00	Drum dry
6/8/2022	#3,#5,#7	1,733	-27	-	YES	NO	0.00	water below the port
7/5/2022	#3,#5,#7	405	-28	-	YES	NO	0.00	Drum dry
8/17/2022	#3,#5,#7	48	-28	-	YES	NO	0.00	Drum dry
9/14/2022	#3,#5,#7	140	28	-	YES	NO	0.00	Water below the port
10/12/2022	#3,#5,#7	83	-28	-	YES	NO	0.00	Below the port - leaking drum
11/10/2022	#3,#5,#7	147	-29	-	YES	YES	38.66	N/A
12/14/2022	#3,#5,#7	390	21	-	NO	NO	0.00	Drum frozen



**SIMCOE, LLC. - Jaquez GC B #3E**

### SVE (#3, #5, #7) OVM Data

Date	Exhaust OVM (ppm)
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9/4/2019	2,257
9/5/2019	2,090
9/10/2019	1,757
9/12/2019	1,757
9/19/2019	3,600
9/25/2019	3,040
10/3/2019	1,057
10/8/2019	2,603
10/16/2019	1,695
10/22/2019	830
10/29/2019	1,384
11/6/2019	800
11/12/2019	917
11/29/2019	1,015
12/10/2019	836
12/16/2019	623
1/4/2020	665
1/29/2020	587
3/4/2020	508
4/14/2020	404
5/18/2020	596
6/1/2020	402
6/24/2020	226
7/29/2020	194
8/21/2020	401
9/24/2020	689
10/22/2020	398
11/16/2020	274
11/23/2020	-
12/4/2020	-
12/10/2020	-
12/15/2020	-
12/21/2020	-
1/13/2021	94.0
2/5/2021	34.0
3/30/2021	69.0
4/15/2021	27.0
5/7/2021	38.0
6/9/2021	113.0
7/13/2021	159.0
9/29/2021	113.0
10/11/2021	267.0
11/6/2021	422.0
12/13/2021	100.0

Date	Exhaust OVM (ppm)
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[illegible]

1/4/2022	69
2/8/2022	84
3/16/2022	83
4/7/2022	38
5/2/2022	59
6/8/2022	1,733
7/5/2022	405
8/17/2022	48
9/14/2022	140
10/12/2022	83
11/10/2022	147
12/14/2022	390

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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

March 28, 2022

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

RE: Jacquez GC B 003

OrderNo.: 2203996

Dear Kyle Siesser:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/18/2022 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](http://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 light blue horizontal line.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109

## Analytical Report

Lab Order 2203996

Date Reported: 3/28/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003

Collection Date: 3/16/2022 9:45:00 AM

Lab ID: 2203996-001

Matrix: AIR

Received Date: 3/18/2022 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: CCM
Benzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Toluene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Ethylbenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2,4-Trimethylbenzene	0.26	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,3,5-Trimethylbenzene	1.1	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Naphthalene	ND	0.20		µg/L	1	3/22/2022 1:02:00 PM
1-Methylnaphthalene	ND	0.40		µg/L	1	3/22/2022 1:02:00 PM
2-Methylnaphthalene	ND	0.40		µg/L	1	3/22/2022 1:02:00 PM
Acetone	ND	1.0		µg/L	1	3/22/2022 1:02:00 PM
Bromobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Bromodichloromethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Bromoform	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Bromomethane	ND	0.20		µg/L	1	3/22/2022 1:02:00 PM
2-Butanone	ND	1.0		µg/L	1	3/22/2022 1:02:00 PM
Carbon disulfide	ND	1.0		µg/L	1	3/22/2022 1:02:00 PM
Carbon tetrachloride	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Chlorobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Chloroethane	ND	0.20		µg/L	1	3/22/2022 1:02:00 PM
Chloroform	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Chloromethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
2-Chlorotoluene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
4-Chlorotoluene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
cis-1,2-DCE	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	3/22/2022 1:02:00 PM
Dibromochloromethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Dibromomethane	ND	0.20		µg/L	1	3/22/2022 1:02:00 PM
1,2-Dichlorobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,3-Dichlorobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,4-Dichlorobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Dichlorodifluoromethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,1-Dichloroethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,1-Dichloroethene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2-Dichloropropane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,3-Dichloropropane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
2,2-Dichloropropane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM

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

<b>Qualifiers:</b>	*	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 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

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## Analytical Report

Lab Order 2203996

Date Reported: 3/28/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003

Collection Date: 3/16/2022 9:45:00 AM

Lab ID: 2203996-001

Matrix: AIR

Received Date: 3/18/2022 8:05:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: CCM
1,1-Dichloropropene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Hexachlorobutadiene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
2-Hexanone	ND	1.0		µg/L	1	3/22/2022 1:02:00 PM
Isopropylbenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
4-Isopropyltoluene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
4-Methyl-2-pentanone	ND	1.0		µg/L	1	3/22/2022 1:02:00 PM
Methylene chloride	ND	0.30		µg/L	1	3/22/2022 1:02:00 PM
n-Butylbenzene	ND	0.30		µg/L	1	3/22/2022 1:02:00 PM
n-Propylbenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
sec-Butylbenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Styrene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
tert-Butylbenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Tetrachloroethene (PCE)	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
trans-1,2-DCE	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,1,1-Trichloroethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,1,2-Trichloroethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Trichloroethene (TCE)	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Trichlorofluoromethane	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
1,2,3-Trichloropropane	ND	0.20		µg/L	1	3/22/2022 1:02:00 PM
Vinyl chloride	ND	0.10		µg/L	1	3/22/2022 1:02:00 PM
Xylenes, Total	3.2	0.15		µg/L	1	3/22/2022 1:02:00 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	3/22/2022 1:02:00 PM
Surr: 1,2-Dichloroethane-d4	99.5	70-130		%Rec	1	3/22/2022 1:02:00 PM
Surr: Toluene-d8	101	70-130		%Rec	1	3/22/2022 1:02:00 PM
Surr: 4-Bromofluorobenzene	93.2	70-130		%Rec	1	3/22/2022 1:02:00 PM

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

<b>Qualifiers:</b>	*	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 SUMMARY REPORT

March 25, 2022

Hall Environmental

4901 Hawkins St NE Ste D

Albuquerque, NM 87109-4372

Work Order: G22030398

Project Name: Not Indicated

Energy Laboratories Inc. Gillette WY received the following 1 sample for Hall Environmental on 3/23/2022 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
G22030398-001	2203996-001A; SVE	03/16/22 9:45	03/23/22	Air	Natural Gas Analysis - BTU Natural Gas Analysis - Compressibility Factor Natural Gas Analysis - GPM Natural Gas Analysis - Molecular Weight Natural Gas Analysis - Routine Natural Gas Analysis - Pressure Base Natural Gas Analysis - Psuedo- Critical Pressure Natural Gas Analysis - Psuedo- Critical Temperature Natural Gas Analysis - Specific Gravity Natural Gas Analysis - Temperature Base

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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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:** Not Indicated  
**Client Sample ID:** 2203996-001A; SVE  
**Location:**  
**Lab ID:** G22030398-001

**Report Date:** 03/25/22  
**Collection Date:** 03/16/22 09:45  
**Date Received:** 03/23/22  
**Sampled By:** Not Indicated

### Analyses

**Result Units Qualifier Method Analysis Date / By**

### NATURAL GAS CHROMATOGRAPHIC ANALYSIS REPORT

Oxygen	22.113 Mol %	GPA 2261	03/24/22 14:44 / blb
Nitrogen	77.702 Mol %	GPA 2261	03/24/22 14:44 / blb
Carbon Dioxide	0.185 Mol %	GPA 2261	03/24/22 14:44 / blb
Hydrogen Sulfide	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
Methane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
Ethane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
Propane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
Isobutane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
n-Butane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
Isopentane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
n-Pentane	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb
Hexanes plus	< 0.001 Mol %	GPA 2261	03/24/22 14:44 / blb

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

GPM Ethane	< 0.0003 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM Propane	< 0.0003 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM Isobutane	< 0.0003 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM n-Butane	< 0.0003 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM Isopentane	< 0.0004 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM n-Pentane	< 0.0004 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM Hexanes plus	< 0.0004 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM Pentanes plus	< 0.0004 gal/MCF	GPA 2261	03/24/22 14:44 / blb
GPM Total	< 0.0004 gal/MCF	GPA 2261	03/24/22 14:44 / blb

### CALCULATED PROPERTIES

Calculation Pressure Base	14.730 psia	GPA 2261	03/24/22 14:44 / blb
Calculation Temperature Base	60 °F	GPA 2261	03/24/22 14:44 / blb
Compressibility Factor, Z	1.0000 unitless	GPA 2261	03/24/22 14:44 / blb
Molecular Weight	28.92 unitless	GPA 2261	03/24/22 14:44 / blb
Pseudo-critical Pressure, psia	548 psia	GPA 2261	03/24/22 14:44 / blb
Pseudo-critical Temperature, deg R	240 deg R	GPA 2261	03/24/22 14:44 / blb
Specific Gravity (air=1.000)	1.002 unitless	GPA 2261	03/24/22 14:44 / blb
Gross BTU per cu ft @ std cond, dry	< 0.01 BTU/cu ft	GPA 2261	03/24/22 14:44 / blb
Gross BTU per cu ft @ std cond, wet	< 0.01 BTU/cu ft	GPA 2261	03/24/22 14:44 / blb

**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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## QA/QC Summary Report

Prepared by Gillette, WY Branch

Client: Hall Environmental

Work Order: G22030398

Report Date: 03/25/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: GPA 2261</b>							Analytical Run: R270004		
<b>Lab ID: CCV-2203241254</b>	Continuing Calibration Verification Standard						03/24/22 12:55		
Oxygen	0.637	Mol %	0.001	106	90	110			
Nitrogen	1.378	Mol %	0.001	98	85	110			
Carbon Dioxide	0.954	Mol %	0.001	95	90	110			
Hydrogen Sulfide	0.025	Mol %	0.001	100	70	130			
Methane	93.438	Mol %	0.001	100	90	110			
Ethane	1.014	Mol %	0.001	101	90	110			
Propane	1.009	Mol %	0.001	101	90	110			
Isobutane	0.495	Mol %	0.001	99	90	110			
n-Butane	0.495	Mol %	0.001	99	90	110			
Isopentane	0.200	Mol %	0.001	100	90	110			
n-Pentane	0.201	Mol %	0.001	100	90	110			
Hexanes plus	0.154	Mol %	0.001	103	90	110			
<b>Lab ID: ICV-2203241303</b>	Initial Calibration Verification Standard						03/24/22 13:04		
Oxygen	0.391	Mol %	0.001	97	75	110			
Nitrogen	5.154	Mol %	0.001	103	90	110			
Carbon Dioxide	4.900	Mol %	0.001	99	90	110			
Hydrogen Sulfide	0.130	Mol %	0.001	131	100	136			
Methane	73.196	Mol %	0.001	100	90	110			
Ethane	4.997	Mol %	0.001	101	90	110			
Propane	4.993	Mol %	0.001	100	90	110			
Isobutane	1.984	Mol %	0.001	99	90	110			
n-Butane	1.965	Mol %	0.001	98	90	110			
Isopentane	0.986	Mol %	0.001	99	90	110			
n-Pentane	0.997	Mol %	0.001	100	90	110			
Hexanes plus	0.307	Mol %	0.001	102	90	110			
<b>Lab ID: CCV-2203241628</b>	Continuing Calibration Verification Standard						03/24/22 16:28		
Oxygen	0.609	Mol %	0.001	102	90	110			
Nitrogen	1.288	Mol %	0.001	92	85	110			
Carbon Dioxide	0.965	Mol %	0.001	97	90	110			
Hydrogen Sulfide	0.021	Mol %	0.001	84	70	130			
Methane	93.560	Mol %	0.001	100	90	110			
Ethane	1.015	Mol %	0.001	101	90	110			
Propane	1.006	Mol %	0.001	101	90	110			
Isobutane	0.492	Mol %	0.001	98	90	110			
n-Butane	0.492	Mol %	0.001	98	90	110			
Isopentane	0.199	Mol %	0.001	99	90	110			
n-Pentane	0.200	Mol %	0.001	100	90	110			
Hexanes plus	0.153	Mol %	0.001	102	90	110			
<b>Method: GPA 2261</b>							Batch: R270004		
<b>Lab ID: G22030398-001ADUP</b>	Sample Duplicate						Run: Varian GC_220324A		
Oxygen	22.112	Mol %	0.001				0.0	10	03/24/22 14:50

### Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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## QA/QC Summary Report

Prepared by Gillette, WY Branch

**Client:** Hall Environmental

**Work Order:** G22030398

**Report Date:** 03/25/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method:</b> GPA 2261							Batch: R270004		
<b>Lab ID:</b> G22030398-001ADUP	Sample Duplicate		Run: Varian GC_220324A				03/24/22 14:50		
Nitrogen	77.703	Mol %	0.001				0.0	10	
Carbon Dioxide	0.185	Mol %	0.001				0.0	10	
Hydrogen Sulfide	< 0.001	Mol %	0.001					10	
Methane	< 0.001	Mol %	0.001					10	
Ethane	< 0.001	Mol %	0.001					10	
Propane	< 0.001	Mol %	0.001					10	
Isobutane	< 0.001	Mol %	0.001					10	
n-Butane	< 0.001	Mol %	0.001					10	
Isopentane	< 0.001	Mol %	0.001					10	
n-Pentane	< 0.001	Mol %	0.001					10	
Hexanes plus	< 0.001	Mol %	0.001					10	

### Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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# Work Order Receipt Checklist

Hall Environmental

G22030398

Login completed by: Jill S. Jeffress

Date Received: 3/23/2022

Reviewed by: Misty Stephens

Received by: csj

Reviewed Date: 3/24/2022

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.

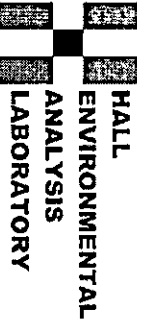
Solid/soil samples are reported on a wet weight basis (as received) unless specifically indicated. If moisture corrected, data units are typically noted as –dry. For agricultural and mining soil parameters/characteristics, all samples are dried and ground prior to sample analysis.

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

PAGE 1 OF 1

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

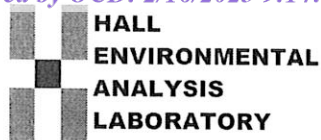
SUB CONTRACTOR		Energy Labs-Gillette		COMPANY	Energy Laboratories		PHONE	(866) 686-7175		FAX	
ADDRESS		400 W Borelder Rd				ACCOUNT #	EMAIL				
CITY, STATE, ZIP		Gillette, WY 82718									
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS				
1	2203996-001A	SVE	TEDLAR	Air	3/16/2022 9:45:00 AM	1	Natural Gases O <sub>2</sub> , CO <sub>2</sub>				

687030398

## 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	<i>SK</i>	Date	3/16/2022	Time	8:57 AM	Received By	<i>M. Ray</i>	Date	03/16/2023	Time	10:30
Relinquished By		Date		Time		Received By		Date		Time	
Relinquished By		Date		Time		Received By		Date		Time	
REPORT TRANSMITTAL DESIRED <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE FOR LAB USE ONLY Temp of samples _____ °C    Attempt to Cool _____ Comments _____											
TAT    Standard <i>PT</i> RUSH    Next BD <input type="checkbox"/> 2nd BD <input type="checkbox"/> 3rd BD <input type="checkbox"/>											



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: Cottonwood Consulting LLC

Work Order Number: 2203996

RcptNo: 1

Received By: Cheyenne Cason

3/18/2022 8:05:00 AM

Completed By: Sean Livingston

3/18/2022 8:43:55 AM

Reviewed By: *[Signature]* 3-18-22

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  $6.0^{\circ}\text{C}$ ? 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? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
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? Yes ☒ No ☐  
(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(<2 or >12 unless noted)

Adjusted?

Checked by: *gn 3/18/22*

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: \_\_\_\_\_

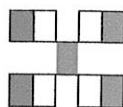
Client Instructions: \_\_\_\_\_

16. Additional remarks:

17. Cooler Information

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

**HALL ENVIRONMENTAL  
ANALYSIS LABORATORY**



[www.hallenvironmental.com](http://www.hallenvironmental.com)

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

## Analysis Request

[illegible]

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



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

June 23, 2022

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

RE: Jacquez GC B 003E

OrderNo.: 2206603

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](http://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 white background.

Andy Freeman  
Laboratory Manager  
4901 Hawkins NE  
Albuquerque, NM 87109



## Analytical Report

Lab Order 2206603

Date Reported: 6/23/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003E

Collection Date: 6/8/2022 11:00:00 AM

Lab ID: 2206603-001

Matrix: AIR

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Toluene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Ethylbenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Methyl tert-butyl ether (MTBE)	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2,4-Trimethylbenzene	0.79	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,3,5-Trimethylbenzene	2.3	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2-Dichloroethane (EDC)	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2-Dibromoethane (EDB)	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Naphthalene	ND	0.40		µg/L	2	6/14/2022 3:50:00 PM	R88708
1-Methylnaphthalene	ND	0.80		µg/L	2	6/14/2022 3:50:00 PM	R88708
2-Methylnaphthalene	ND	0.80		µg/L	2	6/14/2022 3:50:00 PM	R88708
Acetone	ND	2.0		µg/L	2	6/14/2022 3:50:00 PM	R88708
Bromobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Bromodichloromethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Bromoform	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Bromomethane	ND	0.40		µg/L	2	6/14/2022 3:50:00 PM	R88708
2-Butanone	ND	2.0		µg/L	2	6/14/2022 3:50:00 PM	R88708
Carbon disulfide	ND	2.0		µg/L	2	6/14/2022 3:50:00 PM	R88708
Carbon tetrachloride	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Chlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Chloroethane	ND	0.40		µg/L	2	6/14/2022 3:50:00 PM	R88708
Chloroform	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Chloromethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
2-Chlorotoluene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
4-Chlorotoluene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
cis-1,2-DCE	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
cis-1,3-Dichloropropene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2-Dibromo-3-chloropropane	ND	0.40		µg/L	2	6/14/2022 3:50:00 PM	R88708
Dibromochloromethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Dibromomethane	ND	0.40		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2-Dichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,3-Dichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,4-Dichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Dichlorodifluoromethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,1-Dichloroethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,1-Dichloroethene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2-Dichloropropane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,3-Dichloropropane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
2,2-Dichloropropane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708

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

<b>Qualifiers:</b>	*	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 1 of 2

## Analytical Report

Lab Order 2206603

Date Reported: 6/23/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003E

Collection Date: 6/8/2022 11:00:00 AM

Lab ID: 2206603-001

Matrix: AIR

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

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
1,1-Dichloropropene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Hexachlorobutadiene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
2-Hexanone	ND	2.0		µg/L	2	6/14/2022 3:50:00 PM	R88708
Isopropylbenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
4-Isopropyltoluene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
4-Methyl-2-pentanone	ND	2.0		µg/L	2	6/14/2022 3:50:00 PM	R88708
Methylene chloride	ND	0.60		µg/L	2	6/14/2022 3:50:00 PM	R88708
n-Butylbenzene	ND	0.60		µg/L	2	6/14/2022 3:50:00 PM	R88708
n-Propylbenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
sec-Butylbenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Styrene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
tert-Butylbenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,1,1,2-Tetrachloroethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,1,2,2-Tetrachloroethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Tetrachloroethene (PCE)	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
trans-1,2-DCE	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
trans-1,3-Dichloropropene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2,3-Trichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2,4-Trichlorobenzene	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,1,1-Trichloroethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,1,2-Trichloroethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Trichloroethene (TCE)	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Trichlorofluoromethane	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
1,2,3-Trichloropropane	ND	0.40		µg/L	2	6/14/2022 3:50:00 PM	R88708
Vinyl chloride	ND	0.20		µg/L	2	6/14/2022 3:50:00 PM	R88708
Xylenes, Total	4.1	0.30		µg/L	2	6/14/2022 3:50:00 PM	R88708
Surr: Dibromofluoromethane	107	70-130		%Rec	2	6/14/2022 3:50:00 PM	R88708
Surr: 1,2-Dichloroethane-d4	97.0	70-130		%Rec	2	6/14/2022 3:50:00 PM	R88708
Surr: Toluene-d8	105	70-130		%Rec	2	6/14/2022 3:50:00 PM	R88708
Surr: 4-Bromofluorobenzene	95.1	70-130		%Rec	2	6/14/2022 3:50:00 PM	R88708

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

<b>Qualifiers:</b>	*	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 2 of 2



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## ANALYTICAL SUMMARY REPORT

June 23, 2022

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

Work Order: G22060305

Project Name: 2206603

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
G22060305-001	2206603-001A;SVE	06/08/22 11:00	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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**CLIENT:** Hall Environmental  
**Project:** 2206603  
**Work Order:** G22060305

**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.





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## LABORATORY ANALYTICAL REPORT

Prepared by Gillette, WY Branch

**Client:** Hall Environmental  
**Project:** 2206603  
**Client Sample ID:** 2206603-001A;SVE  
**Location:**  
**Lab ID:** G22060305-001

**Report Date:** 06/23/22  
**Collection Date:** 06/08/22 11:00  
**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	21.74	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Nitrogen	78.07	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Carbon Dioxide	0.19	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Hydrogen Sulfide	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Methane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Ethane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Propane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Isobutane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
n-Butane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Isopentane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
n-Pentane	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b
Hexanes plus	<0.01	Mol %		GPA 2261-	06/20/22 13:50 / eli-b

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

Propane	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
Isobutane	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
n-Butane	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
Isopentane	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
n-Pentane	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
Hexanes plus	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
GPM Total	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b
GPM Pentanes plus	< 0.001	gpm		GPA 2261-	06/20/22 13:50 / eli-b

### CALCULATED PROPERTIES

Gross BTU per cu ft @ Std Cond. (HHV)	<1		GPA 2261-	06/20/22 13:50 / eli-b
Net BTU per cu ft @ std cond. (LHV)	<1		GPA 2261-	06/20/22 13:50 / eli-b
Pseudo-critical Pressure, psia	546		GPA 2261-	06/20/22 13:50 / eli-b
Pseudo-critical Temperature, deg R	239		GPA 2261-	06/20/22 13:50 / eli-b

### PHYSICAL PROPERTIES-CALCULATED

Specific Gravity @ 60/60F	0.999		D3588-81	06/20/22 13:50 / eli-b
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### COMMENTS

-	-	06/20/22 13:50 / eli-b
<ul style="list-style-type: none"> <li>- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior.</li> <li>- GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions.</li> <li>- To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825.</li> <li>- Standard conditions: 60 F &amp; 14.73 psi on a dry basis.</li> </ul>		

**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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## QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: G22060305

Report Date: 06/22/22

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: GPA 2261-95</b>							Batch: R383462		
<b>Lab ID: LCS062022</b>	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			
<b>Lab ID: B22061652-001ADUP</b>	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

R - Relative Percent Difference (RPD) exceeds advisory limit

ND - Not detected at the Reporting Limit (RL)



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# Work Order Receipt Checklist

Hall Environmental

G22060305

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



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

SUB CONTRACTOR		Energy Labs-Gillette		COMPANY		Energy Laboratories		PHONE:		(866) 686-7175		FAX	
ADDRESS		400 W Boxelder Rd		CITY, STATE, ZIP		Gillette, WY 82718		ACCOUNT #				EMAIL	
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS							
1	2206603-001A	SVE	TEDLAR	Air	6/8/2022 11:00:00 AM	1 Natural Gases O <sub>2</sub> , CO <sub>2</sub>							
ANALYTICAL COMMENTS													

## SPECIAL INSTRUCTIONS/COMMENTS:

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

Retinquished By:	Date:	Time:	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED:	
	6/10/2022	10:01 AM				<input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE	
Retinquished By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY	
						Temp of samples _____ C    Attempt to Cool? _____	
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	



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: 2206603

RcptNo: 1

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

Completed By: Tracy Casarrubias 6/10/2022 9:57:46 AM

Reviewed By: KPC 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? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
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? Yes ☒ No ☐  
(If no, notify customer for authorization.)

# of preserved  
bottles checked  
for pH:

(≤2 or >12 unless noted)

Adjusted? \_\_\_\_\_

Checked by CME 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	NA	Good	Yes			







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

September 29, 2022

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

RE: Jacquez GC B 003E

OrderNo.: 2209733

Dear Kyle Siesser:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/15/2022 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](http://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 2209733

Date Reported: 9/29/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003E

Collection Date: 9/14/2022 11:20:00 AM

Lab ID: 2209733-001

Matrix: AIR

Received Date: 9/15/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
Benzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Toluene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Ethylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2,4-Trimethylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,3,5-Trimethylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Naphthalene	ND	0.20		µg/L	1	9/15/2022 3:07:00 PM	R91060
1-Methylnaphthalene	ND	0.40		µg/L	1	9/15/2022 3:07:00 PM	R91060
2-Methylnaphthalene	ND	0.40		µg/L	1	9/15/2022 3:07:00 PM	R91060
Acetone	ND	1.0		µg/L	1	9/15/2022 3:07:00 PM	R91060
Bromobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Bromodichloromethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Bromoform	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Bromomethane	ND	0.20		µg/L	1	9/15/2022 3:07:00 PM	R91060
2-Butanone	ND	1.0		µg/L	1	9/15/2022 3:07:00 PM	R91060
Carbon disulfide	ND	1.0		µg/L	1	9/15/2022 3:07:00 PM	R91060
Carbon tetrachloride	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Chlorobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Chloroethane	ND	0.20		µg/L	1	9/15/2022 3:07:00 PM	R91060
Chloroform	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Chloromethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
2-Chlorotoluene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
4-Chlorotoluene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
cis-1,2-DCE	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	9/15/2022 3:07:00 PM	R91060
Dibromochloromethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Dibromomethane	ND	0.20		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2-Dichlorobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,3-Dichlorobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,4-Dichlorobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Dichlorodifluoromethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,1-Dichloroethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,1-Dichloroethene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2-Dichloropropane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,3-Dichloropropane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
2,2-Dichloropropane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060

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

<b>Qualifiers:</b>	*	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 1 of 2



## Analytical Report

Lab Order 2209733

Date Reported: 9/29/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003E

Collection Date: 9/14/2022 11:20:00 AM

Lab ID: 2209733-001

Matrix: AIR

Received Date: 9/15/2022 7:35:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
<b>EPA METHOD 8260B: VOLATILES</b>							Analyst: CCM
1,1-Dichloropropene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Hexachlorobutadiene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
2-Hexanone	ND	1.0		µg/L	1	9/15/2022 3:07:00 PM	R91060
Isopropylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
4-Isopropyltoluene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
4-Methyl-2-pentanone	ND	1.0		µg/L	1	9/15/2022 3:07:00 PM	R91060
Methylene chloride	ND	0.30		µg/L	1	9/15/2022 3:07:00 PM	R91060
n-Butylbenzene	ND	0.30		µg/L	1	9/15/2022 3:07:00 PM	R91060
n-Propylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
sec-Butylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Styrene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
tert-Butylbenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Tetrachloroethene (PCE)	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
trans-1,2-DCE	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,1,1-Trichloroethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,1,2-Trichloroethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Trichloroethene (TCE)	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Trichlorofluoromethane	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
1,2,3-Trichloropropane	ND	0.20		µg/L	1	9/15/2022 3:07:00 PM	R91060
Vinyl chloride	ND	0.10		µg/L	1	9/15/2022 3:07:00 PM	R91060
Xylenes, Total	ND	0.15		µg/L	1	9/15/2022 3:07:00 PM	R91060
Surr: Dibromofluoromethane	103	70-130		%Rec	1	9/15/2022 3:07:00 PM	R91060
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%Rec	1	9/15/2022 3:07:00 PM	R91060
Surr: Toluene-d8	88.0	70-130		%Rec	1	9/15/2022 3:07:00 PM	R91060
Surr: 4-Bromofluorobenzene	88.6	70-130		%Rec	1	9/15/2022 3:07:00 PM	R91060

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

<b>Qualifiers:</b>	*	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 2 of 2



## ANALYTICAL SUMMARY REPORT

September 28, 2022

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

Work Order: B22091520  
Project Name: Not Indicated

---

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 9/16/2022 for analysis.

---

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B22091520-001	2209733-001A, SVE	09/14/22 11:20	09/16/22	Air	Air Correction Calculations Appearance and Comments Calculated Properties GPM @ std cond./1000 cu. ft., moist. Free Natural Gas Analysis Specific Gravity @ 60/60

---

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

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

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

Report Approved By:



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

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

## LABORATORY ANALYTICAL REPORT

Prepared by Billings, MT Branch

**Client:** Hall Environmental  
**Project:** Not Indicated  
**Lab ID:** B22091520-001  
**Client Sample ID:** 2209733-001A, SVE

**Report Date:** 09/28/22  
**Collection Date:** 09/14/22 11:20  
**Date Received:** 09/16/22  
**Matrix:** Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
<b>GAS CHROMATOGRAPHY ANALYSIS REPORT</b>							
Oxygen	21.84	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Nitrogen	78.12	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Carbon Dioxide	0.04	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Hexanes plus	<0.01	Mol %		0.01		GPA 2261-95	09/20/22 12:23 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
Hexanes plus	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
GPM Total	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj
GPM Pentanes plus	< 0.001	gpm		0.001		GPA 2261-95	09/20/22 12:23 / jrj

### CALCULATED PROPERTIES

Gross BTU per cu ft @ Std Cond. (HHV)	ND		1		GPA 2261-95	09/20/22 12:23 / jrj
Net BTU per cu ft @ std cond. (LHV)	ND		1		GPA 2261-95	09/20/22 12:23 / jrj
Pseudo-critical Pressure, psia	545		1		GPA 2261-95	09/20/22 12:23 / jrj
Pseudo-critical Temperature, deg R	239		1		GPA 2261-95	09/20/22 12:23 / jrj
Specific Gravity @ 60/60F	0.998		0.001		D3588-81	09/20/22 12:23 / jrj
Air, %	99.79		0.01		GPA 2261-95	09/20/22 12:23 / jrj

- The analysis was not corrected for air.

### COMMENTS

-	-	09/20/22 12:23 / jrj
- BTU, GPM, and specific gravity are corrected for deviation from ideal gas behavior. - GPM = gallons of liquid at standard conditions per 1000 cu. ft. of moisture free gas @ standard conditions. - To convert BTU to a water-saturated basis @ standard conditions, multiply by 0.9825. - Standard conditions: 60 F & 14.73 psi on a dry basis.		

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

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



# QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: B22091520

Report Date: 09/28/22

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
<b>Method: GPA 2261-95</b>									Batch: R388187	
<b>Lab ID: B22091527-002ADUP</b> 12 Sample Duplicate									Run: GCNGA-B_220920A 09/20/22 10:57	
Oxygen		20.3	Mol %	0.01				0	20	
Nitrogen		78.0	Mol %	0.01				0.0	20	
Carbon Dioxide		1.74	Mol %	0.01				0.6	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		<0.01	Mol %	0.01					20	
<b>Lab ID: LCS092022</b> 11 Laboratory Control Sample									Run: GCNGA-B_220920A 09/20/22 12:51	
Oxygen		0.63	Mol %	0.01	126	70	130			
Nitrogen		6.13	Mol %	0.01	102	70	130			
Carbon Dioxide		1.01	Mol %	0.01	102	70	130			
Methane		74.0	Mol %	0.01	99	70	130			
Ethane		6.11	Mol %	0.01	102	70	130			
Propane		5.18	Mol %	0.01	105	70	130			
Isobutane		2.05	Mol %	0.01	102	70	130			
n-Butane		2.04	Mol %	0.01	102	70	130			
Isopentane		1.03	Mol %	0.01	103	70	130			
n-Pentane		1.03	Mol %	0.01	103	70	130			
Hexanes plus		0.81	Mol %	0.01	101	70	130			

## Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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Gillette, WY 866.686.7175 • Helena, MT 877.472.0711

# Work Order Receipt Checklist

Hall Environmental

B22091520

Login completed by: Yvonna E. Smith

Date Received: 9/16/2022

Reviewed by: darcy

Received by: yes

Reviewed Date: 9/24/2022

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 checked="" type="checkbox"/>	Not Applicable <input type="checkbox"/>
Container/Temp Blank temperature:	19.4°C No Ice		
Containers requiring zero headspace have no headspace or bubble that is <6mm (1/4").	Yes <input type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input checked="" type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Applicable <input checked="" type="checkbox"/>

## Standard Reporting Procedures:

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

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

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

## Contact and Corrective Action Comments:

None

PAGE: 1 OF: 1

## CHAIN OF CUSTODY RECORD



Hall Environmental Analysis Laboratory  
4901 Hankins NE  
Albuquerque, NM 87109  
TEL: 505.345.3975  
FAX: 505.345.4107  
Website: www.hallenvironmental.com

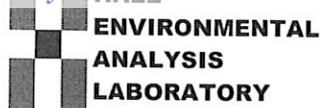
SUB-CONTRACTOR: <b>Energy Labs -Billings</b>		COMPANY: <b>Energy Laboratories</b>		PHONE: <b>(406) 869-6253</b>	FAX: <b>(406) 252-6069</b>		
ADDRESS: <b>1120 South 27th Street</b>		ACCOUNT #:		EMAIL:			
CITY, STATE, ZIP: <b>Billings, MT 59107</b>							
ITEM	SAMPLE	CLIENT SAMPLE ID	BOTTLE TYPE	MATRIX	COLLECTION DATE	# CONTAINERS	ANALYTICAL COMMENTS
1	2209733-001A	SVE	TEDLAR	Air	5/14/2022 11:20:00 AM	1	Natural Gases O2, CO2 <b>B22091520</b>

## 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.

Requisitioned By: <b>CME</b>	Date: <b>9/15/2022</b>	Time: <b>8:22 AM</b>	Received By:	Date:	Time:	REPORT TRANSMITTAL DESIRED: <input type="checkbox"/> HARD COPY (extra cost) <input type="checkbox"/> FAX <input type="checkbox"/> EMAIL <input type="checkbox"/> ONLINE		
Requisitioned By:	Date:	Time:	Received By:	Date:	Time:	FOR LAB USE ONLY		
Requisitioned By:	Date:	Time:	Received By: <b>Yoshina Smith</b>	Date: <b>9/16/22</b>	Time: <b>0930</b>	Temp of samples: <b>C</b>	Attempt to Cool: <b>Y</b>	
TAT:	Standard <b>Y</b>	RUSH	Next BD <input type="checkbox"/>	2nd BD <input type="checkbox"/>	3rd BD <input type="checkbox"/>	Comments:		





## Sample Log-In Check List

Client Name: Cottonwood Consulting LLC

Work Order Number: 2209733

RcptNo: 1

Received By: Juan Rojas

9/15/2022 7:35:00 AM

*Juan Rojas*

Completed By: Cheyenne Cason

9/15/2022 8:21:40 AM

*Cheyenne Cason*

Reviewed By:

*on 9/15/22*

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

# of preserved  
bottles checked  
for pH:

( $<2$  or  $>12$  unless noted)

Adjusted? \_\_\_\_\_

Checked by: *SC 9/15/22*

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	Na	Good	Not Present			







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

December 30, 2022

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

RE: Jacquez GC B 003E

OrderNo.: 2212A23

Dear Kyle Siesser:

Hall Environmental Analysis Laboratory received 1 sample(s) on 12/16/2022 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](http://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 2212A23

Date Reported: 12/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003E

Collection Date: 12/14/2022 11:20:00 AM

Lab ID: 2212A23-001

Matrix: AIR

Received Date: 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8015D: GASOLINE RANGE</b>						Analyst: NSB
Gasoline Range Organics (GRO)	300	5.0		µg/L	1	12/19/2022 9:59:43 AM
Surr: BFB	547	15-380	S	%Rec	1	12/19/2022 9:59:43 AM
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: CCM
Benzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Toluene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Ethylbenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Methyl tert-butyl ether (MTBE)	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2,4-Trimethylbenzene	0.26	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,3,5-Trimethylbenzene	1.5	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2-Dichloroethane (EDC)	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2-Dibromoethane (EDB)	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Naphthalene	ND	0.20		µg/L	1	12/27/2022 2:41:00 PM
1-Methylnaphthalene	ND	0.40		µg/L	1	12/27/2022 2:41:00 PM
2-Methylnaphthalene	ND	0.40		µg/L	1	12/27/2022 2:41:00 PM
Acetone	ND	1.0		µg/L	1	12/27/2022 2:41:00 PM
Bromobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Bromodichloromethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Bromoform	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Bromomethane	ND	0.20		µg/L	1	12/27/2022 2:41:00 PM
2-Butanone	ND	1.0		µg/L	1	12/27/2022 2:41:00 PM
Carbon disulfide	ND	1.0		µg/L	1	12/27/2022 2:41:00 PM
Carbon tetrachloride	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Chlorobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Chloroethane	ND	0.20		µg/L	1	12/27/2022 2:41:00 PM
Chloroform	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Chloromethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
2-Chlorotoluene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
4-Chlorotoluene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
cis-1,2-DCE	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
cis-1,3-Dichloropropene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2-Dibromo-3-chloropropane	ND	0.20		µg/L	1	12/27/2022 2:41:00 PM
Dibromochloromethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Dibromomethane	ND	0.20		µg/L	1	12/27/2022 2:41:00 PM
1,2-Dichlorobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,3-Dichlorobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,4-Dichlorobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Dichlorodifluoromethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1-Dichloroethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1-Dichloroethene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM

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

<b>Qualifiers:</b>	*	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 standard limits. If undiluted results may be estimated.

B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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## Analytical Report

Lab Order 2212A23

Date Reported: 12/30/2022

## Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cottonwood Consulting LLC

Client Sample ID: SVE

Project: Jacquez GC B 003E

Collection Date: 12/14/2022 11:20:00 AM

Lab ID: 2212A23-001

Matrix: AIR

Received Date: 12/16/2022 7:40:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
<b>EPA METHOD 8260B: VOLATILES</b>						Analyst: CCM
1,2-Dichloropropane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,3-Dichloropropane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
2,2-Dichloropropane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1-Dichloropropene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Hexachlorobutadiene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
2-Hexanone	ND	1.0		µg/L	1	12/27/2022 2:41:00 PM
Isopropylbenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
4-Isopropyltoluene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
4-Methyl-2-pentanone	ND	1.0		µg/L	1	12/27/2022 2:41:00 PM
Methylene chloride	ND	0.30		µg/L	1	12/27/2022 2:41:00 PM
n-Butylbenzene	ND	0.30		µg/L	1	12/27/2022 2:41:00 PM
n-Propylbenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
sec-Butylbenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Styrene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
tert-Butylbenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1,1,2-Tetrachloroethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1,2,2-Tetrachloroethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Tetrachloroethene (PCE)	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
trans-1,2-DCE	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
trans-1,3-Dichloropropene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2,3-Trichlorobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2,4-Trichlorobenzene	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1,1-Trichloroethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,1,2-Trichloroethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Trichloroethene (TCE)	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Trichlorofluoromethane	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
1,2,3-Trichloropropane	ND	0.20		µg/L	1	12/27/2022 2:41:00 PM
Vinyl chloride	ND	0.10		µg/L	1	12/27/2022 2:41:00 PM
Xylenes, Total	2.2	0.15		µg/L	1	12/27/2022 2:41:00 PM
Surr: Dibromofluoromethane	101	70-130		%Rec	1	12/27/2022 2:41:00 PM
Surr: 1,2-Dichloroethane-d4	97.3	70-130		%Rec	1	12/27/2022 2:41:00 PM
Surr: Toluene-d8	112	70-130		%Rec	1	12/27/2022 2:41:00 PM
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	12/27/2022 2:41:00 PM

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

<b>Qualifiers:</b>	*	Value exceeds Maximum Contaminant Level.
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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: www.hallenvironmental.com

## Sample Log-In Check List

Client Name: Cottonwood Consulting LLC

Work Order Number: 2212A23

RcptNo: 1

Received By: Tracy Casarrubias 12/16/2022 7:40:00 AM

Completed By: Tracy Casarrubias 12/16/2022 9:31:22 AM

Reviewed By: *JSC 12-16-22*

### 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  $6.0^{\circ}\text{C}$ ? 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:

( $\leq 2$  or  $>12$  unless noted)

Adjusted? 12/16/22

Checked by: JSC 12/17/22

*JSC 12/16/22*

### 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	NA	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 187033

**CONDITIONS**

Operator: SIMCOE LLC 1199 Main Ave., Suite 101 Durango, CO 81301	OGRID:	329736
	Action Number:	187033
	Action Type:	[UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

**CONDITIONS**

Created By	Condition	Condition Date
michael.buchanan	Review of the Jaquez GC B 003 2022 Annual SVE/GWMW Report: Content Satisfactory. 1. Continue to operate the SVE system and conduct routine O&M as scheduled. 2. Please continue to send reporting on a quarterly basis or annually.	10/16/2023