



Environment Testing

1

2

3

4

5

6

7

8

9

10

11

12

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Kyle Siesser
Cottonwood Consulting LLC
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JOB DESCRIPTION

Mudge A #2

JOB NUMBER

885-6340-1

Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

Eurofins Albuquerque

Job Notes

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.

Authorization



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Revision 1

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Laboratory Job ID: 885-6340-1

Table of Contents

Cover Page	1
Table of Contents	3
Definitions/Glossary	4
Case Narrative	5
Client Sample Results	6
QC Sample Results	8
QC Association Summary	12
Lab Chronicle	13
Certification Summary	14
Subcontract Data	17
Chain of Custody	22
Receipt Checklists	23

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Definitions/Glossary

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
⌵	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Cottonwood Consulting LLC
Project: Mudge A #2

Job ID: 885-6340-1

Job ID: 885-6340-1

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Job Narrative
885-6340-1

REVISION

The report being provided is a revision of the original report sent on 7/5/2024. The report (revision 1) is being revised due to The MB doesn't reflect the correct reporting levels.

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The sample was received on 6/14/2024 5:00 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 25.3°C.

Subcontract Work

Method Natural Gases O2, CO2: This method was subcontracted to Energy Laboratories, Inc. The subcontract laboratory certification is different from that of the facility issuing the final report. The subcontract report is appended in its entirety.

GC/MS VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Client Sample Results

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Client Sample ID: SVE

Lab Sample ID: 885-6340-1

Date Collected: 06/13/24 10:00

Matrix: Air

Date Received: 06/14/24 17:00

Sample Container: Tedlar Bag 1L

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.20	ug/L			06/27/24 18:47	2
1,1,1-Trichloroethane	ND		0.20	ug/L			06/27/24 18:47	2
1,1,2,2-Tetrachloroethane	ND		0.40	ug/L			06/27/24 18:47	2
1,1,2-Trichloroethane	ND		0.20	ug/L			06/27/24 18:47	2
1,1-Dichloroethane	ND		0.20	ug/L			06/27/24 18:47	2
1,1-Dichloroethene	ND		0.20	ug/L			06/27/24 18:47	2
1,1-Dichloropropene	ND		0.20	ug/L			06/27/24 18:47	2
1,2,3-Trichlorobenzene	ND		0.20	ug/L			06/27/24 18:47	2
1,2,3-Trichloropropane	ND		0.40	ug/L			06/27/24 18:47	2
1,2,4-Trichlorobenzene	ND		0.20	ug/L			06/27/24 18:47	2
1,2,4-Trimethylbenzene	ND		0.20	ug/L			06/27/24 18:47	2
1,2-Dibromo-3-Chloropropane	ND		0.40	ug/L			06/27/24 18:47	2
1,2-Dibromoethane (EDB)	ND		0.20	ug/L			06/27/24 18:47	2
1,2-Dichlorobenzene	ND		0.20	ug/L			06/27/24 18:47	2
1,2-Dichloroethane (EDC)	ND		0.20	ug/L			06/27/24 18:47	2
1,2-Dichloropropane	ND		0.20	ug/L			06/27/24 18:47	2
1,3,5-Trimethylbenzene	0.30		0.20	ug/L			06/27/24 18:47	2
1,3-Dichlorobenzene	ND		0.20	ug/L			06/27/24 18:47	2
1,3-Dichloropropane	ND		0.20	ug/L			06/27/24 18:47	2
1,4-Dichlorobenzene	ND		0.20	ug/L			06/27/24 18:47	2
1-Methylnaphthalene	ND		0.80	ug/L			06/27/24 18:47	2
2,2-Dichloropropane	ND		0.40	ug/L			06/27/24 18:47	2
2-Butanone	ND		2.0	ug/L			06/27/24 18:47	2
2-Chlorotoluene	ND		0.20	ug/L			06/27/24 18:47	2
2-Hexanone	ND		2.0	ug/L			06/27/24 18:47	2
2-Methylnaphthalene	ND		0.80	ug/L			06/27/24 18:47	2
4-Chlorotoluene	ND		0.20	ug/L			06/27/24 18:47	2
4-Isopropyltoluene	ND		0.20	ug/L			06/27/24 18:47	2
4-Methyl-2-pentanone	ND		2.0	ug/L			06/27/24 18:47	2
Acetone	ND		2.0	ug/L			06/27/24 18:47	2
Benzene	8.3		0.20	ug/L			06/27/24 18:47	2
Bromobenzene	ND		0.20	ug/L			06/27/24 18:47	2
Bromodichloromethane	ND		0.20	ug/L			06/27/24 18:47	2
Dibromochloromethane	ND		0.20	ug/L			06/27/24 18:47	2
Bromoform	ND		0.20	ug/L			06/27/24 18:47	2
Bromomethane	ND		0.60	ug/L			06/27/24 18:47	2
Carbon disulfide	ND		2.0	ug/L			06/27/24 18:47	2
Carbon tetrachloride	ND		0.20	ug/L			06/27/24 18:47	2
Chlorobenzene	ND		0.20	ug/L			06/27/24 18:47	2
Chloroethane	ND		0.40	ug/L			06/27/24 18:47	2
Chloroform	ND		0.20	ug/L			06/27/24 18:47	2
Chloromethane	ND		0.60	ug/L			06/27/24 18:47	2
cis-1,2-Dichloroethene	ND		0.20	ug/L			06/27/24 18:47	2
cis-1,3-Dichloropropene	ND		0.20	ug/L			06/27/24 18:47	2
Dibromomethane	ND		0.20	ug/L			06/27/24 18:47	2
Dichlorodifluoromethane	ND		0.20	ug/L			06/27/24 18:47	2
Ethylbenzene	0.98		0.20	ug/L			06/27/24 18:47	2
Hexachlorobutadiene	ND		0.20	ug/L			06/27/24 18:47	2

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Client Sample Results

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Client Sample ID: SVE
Date Collected: 06/13/24 10:00
Date Received: 06/14/24 17:00
Sample Container: Tedlar Bag 1L

Lab Sample ID: 885-6340-1
Matrix: Air

Method: SW846 8260B - Volatile Organic Compounds (GC/MS) (Continued)									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Isopropylbenzene	ND		0.20	ug/L			06/27/24 18:47	2	
Methyl-tert-butyl Ether (MTBE)	ND		0.20	ug/L			06/27/24 18:47	2	
Methylene Chloride	ND		0.60	ug/L			06/27/24 18:47	2	
n-Butylbenzene	ND		0.60	ug/L			06/27/24 18:47	2	
N-Propylbenzene	ND		0.20	ug/L			06/27/24 18:47	2	
Naphthalene	ND		0.40	ug/L			06/27/24 18:47	2	
sec-Butylbenzene	ND		0.20	ug/L			06/27/24 18:47	2	
Styrene	ND		0.20	ug/L			06/27/24 18:47	2	
tert-Butylbenzene	ND		0.20	ug/L			06/27/24 18:47	2	
Tetrachloroethene (PCE)	ND		0.20	ug/L			06/27/24 18:47	2	
Toluene	3.7		0.20	ug/L			06/27/24 18:47	2	
trans-1,2-Dichloroethene	ND		0.20	ug/L			06/27/24 18:47	2	
trans-1,3-Dichloropropene	ND		0.20	ug/L			06/27/24 18:47	2	
Trichloroethene (TCE)	ND		0.20	ug/L			06/27/24 18:47	2	
Trichlorofluoromethane	ND		0.20	ug/L			06/27/24 18:47	2	
Vinyl chloride	ND		0.20	ug/L			06/27/24 18:47	2	
Xylenes, Total	6.1		0.30	ug/L			06/27/24 18:47	2	

Method: SW846 8260B - Volatile Organic Compounds (GC/MS)									
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	92		70 - 130				06/27/24 18:47	2	
Toluene-d8 (Surr)	125		70 - 130				06/27/24 18:47	2	
4-Bromofluorobenzene (Surr)	104		70 - 130				06/27/24 18:47	2	
Dibromofluoromethane (Surr)	92		70 - 130				06/27/24 18:47	2	

QC Sample Results

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 885-7511/28

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1,1-Trichloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1,2,2-Tetrachloroethane	ND		0.20	ug/L			06/27/24 17:09	1
1,1,2-Trichloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1-Dichloroethane	ND		0.10	ug/L			06/27/24 17:09	1
1,1-Dichloroethene	ND		0.10	ug/L			06/27/24 17:09	1
1,1-Dichloropropene	ND		0.10	ug/L			06/27/24 17:09	1
1,2,3-Trichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2,3-Trichloropropane	ND		0.20	ug/L			06/27/24 17:09	1
1,2,4-Trichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2,4-Trimethylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dibromo-3-Chloropropane	ND		0.20	ug/L			06/27/24 17:09	1
1,2-Dibromoethane (EDB)	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dichloroethane (EDC)	ND		0.10	ug/L			06/27/24 17:09	1
1,2-Dichloropropane	ND		0.10	ug/L			06/27/24 17:09	1
1,3,5-Trimethylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,3-Dichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1,3-Dichloropropane	ND		0.10	ug/L			06/27/24 17:09	1
1,4-Dichlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
1-Methylnaphthalene	ND		0.40	ug/L			06/27/24 17:09	1
2,2-Dichloropropane	ND		0.20	ug/L			06/27/24 17:09	1
2-Butanone	ND		1.0	ug/L			06/27/24 17:09	1
2-Chlorotoluene	ND		0.10	ug/L			06/27/24 17:09	1
2-Hexanone	ND		1.0	ug/L			06/27/24 17:09	1
2-Methylnaphthalene	ND		0.40	ug/L			06/27/24 17:09	1
4-Chlorotoluene	ND		0.10	ug/L			06/27/24 17:09	1
4-Isopropyltoluene	ND		0.10	ug/L			06/27/24 17:09	1
4-Methyl-2-pentanone	ND		1.0	ug/L			06/27/24 17:09	1
Acetone	ND		1.0	ug/L			06/27/24 17:09	1
Benzene	ND		0.10	ug/L			06/27/24 17:09	1
Bromobenzene	ND		0.10	ug/L			06/27/24 17:09	1
Bromodichloromethane	ND		0.10	ug/L			06/27/24 17:09	1
Dibromochloromethane	ND		0.10	ug/L			06/27/24 17:09	1
Bromoform	ND		0.10	ug/L			06/27/24 17:09	1
Bromomethane	ND		0.30	ug/L			06/27/24 17:09	1
Carbon disulfide	ND		1.0	ug/L			06/27/24 17:09	1
Carbon tetrachloride	ND		0.10	ug/L			06/27/24 17:09	1
Chlorobenzene	ND		0.10	ug/L			06/27/24 17:09	1
Chloroethane	ND		0.20	ug/L			06/27/24 17:09	1
Chloroform	ND		0.10	ug/L			06/27/24 17:09	1
Chloromethane	ND		0.30	ug/L			06/27/24 17:09	1
cis-1,2-Dichloroethene	ND		0.10	ug/L			06/27/24 17:09	1
cis-1,3-Dichloropropene	ND		0.10	ug/L			06/27/24 17:09	1
Dibromomethane	ND		0.10	ug/L			06/27/24 17:09	1
Dichlorodifluoromethane	ND		0.10	ug/L			06/27/24 17:09	1
Ethylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Hexachlorobutadiene	ND		0.10	ug/L			06/27/24 17:09	1

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QC Sample Results

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-7511/28

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Methyl-tert-butyl Ether (MTBE)	ND		0.10	ug/L			06/27/24 17:09	1
Methylene Chloride	ND		0.30	ug/L			06/27/24 17:09	1
n-Butylbenzene	ND		0.30	ug/L			06/27/24 17:09	1
N-Propylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Naphthalene	ND		0.20	ug/L			06/27/24 17:09	1
sec-Butylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Styrene	ND		0.10	ug/L			06/27/24 17:09	1
tert-Butylbenzene	ND		0.10	ug/L			06/27/24 17:09	1
Tetrachloroethene (PCE)	ND		0.10	ug/L			06/27/24 17:09	1
Toluene	ND		0.10	ug/L			06/27/24 17:09	1
trans-1,2-Dichloroethene	ND		0.10	ug/L			06/27/24 17:09	1
trans-1,3-Dichloropropene	ND		0.10	ug/L			06/27/24 17:09	1
Trichloroethene (TCE)	ND		0.10	ug/L			06/27/24 17:09	1
Trichlorofluoromethane	ND		0.10	ug/L			06/27/24 17:09	1
Vinyl chloride	ND		0.10	ug/L			06/27/24 17:09	1
Xylenes, Total	ND		0.15	ug/L			06/27/24 17:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		06/27/24 17:09	1
Toluene-d8 (Surr)	95		70 - 130		06/27/24 17:09	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/27/24 17:09	1
Dibromofluoromethane (Surr)	105		70 - 130		06/27/24 17:09	1

Lab Sample ID: MB 885-7511/5

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1,1-Trichloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1,2,2-Tetrachloroethane	ND		2.0	ug/L			06/27/24 17:09	1
1,1,2-Trichloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1-Dichloroethane	ND		1.0	ug/L			06/27/24 17:09	1
1,1-Dichloroethene	ND		1.0	ug/L			06/27/24 17:09	1
1,1-Dichloropropene	ND		1.0	ug/L			06/27/24 17:09	1
1,2,3-Trichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2,3-Trichloropropane	ND		2.0	ug/L			06/27/24 17:09	1
1,2,4-Trichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2,4-Trimethylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0	ug/L			06/27/24 17:09	1
1,2-Dibromoethane (EDB)	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dichloroethane (EDC)	ND		1.0	ug/L			06/27/24 17:09	1
1,2-Dichloropropane	ND		1.0	ug/L			06/27/24 17:09	1
1,3,5-Trimethylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,3-Dichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1,3-Dichloropropane	ND		1.0	ug/L			06/27/24 17:09	1

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QC Sample Results

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-7511/5

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
1-Methylnaphthalene	ND		4.0	ug/L			06/27/24 17:09	1
2,2-Dichloropropane	ND		2.0	ug/L			06/27/24 17:09	1
2-Butanone	ND		10	ug/L			06/27/24 17:09	1
2-Chlorotoluene	ND		1.0	ug/L			06/27/24 17:09	1
2-Hexanone	ND		10	ug/L			06/27/24 17:09	1
2-Methylnaphthalene	ND		4.0	ug/L			06/27/24 17:09	1
4-Chlorotoluene	ND		1.0	ug/L			06/27/24 17:09	1
4-Isopropyltoluene	ND		1.0	ug/L			06/27/24 17:09	1
4-Methyl-2-pentanone	ND		10	ug/L			06/27/24 17:09	1
Acetone	ND		10	ug/L			06/27/24 17:09	1
Benzene	ND		1.0	ug/L			06/27/24 17:09	1
Bromobenzene	ND		1.0	ug/L			06/27/24 17:09	1
Bromodichloromethane	ND		1.0	ug/L			06/27/24 17:09	1
Dibromochloromethane	ND		1.0	ug/L			06/27/24 17:09	1
Bromoform	ND		1.0	ug/L			06/27/24 17:09	1
Bromomethane	ND		3.0	ug/L			06/27/24 17:09	1
Carbon disulfide	ND		10	ug/L			06/27/24 17:09	1
Carbon tetrachloride	ND		1.0	ug/L			06/27/24 17:09	1
Chlorobenzene	ND		1.0	ug/L			06/27/24 17:09	1
Chloroethane	ND		2.0	ug/L			06/27/24 17:09	1
Chloroform	ND		1.0	ug/L			06/27/24 17:09	1
Chloromethane	ND		3.0	ug/L			06/27/24 17:09	1
cis-1,2-Dichloroethene	ND		1.0	ug/L			06/27/24 17:09	1
cis-1,3-Dichloropropene	ND		1.0	ug/L			06/27/24 17:09	1
Dibromomethane	ND		1.0	ug/L			06/27/24 17:09	1
Dichlorodifluoromethane	ND		1.0	ug/L			06/27/24 17:09	1
Ethylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Hexachlorobutadiene	ND		1.0	ug/L			06/27/24 17:09	1
Isopropylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Methyl-tert-butyl Ether (MTBE)	ND		1.0	ug/L			06/27/24 17:09	1
Methylene Chloride	ND		3.0	ug/L			06/27/24 17:09	1
n-Butylbenzene	ND		3.0	ug/L			06/27/24 17:09	1
N-Propylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Naphthalene	ND		2.0	ug/L			06/27/24 17:09	1
sec-Butylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Styrene	ND		1.0	ug/L			06/27/24 17:09	1
tert-Butylbenzene	ND		1.0	ug/L			06/27/24 17:09	1
Tetrachloroethene (PCE)	ND		1.0	ug/L			06/27/24 17:09	1
Toluene	ND		1.0	ug/L			06/27/24 17:09	1
trans-1,2-Dichloroethene	ND		1.0	ug/L			06/27/24 17:09	1
trans-1,3-Dichloropropene	ND		1.0	ug/L			06/27/24 17:09	1
Trichloroethene (TCE)	ND		1.0	ug/L			06/27/24 17:09	1
Trichlorofluoromethane	ND		1.0	ug/L			06/27/24 17:09	1
Vinyl chloride	ND		1.0	ug/L			06/27/24 17:09	1
Xylenes, Total	ND		1.5	ug/L			06/27/24 17:09	1

Eurofins Albuquerque

QC Sample Results

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 885-7511/5

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130		06/27/24 17:09	1
Toluene-d8 (Surr)	95		70 - 130		06/27/24 17:09	1
4-Bromofluorobenzene (Surr)	95		70 - 130		06/27/24 17:09	1
Dibromofluoromethane (Surr)	105		70 - 130		06/27/24 17:09	1

Lab Sample ID: LCS 885-7511/3

Matrix: Air

Analysis Batch: 7511

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1-Dichloroethene	20.1	21.9		ug/L		109	
Benzene	20.1	22.8		ug/L		113	
Chlorobenzene	20.1	22.9		ug/L		114	
Toluene	20.2	21.9		ug/L		108	
Trichloroethene (TCE)	20.2	22.1		ug/L		110	

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		70 - 130
Toluene-d8 (Surr)	95		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	103		70 - 130

Eurofins Albuquerque

QC Association Summary

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

GC/MS VOA

Analysis Batch: 7511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-6340-1	SVE	Total/NA	Air	8260B	
MB 885-7511/28	Method Blank	Total/NA	Air	8260B	
MB 885-7511/5	Method Blank	Total/NA	Air	8260B	
LCS 885-7511/3	Lab Control Sample	Total/NA	Air	8260B	

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- 2
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- 11
- 12

Lab Chronicle

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Client Sample ID: SVE
Date Collected: 06/13/24 10:00
Date Received: 06/14/24 17:00

Lab Sample ID: 885-6340-1
Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		2	7511	CM	EET ALB	06/27/24 18:47

Laboratory References:

= , 1120 South 27th Street, Billings, MT 59101, TEL (406)252-6325

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

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Accreditation/Certification Summary

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Laboratory: Eurofins Albuquerque

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New Mexico	State	NM9425, NM0901	02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Air	1,1,1,2-Tetrachloroethane
8260B		Air	1,1,1-Trichloroethane
8260B		Air	1,1,2,2-Tetrachloroethane
8260B		Air	1,1,2-Trichloroethane
8260B		Air	1,1-Dichloroethane
8260B		Air	1,1-Dichloroethene
8260B		Air	1,1-Dichloropropene
8260B		Air	1,2,3-Trichlorobenzene
8260B		Air	1,2,3-Trichloropropane
8260B		Air	1,2,4-Trichlorobenzene
8260B		Air	1,2,4-Trimethylbenzene
8260B		Air	1,2-Dibromo-3-Chloropropane
8260B		Air	1,2-Dibromoethane (EDB)
8260B		Air	1,2-Dichlorobenzene
8260B		Air	1,2-Dichloroethane (EDC)
8260B		Air	1,2-Dichloropropane
8260B		Air	1,3,5-Trimethylbenzene
8260B		Air	1,3-Dichlorobenzene
8260B		Air	1,3-Dichloropropane
8260B		Air	1,4-Dichlorobenzene
8260B		Air	1-Methylnaphthalene
8260B		Air	2,2-Dichloropropane
8260B		Air	2-Butanone
8260B		Air	2-Chlorotoluene
8260B		Air	2-Hexanone
8260B		Air	2-Methylnaphthalene
8260B		Air	4-Chlorotoluene
8260B		Air	4-Isopropyltoluene
8260B		Air	4-Methyl-2-pentanone
8260B		Air	Acetone
8260B		Air	Benzene
8260B		Air	Bromobenzene
8260B		Air	Bromodichloromethane
8260B		Air	Bromoform
8260B		Air	Bromomethane
8260B		Air	Carbon disulfide
8260B		Air	Carbon tetrachloride
8260B		Air	Chlorobenzene
8260B		Air	Chloroethane
8260B		Air	Chloroform
8260B		Air	Chloromethane
8260B		Air	cis-1,2-Dichloroethene
8260B		Air	cis-1,3-Dichloropropene
8260B		Air	Dibromochloromethane
8260B		Air	Dibromomethane

Accreditation/Certification Summary

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Laboratory: Eurofins Albuquerque (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
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The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Air	Dichlorodifluoromethane
8260B		Air	Ethylbenzene
8260B		Air	Hexachlorobutadiene
8260B		Air	Isopropylbenzene
8260B		Air	Methylene Chloride
8260B		Air	Methyl-tert-butyl Ether (MTBE)
8260B		Air	Naphthalene
8260B		Air	n-Butylbenzene
8260B		Air	N-Propylbenzene
8260B		Air	sec-Butylbenzene
8260B		Air	Styrene
8260B		Air	tert-Butylbenzene
8260B		Air	Tetrachloroethene (PCE)
8260B		Air	Toluene
8260B		Air	trans-1,2-Dichloroethene
8260B		Air	trans-1,3-Dichloropropene
8260B		Air	Trichloroethene (TCE)
8260B		Air	Trichlorofluoromethane
8260B		Air	Vinyl chloride
8260B		Air	Xylenes, Total

Oregon

NELAP

NM100001

02-26-25

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260B		Air	1,1,1,2-Tetrachloroethane
8260B		Air	1,1,1-Trichloroethane
8260B		Air	1,1,2,2-Tetrachloroethane
8260B		Air	1,1,2-Trichloroethane
8260B		Air	1,1-Dichloroethane
8260B		Air	1,1-Dichloroethene
8260B		Air	1,1-Dichloropropene
8260B		Air	1,2,3-Trichlorobenzene
8260B		Air	1,2,3-Trichloropropane
8260B		Air	1,2,4-Trichlorobenzene
8260B		Air	1,2,4-Trimethylbenzene
8260B		Air	1,2-Dibromo-3-Chloropropane
8260B		Air	1,2-Dibromoethane (EDB)
8260B		Air	1,2-Dichlorobenzene
8260B		Air	1,2-Dichloroethane (EDC)
8260B		Air	1,2-Dichloropropane
8260B		Air	1,3,5-Trimethylbenzene
8260B		Air	1,3-Dichlorobenzene
8260B		Air	1,3-Dichloropropane
8260B		Air	1,4-Dichlorobenzene
8260B		Air	1-Methylnaphthalene
8260B		Air	2,2-Dichloropropane

Eurofins Albuquerque

Accreditation/Certification Summary

Client: Cottonwood Consulting LLC
Project/Site: Mudge A #2

Job ID: 885-6340-1

Laboratory: Eurofins Albuquerque (Continued)

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.			
Analysis Method	Prep Method	Matrix	Analyte
8260B		Air	2-Butanone
8260B		Air	2-Chlorotoluene
8260B		Air	2-Hexanone
8260B		Air	2-Methylnaphthalene
8260B		Air	4-Chlorotoluene
8260B		Air	4-Isopropyltoluene
8260B		Air	4-Methyl-2-pentanone
8260B		Air	Acetone
8260B		Air	Benzene
8260B		Air	Bromobenzene
8260B		Air	Bromodichloromethane
8260B		Air	Bromoform
8260B		Air	Bromomethane
8260B		Air	Carbon disulfide
8260B		Air	Carbon tetrachloride
8260B		Air	Chlorobenzene
8260B		Air	Chloroethane
8260B		Air	Chloroform
8260B		Air	Chloromethane
8260B		Air	cis-1,2-Dichloroethene
8260B		Air	cis-1,3-Dichloropropene
8260B		Air	Dibromochloromethane
8260B		Air	Dibromomethane
8260B		Air	Dichlorodifluoromethane
8260B		Air	Ethylbenzene
8260B		Air	Hexachlorobutadiene
8260B		Air	Isopropylbenzene
8260B		Air	Methylene Chloride
8260B		Air	Methyl-tert-butyl Ether (MTBE)
8260B		Air	Naphthalene
8260B		Air	n-Butylbenzene
8260B		Air	N-Propylbenzene
8260B		Air	sec-Butylbenzene
8260B		Air	Styrene
8260B		Air	tert-Butylbenzene
8260B		Air	Tetrachloroethene (PCE)
8260B		Air	Toluene
8260B		Air	trans-1,2-Dichloroethene
8260B		Air	trans-1,3-Dichloropropene
8260B		Air	Trichloroethene (TCE)
8260B		Air	Trichlorofluoromethane
8260B		Air	Vinyl chloride
8260B		Air	Xylenes, Total

Eurofins Albuquerque



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ANALYTICAL SUMMARY REPORT

June 21, 2024

Hall Environmental

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

Work Order: B24061612 Quote ID: B15626

Project Name: Mudge A #2, 88501577

Energy Laboratories Inc Billings MT received the following 1 sample for Hall Environmental on 6/18/2024 for analysis.

Lab ID	Client Sample ID	Collect Date	Receive Date	Matrix	Test
B24061612-001	SVE (885-6340-1)	06/13/24 10:00	06/18/24	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 So. 27th Street, 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.

Energy Laboratories, Inc. verifies the reported results for the analysis has been technically reviewed and approved for release.

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



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LABORATORY ANALYTICAL REPORT
Prepared by Billings, MT Branch

Client: Hall Environmental
Project: Mudge A #2, 88501577
Lab ID: B24061612-001
Client Sample ID: SVE (885-6340-1)

Report Date: 06/21/24
Collection Date: 06/13/24 10:00
Date Received: 06/18/24
Matrix: Air

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
GAS CHROMATOGRAPHY ANALYSIS REPORT							
Oxygen	21.59	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Nitrogen	77.89	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Carbon Dioxide	0.47	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Hydrogen Sulfide	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Methane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Ethane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Propane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Isobutane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
n-Butane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Isopentane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
n-Pentane	<0.01	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Hexanes plus	0.05	Mol %		0.01		GPA 2261-95	06/19/24 02:08 / jrj
Propane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
Isobutane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
n-Butane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
Isopentane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
n-Pentane	< 0.001	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
Hexanes plus	0.021	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
GPM Total	0.021	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
GPM Pentanes plus	0.021	gpm		0.001		GPA 2261-95	06/19/24 02:08 / jrj
CALCULATED PROPERTIES							
Gross BTU per cu ft @ Std Cond. (HHV)	2			1		GPA 2261-95	06/19/24 02:08 / jrj
Net BTU per cu ft @ std cond. (LHV)	2			1		GPA 2261-95	06/19/24 02:08 / jrj
Pseudo-critical Pressure, psia	547			1		GPA 2261-95	06/19/24 02:08 / jrj
Pseudo-critical Temperature, deg R	240			1		GPA 2261-95	06/19/24 02:08 / jrj
Specific Gravity @ 60/60F	1.00			0.001		D3588-81	06/19/24 02:08 / jrj
Air, %	98.63			0.01		GPA 2261-95	06/19/24 02:08 / jrj
- The analysis was not corrected for air.							
COMMENTS							
-							06/19/24 02:08 / 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)



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QA/QC Summary Report

Prepared by Billings, MT Branch

Client: Hall Environmental

Work Order: B24061612

Report Date: 06/21/24

Analyte	Count	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: GPA 2261-95										Batch: R423086
Lab ID: B24061609-001ADUP	12	Sample Duplicate					Run: GCNGA-B_240619A			06/19/24 10:50
Oxygen		21.7	Mol %	0.01				0.1	20	
Nitrogen		78.0	Mol %	0.01				0	20	
Carbon Dioxide		0.25	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		0.02	Mol %	0.01				0.0	20	
Lab ID: LCS061924	11	Laboratory Control Sample					Run: GCNGA-B_240619A			06/19/24 03:57
Oxygen		0.64	Mol %	0.01	128	70	130			
Nitrogen		6.00	Mol %	0.01	100	70	130			
Carbon Dioxide		1.00	Mol %	0.01	101	70	130			
Methane		75.1	Mol %	0.01	100	70	130			
Ethane		5.81	Mol %	0.01	97	70	130			
Propane		5.04	Mol %	0.01	102	70	130			
Isobutane		1.57	Mol %	0.01	78	70	130			
n-Butane		2.00	Mol %	0.01	100	70	130			
Isopentane		1.01	Mol %	0.01	101	70	130			
n-Pentane		1.01	Mol %	0.01	101	70	130			
Hexanes plus		0.84	Mol %	0.01	105	70	130			

Qualifiers:

RL - Analyte Reporting Limit

ND - Not detected at the Reporting Limit (RL)



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Work Order Receipt Checklist

Hall Environmental

B24061612

Login completed by: Danielle N. Harris

Date Received: 6/18/2024

Reviewed by: cindy

Received by: CMJ

Reviewed Date: 6/21/2024

Carrier name: FedEx NDA

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on all shipping container(s)/cooler(s)?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on all sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time? (Exclude analyses that are considered field parameters such as pH, DO, Res Cl, Sulfite, Ferrous Iron, etc.)	Yes ☒	No ☐	
Temp Blank received in all shipping container(s)/cooler(s)?	Yes ☐	No ☒	Not Applicable ☐
Container/Temp Blank temperature:	13.0°C No Ice		
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.

For methods that require zero headspace or require preservation check at the time of analysis due to potential interference, the pH is verified at analysis. Nonconforming sample pH is documented as part of the analysis and included in the sample analysis comments.

Trip Blanks and/or Blind Duplicate samples are assigned the earliest collection time for the associated requested analysis in order to evaluate the holding time unless specifically indicated.

Contact and Corrective Action Comments:

None

[illegible]

[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.

Login Sample Receipt Checklist

Client: Cottonwood Consulting LLC

Job Number: 885-6340-1

Login Number: 6340

List Number: 1

Creator: Casarrubias, Tracy

List Source: Eurofins Albuquerque

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	



SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (H2O")	Vacuum Pressure downstream of drum (H2O")	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	1-15-24	1	6.4	-38	-48	-	Y	22	N	Drum Frozen
Florance GC J 16		2	41.4	-6	-	-	Y	12.5	Y	Gasket leaking
Sandoval GC A 1A		3	124.8	-10 (H2O)	Broken	7397.7	N	25	N	Drain Valve is broken (Needs replace) Restarted System, Drum Frozen,
Jacquez GC B 3E		1	0.1	-6	-	5520.1	Y	Dry	N	Run time gauge has condensation and is hard to read.
Al Elliot D 002		5	-	-	-	-	N	12.7	N	Drum Frozen and full, generator was running, attempted to restart, would not start.
GCU H180		All	-	-	-	8675.6	N	-	-	System not operational on arrival, attempted to start, could not start, would not start after drying.
Heaton LS 5		Unk	82.3	-	-54	-	Y	25.5	N	Drum Frozen
Mudge B12 R		1	84.4	-28	-8	-	N	32	N	Restarted System Drum Frozen.
Mudge A 002 MV	✓	2	32.0	-50	-	-	Y	Dry	N	

Notes:

SVE - Soil Vapor Extraction
 OVM - Organic Vapor Monitoring
 ppm- parts per million
 H2O"- inches water
 cfm- cubic feet per minute
 bTOD- below top of drum

(in hg) SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (H ₂ O")	Vacuum Pressure downstream of drum (H ₂ O")	Run Time (Hours)	System Operational at Arrival?	Drum H ₂ O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A*	2-5-24	1	6.2	-3.75	-3.75	-	Y	23.6	Y	
Florance GC J 16*	2-14-24	2	42.6	-2.1	-2.1	-	N	16.4	Y	Drum leaking, needs new gasket.
Sandoval GC A 1A*	2-5-24	3	41.0	-2.5	-2.5	7507.5	Y	31.75	Y	Valve Fixed Gauge Replaced
Jacquez GC B 3E*		1	0.8	-0.2	-	7031.1	Y	32.5	N	Water Frozen
Al Elliot D 002*		5	65.7	-0.5	-0.5	6664.1	Y	30.1	Y	B6T ≈ 90% Full
GCU H180		All	-	-	-	-	Y	-	-	2 PSI @ 110°F) 1) 2.5 2) 2.5 3) 2.5 4) 1.5 psi
Heaton LS 5*		Unk	98.9	-2.5	-2.5	-	Y	27.3	Y	
Mudge B12 R*	2-14-24	1	36.7	-2.2	-2.5	-	Y		N	Drum Frozen
Mudge A 002 MV*	2-14-24	2	22.0	-5.0	-4.0	-	Y	32.0	N	Drum Frozen

Notes:

SVE - Soil Vapor Extraction

OVM - Organic Vapor Monitoring

ppm- parts per million

H₂O"- inches water

cfm- cubic feet per minute

bTOD- below top of drum

* - Gauge replaced with (in hg) vacuum pressure gauge

run time gauge
not connected

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H ₂ O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	3-11-24	1	0.6	3.75	3.75	-	Y	29.5	Y	
Florance GC J 16		2	28.1	3.20	3.30 2.30	-	Y	18.2	Y	* - See below
Sandoval GC A 1A		3	89.1	2.50	2.50	7653.0	N	28.3	Y	
Jacquez GC B 3E		1	1.2	0.2	0.2	7869.8	Y	Dry	N	
Al Elliot D 002		5	26.5	0.5	0.5	6849.7	N	32.5	N	Water Level below drain valve
GCU H180		All	-	-	-	9003.0	Y	-	-	Temp 125°F System Pressure 1.8 psi SVE Point (psi): (1) 2.5 (2) 2.5 (3) 2.5 (4) 2.5
Heaton LS 5		Unk	70.8	2.7	2.5	-	Y	31.8	N	Water Level below drain valve
Mudge B12 R		1	41.3	2.5	2.5	-	Y	24.8	Y	Drum has hole, needs to be replaced
Mudge A 002 MV		2	47.2	4.75	3.75	-	Y	Dry	N	

Notes:

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 bTOD- below top of drum

* - No leaks when system was running.
 Turned off system and discovered leaks.
 After investigation a small pinhole is present
 at the bottom of the drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	4/8/24	1	66.1	3.75	3.75	—	Y	29.5	Y	
Florance GC J 16		2	202.8	-4.0	-4.0	—	Y	14	Y	Small leak when system is off
Sandoval GC A 1A		3	148.3	2.5	2.5	7612.9	N	30.5	Y	
Jacquez GC B 3E		1	6.0	0.2	0.2	8543.6	Y	Dry	N	
Al Elliot D 002		5	49.8	0.4	0.4	7181.6	Y	29	Y	
GCU H180		All	-	-	-	9177.0	Y	-	-	Temp 125 F System Pressure 20 psi SVE Point (psi): (1) 1.0 (2) 1.0 (3) 1.0 (4) 1.0
Heaton LS 5		Unk	107.5	2.75	2.5	—	Y	Dry	N	
Mudge B12 R		1	256.3	2.5	2.5	—	Y	28.5	Y	Small leak when system is off
Mudge A 002 MV		2	104.3	4.75	3.00	—	Y	Dry	N	

Notes:

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 cfm- cubic feet per minute
 bTOD- below top of drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H ₂ O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	5-6-24	1	1.3	3.75	3.75	-	Y	31.5	N	Water level below drain valve
Florance GC J 16		2	23.3	3.5	3.5	-	Y	24.2	Y	Tightened gasket, no leaks after tightening.
Sandoval GC A 1A		3	2.8	2.5	2.5	7745.2	N	32.5 32.5	N	Water level below drain valve, restarted system. MW connection was disconnected on arrival.
Jacquez GC B 3E		1	1.1	0.2	0.2	10,215.4	Y	Dry	N	Drum is dry.
Al Elliot D 002		5	29.5	0.4	0.4	8154.0	Y	30.3	Y	Drum dry
GCU H180		All	-	-	-	9331.1	Y	-	-	Temp 127 F System Pressure 215 psi SVE Point (psi): (1) 1.5 (2) 2.5 (3) 2.0 (4) 1.0
Heaton LS 5		Unk	89.6	2.5	2.5	-	Y	Dry	N	Drum dry
Mudge B12 R		1	26.7	2.5	2.5	-	Y	27.5	Y	Tightened gasket, gasket is cracked. Minor condensation observed after tightening.
Mudge A 002 MV		2	52.0	5.0	3.75	-	Y	Dry	N	Drum dry

Notes:

SVE - Soil Vapor Extraction

OVM - Organic Vapor Monitoring

ppm- parts per million

inHg- inches of mercury

cfm- cubic feet per minute

bTOD- below top of drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	6/14/24	1	3.4	4.0	3.75	—	Y	Dry	N	
Florance GC J 16	6/13/24	2	35.8	3.0	3.5	—	Y	Dry	N	
Sandoval GC A 1A	6/13/24	3	10.0	5.0	2.0	792.4	N	Dry	N	
Jacquez GC B 3E	6/13/24	1	6.2	0.1	0.1	1264.0	Y	Dry	N	
Al Elliot D 002	6/13/24	5	37.3	0.1	0.1	906.2	Y	Dry	N	
GCU H180	6/12/24	All	-	-	-	Broken	N	-	-	Temp 145F System Pressure 2.5 psi SVE Point (psi): (1) 0.1 (2) 2.5 (3) 2.7 (4) 0
Heaton LS 5	6/12/24	Unk	102.0	1.0	1.0	—	Y	Dry	N	
Mudge B12 R	6/12/24	1	36.7	2.5	2.5	—	Y	Dry	N	
Mudge A 002 MV	6/13/24	2	150.5	5.0	5.0	—	Y	Dry	NO	

Notes:

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OVM - Organic Vapor Monitoring
ppm- parts per million
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cfm- cubic feet per minute
bTOD- below top of drum

system off
on arrival.
Reset.

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	7-5-24	1	48.3	3.75	3.75	-	Y	32	N	Drum dry
Florance GC J 16		2	14.0	3.75	3.75	-	Y	32	N	Drum dry
Sandoval GC A 1A		3	3.3	2.5	2.5	8209.3	Y	32	N	Drum dry
Jacquez GC B 3E		1	1.6	0.1	0.1	651.7	Y	32	N	Hours appear to be reset from previous inspection
Al Elliot D 002		5	-	-	-	-	N	32	N	Attempted to start, no power to system. Generator not on.
GCU H180		All	-	-	-	-	Y	-	-	Temp 130F System Pressure 2.5psi SVE Point (psi): (1) 1.25 (2) 2.5 (3) 2.5 (4) 2.1
Heaton LS 5		Unk	80.5	2.5	2.5	-	Y	32	N	Drum dry
Mudge B12 R		1	25.3	2.5	2.5	-	Y	32	N	Drum dry
Mudge A 002 MV		2	123.8	5.0	3.75	-	Y	32	N	Drum dry
	↓									

Notes:

SVE - Soil Vapor Extraction
 OVM - Organic Vapor Monitoring
 ppm- parts per million
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 cfm- cubic feet per minute
 bTOD- below top of drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	8-7-24	1	0.2	3.75	3.75	—	Y	32	N	Drum dry
Florance GC J 16		2	21.5	4.0	4.0	—	Y	32	N	Drum dry
Sandoval GC A 1A		3	3.1	2.5	2.5	8922.6	N	32	N	Drum dry
Jacquez GC B 3E		1	3.0	0.1	0.1	1440.3	Y	32	N	Drum dry
Al Elliot D 002		5	—	—	—	—	N	32	N	System not running. Attempted to restart. Would not turn on.
GCU H180		All	-	-	-	—	N	-	-	Temp 105 F System Pressure 2.6 psi SVE Point (psi): (1) 1.8 (2) 2.5 (3) 2.5 (4) 1.2
Heaton LS 5		Unk	68.5	2.5	2.5	—	Y	32	N	Drum dry
Mudge B12 R		1	19.5	2.5	2.5	—	Y	32	N	Drum dry
Mudge A 002 MV		2	268.2	5.0	3.75	—	Y	32	N	Drum dry

Generator not running.
Run time gauge is connected

Notes:

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 inHg- inches of mercury
 cfm- cubic feet per minute
 bTOD- below top of drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	9/16/24	1	12.1	4.5	4.5	-	Y	Dry	No	
Florance GC J 16	9/16/24	2	90.2	4.0	4.0	-	Y	Dry	No	
Sandoval GC A 1A	9/18/24	3	5.3	1	2	5543.1	No	Dry	No	SVE restarted before departure
Jacquez GC B 3E	9/18/24	1	7.3	0.1	0.1	2449.7	Yes	Dry	No	
Al Elliot D 002	9/18/24	5	46.2	0.1	0.1	4156.3	Yes	Dry	No	
GCU H180	9/17/24	All	-	-	-	Dis-Connected	No	-	-	Temp 60 F System Pressure 2.4 psi SVE Point (psi): (1) 3.75 (2) 2.5 (3) 2.4 (4) 2.6
Heaton LS 5	9/17/24	Unk	77.3	3.9	2.5	-	Yes	Dry	No	
Mudge B12 R	9/17/24	1	19.9	2.5	2.5	-	Yes	Dry	No	
Mudge A 002 MV	9/18/24	2	284.0	5.0	4.8	-	Yes	Dry	No	

SVE restarted before departure

Notes:

SVE - Soil Vapor Extraction

OVM - Organic Vapor Monitoring

ppm- parts per million

inHg- inches of mercury

cfm- cubic feet per minute

bTOD- below top of drum



SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	10-3-24	1	0.9	3.75	3.75	-	Y	Dry	N	
Florance GC J 16		2	15.1	3.75	3.75	=	Y	30"	Y	
Sandoval GC A 1A		3	35.8	2.25	2.25	9602.8	N	Dry	N	
Jacquez GC B 3E		1	14.7	1.25	1.25	2809.9	Y	Dry	N	Crack in PVC OR monitoring well SVE point
Al Elliot D 002		5	-	-	-	???	N	Dry	N	System not operational on arrival, attempted to restart, would not turn on
GCU H180		All	-	-	-	Gauge disconnected	N	-	-	Temp 110 F System Pressure 2.75 psi SVE Point (psi): (1) 2.5 (2) 2.5 (3) 2.5 (4) 2.5 Generator not running
Heaton LS 5		Unk	69.1	2.5	2.5	-	Y	Dry	N	
Mudge B12 R		1	7.6	2.5	2.5	-	Y	Dry	N	
Mudge A 002 MV	✓	2	217.1	5.0	3.75	-	Y	Dry	N	

Notes:

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 OVM - Organic Vapor Monitoring
 ppm- parts per million
 inHg- inches of mercury
 cfm- cubic feet per minute
 bTOD- below top of drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	11/11/24	1	0.8	3.75	3.75	-	Y	2"	Y	
Florance GC J 16		2	8.4	3.75	3.75	-	Y	12"	Y	
Sandoval GC A 1A		3	1.3	2.25	2.25	9669.9	N	Dry	N	
Jacquez GC B 3E		1	17.8	1.25	1.25	3717.9	Y	21"	Y	
Al Elliot D 002		5	-	-	-	-	N	24"	Y	No Power, system would not start.
GCU H180		All	-	-	-	Gauge disconnected	Y	-	-	Temp 30 F System Pressure 2.75 psi SVE Point (psi): (1) 2.5 (2) 2.5 (3) 2.5 (4) 2.5
Heaton LS 5		Unk	68.9	2.5	2.5	-	Y	29"	Y	
Mudge B12 R		1	19.8	2.5	2.5	-	N	16"	Y	
Mudge A 002 MV	✓	2	144.3	5.0	4.75	-	Y	Dry	N	

Notes:

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 OVM - Organic Vapor Monitoring
 ppm- parts per million
 inHg- inches of mercury
 cfm- cubic feet per minute
 bTOD- below top of drum

SVE Monitoring

Location	Date	SVE Point(s)	Exhaust OVM (ppm)	Vacuum Pressure upstream of drum (inHg)	Vacuum Pressure downstream of drum (inHg)	Run Time (Hours)	System Operational at Arrival?	Drum H2O (inches bTOD)	Drum Drained?	Comments
Atlantic A LS 9A	12/11/24	1	1.9	4.0	4.0	-	Y	26	Y	
Florance GC J 16	12/11/24	2	27.5	4.0	4.0	-	Y	13	Y	Fluid leaking from Drain gasket on Drum
Sandoval GC A 1A	12/11/24	3	1.4	2.23	2.25	38.1	N	Dry	N	
Jacquez GC B 3E	12/11/24	1	4.3	0	0	4461.9	Y	Dry	N	Missing PVC cap on down stream pipe 2" fitting
Al Elliot D 002	12/11/24	5	-	-	-	-	N	Dry	N	SVE non operational, unable to reset
GCU H180	12/10/24	All	-	-	-	-	Y	-	-	Temp 98 F System Pressure 1.75 psi SVE Point (psi): (1) 1.75 (2) 1.75 (3) 1.75 (4) 1.75
Heaton LS 5	12/11/24	Unk	-	-	-	-	N	23"	N	Frozen Fluid, SVE would not turn on
Mudge B12 R	12/10/24	1	30.0	2.5	2.5	-	Y	29"	Y	
Mudge A 002 MV	12/11/24	2	74.6	5.0	4.75	-	Y	Dry	N	

Plastic hose failing on SVE point #1

Notes:

SVE - Soil Vapor Extraction
OVM - Organic Vapor Monitoring
ppm- parts per million
inHg- inches of mercury
cfm- cubic feet per minute
bTOD- below top of drum

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

State of New Mexico

Energy, Minerals and Natural Resources

Oil Conservation Division

1220 S. St Francis Dr.

Santa Fe, NM 87505

CONDITIONS

Action 415784

CONDITIONS

Operator: SIMCOE LLC 1199 Main Ave., Suite 101 Durango, CO 81301	OGRID: 329736
	Action Number: 415784
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Mudge A #002 Annual Gas Sampling Lab Report and SVE Field Forms (January 2024 through June 2024) are accepted as part of the incident record; App ID: 415784	1/8/2025