

July 12, 2017

Crestone Peak Resources

Sample Delivery Group: L920035
Samples Received: 07/01/2017
Project Number:
Description: Moser 1
Site: MOSER 1
Report To: David Tewkesbury
10188 E. Interstate 25 Frontage Rd.
Firestone, CO 80504

Entire Report Reviewed By:



Shane Gambill

Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



Cp: Cover Page	1
Tc: Table of Contents	2
Ss: Sample Summary	3
Cn: Case Narrative	4
Sr: Sample Results	5
MW-01R L920035-01	5
MW-02R L920035-02	6
MW-03R L920035-03	7
MW-04R L920035-04	8
MW-05R L920035-05	9
MW-06R L920035-06	10
Qc: Quality Control Summary	11
Volatile Organic Compounds (GC/MS) by Method 8260B	11
Gl: Glossary of Terms	12
Al: Accreditations & Locations	13
Sc: Chain of Custody	14



SAMPLE SUMMARY

ONE LAB. NATIONWIDE.



MW-01R L920035-01 GW

			Collected by David Tewkesbury	Collected date/time 06/29/17 09:15	Received date/time 07/01/17 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997073	1	07/08/17 21:01	07/08/17 21:01	DWR

¹ Cp

² Tc

³ Ss

MW-02R L920035-02 GW

			Collected by David Tewkesbury	Collected date/time 06/29/17 09:30	Received date/time 07/01/17 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997073	1	07/08/17 21:16	07/08/17 21:16	DWR

⁴ Cn

⁵ Sr

MW-03R L920035-03 GW

			Collected by David Tewkesbury	Collected date/time 06/29/17 09:45	Received date/time 07/01/17 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997073	1	07/08/17 21:31	07/08/17 21:31	DWR

⁶ Qc

⁷ Gl

MW-04R L920035-04 GW

			Collected by David Tewkesbury	Collected date/time 06/29/17 10:00	Received date/time 07/01/17 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997073	1	07/08/17 21:46	07/08/17 21:46	DWR

⁸ Al

⁹ Sc

MW-05R L920035-05 GW

			Collected by David Tewkesbury	Collected date/time 06/29/17 10:15	Received date/time 07/01/17 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997073	1	07/08/17 22:01	07/08/17 22:01	DWR

MW-06R L920035-06 GW

			Collected by David Tewkesbury	Collected date/time 06/29/17 10:30	Received date/time 07/01/17 08:00
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG997073	25	07/08/17 22:16	07/08/17 22:16	DWR



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Shane Gambill
Technical Service Representative

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0702		0.00100	1	07/08/2017 21:01	WG997073
Toluene	ND		0.00100	1	07/08/2017 21:01	WG997073
Ethylbenzene	ND		0.00100	1	07/08/2017 21:01	WG997073
Total Xylenes	ND		0.00300	1	07/08/2017 21:01	WG997073
(S) Toluene-d8	95.7		80.0-120		07/08/2017 21:01	WG997073
(S) Dibromofluoromethane	89.9		76.0-123		07/08/2017 21:01	WG997073
(S) a,a,a-Trifluorotoluene	92.0		80.0-120		07/08/2017 21:01	WG997073
(S) 4-Bromofluorobenzene	96.2		80.0-120		07/08/2017 21:01	WG997073

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/08/2017 21:16	WG997073
Toluene	ND		0.00100	1	07/08/2017 21:16	WG997073
Ethylbenzene	ND		0.00100	1	07/08/2017 21:16	WG997073
Total Xylenes	ND		0.00300	1	07/08/2017 21:16	WG997073
(S) Toluene-d8	90.5		80.0-120		07/08/2017 21:16	WG997073
(S) Dibromofluoromethane	92.9		76.0-123		07/08/2017 21:16	WG997073
(S) a,a,a-Trifluorotoluene	94.8		80.0-120		07/08/2017 21:16	WG997073
(S) 4-Bromofluorobenzene	87.1		80.0-120		07/08/2017 21:16	WG997073

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00163		0.00100	1	07/08/2017 21:31	WG997073
Toluene	ND		0.00100	1	07/08/2017 21:31	WG997073
Ethylbenzene	ND		0.00100	1	07/08/2017 21:31	WG997073
Total Xylenes	ND		0.00300	1	07/08/2017 21:31	WG997073
(S) Toluene-d8	91.1		80.0-120		07/08/2017 21:31	WG997073
(S) Dibromofluoromethane	93.4		76.0-123		07/08/2017 21:31	WG997073
(S) a,a,a-Trifluorotoluene	95.2		80.0-120		07/08/2017 21:31	WG997073
(S) 4-Bromofluorobenzene	85.9		80.0-120		07/08/2017 21:31	WG997073

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	07/08/2017 21:46	WG997073
Toluene	ND		0.00100	1	07/08/2017 21:46	WG997073
Ethylbenzene	ND		0.00100	1	07/08/2017 21:46	WG997073
Total Xylenes	ND		0.00300	1	07/08/2017 21:46	WG997073
(S) Toluene-d8	91.4		80.0-120		07/08/2017 21:46	WG997073
(S) Dibromofluoromethane	95.4		76.0-123		07/08/2017 21:46	WG997073
(S) a,a,a-Trifluorotoluene	95.1		80.0-120		07/08/2017 21:46	WG997073
(S) 4-Bromofluorobenzene	88.9		80.0-120		07/08/2017 21:46	WG997073

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0507		0.00100	1	07/08/2017 22:01	WG997073
Toluene	ND		0.00100	1	07/08/2017 22:01	WG997073
Ethylbenzene	ND		0.00100	1	07/08/2017 22:01	WG997073
Total Xylenes	ND		0.00300	1	07/08/2017 22:01	WG997073
(S) Toluene-d8	89.5		80.0-120		07/08/2017 22:01	WG997073
(S) Dibromofluoromethane	87.7		76.0-123		07/08/2017 22:01	WG997073
(S) a,a,a-Trifluorotoluene	92.5		80.0-120		07/08/2017 22:01	WG997073
(S) 4-Bromofluorobenzene	89.4		80.0-120		07/08/2017 22:01	WG997073

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	1.51		0.0250	25	07/08/2017 22:16	WG997073
Toluene	ND		0.0250	25	07/08/2017 22:16	WG997073
Ethylbenzene	ND		0.0250	25	07/08/2017 22:16	WG997073
Total Xylenes	ND		0.0750	25	07/08/2017 22:16	WG997073
(S) Toluene-d8	90.0		80.0-120		07/08/2017 22:16	WG997073
(S) Dibromofluoromethane	90.7		76.0-123		07/08/2017 22:16	WG997073
(S) a,a,a-Trifluorotoluene	93.4		80.0-120		07/08/2017 22:16	WG997073
(S) 4-Bromofluorobenzene	87.7		80.0-120		07/08/2017 22:16	WG997073

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc

Method Blank (MB)

(MB) R3232807-3 07/08/17 17:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	90.8			80.0-120
(S) Dibromofluoromethane	90.5			76.0-123
(S) a,a,a-Trifluorotoluene	95.9			80.0-120
(S) 4-Bromofluorobenzene	83.6			80.0-120

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3232807-1 07/08/17 16:51 • (LCSD) R3232807-2 07/08/17 17:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0250	0.0251	0.0264	100	106	69.0-123			5.03	20
Ethylbenzene	0.0250	0.0235	0.0239	93.8	95.7	77.0-120			1.97	20
Toluene	0.0250	0.0240	0.0246	96.0	98.4	77.0-120			2.48	20
Xylenes, Total	0.0750	0.0703	0.0720	93.7	96.0	77.0-120			2.39	20
(S) Toluene-d8				91.0	90.6	80.0-120				
(S) Dibromofluoromethane				90.2	95.5	76.0-123				
(S) a,a,a-Trifluorotoluene				93.6	91.7	80.0-120				
(S) 4-Bromofluorobenzene				83.6	83.6	80.0-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.

Qualifier	Description
-----------	-------------

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

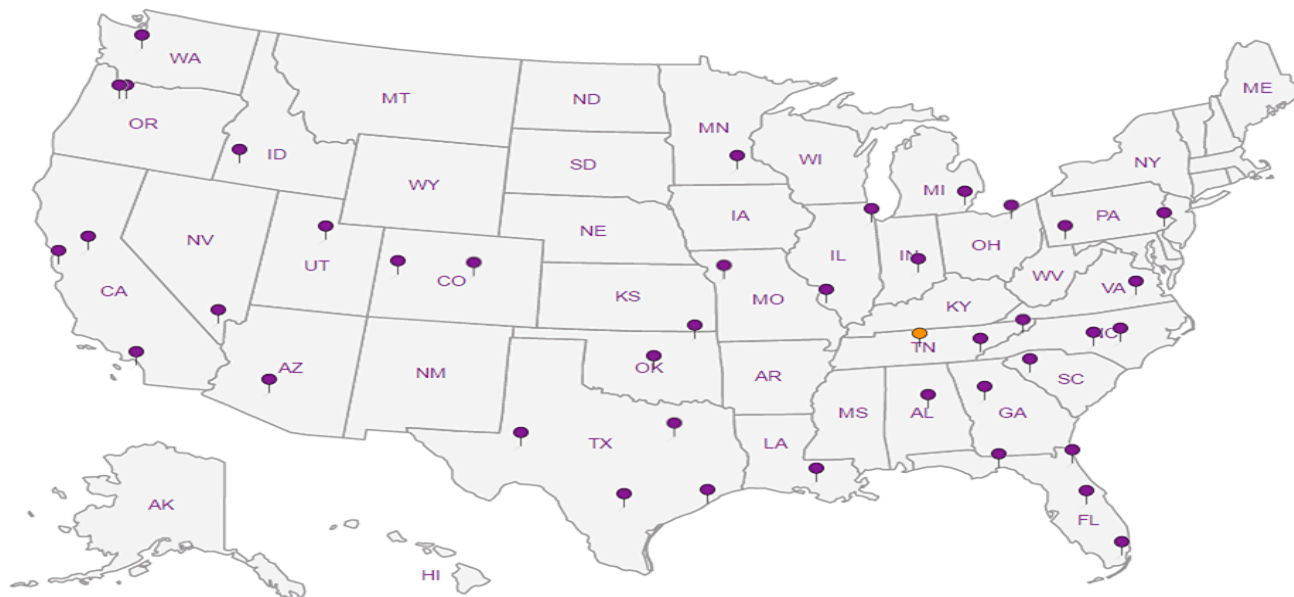
⁹Sc

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	IN00003		

Our Locations



Crestone Peak Resources

Billing Information:
Crestone Peak Resources
1801 California St.
Suite 2500
Denver CO 80202

Pres
Chk

Analysis / Container / Preservative

Chain of Custody Page of 

YOUR LAB OF CHOICE

12065 Lebanon Rd.
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859



L# L920035
CREPEAFCO

E149

Accnum: CREPEAFCO

Template:

Prelogin:

TSR:

PB:

Shipped Via:

Remarks	Sample # (lab only)
	01
	02
	03
	04
	05
	06

Report to:

David Tewkesbury

Email To:

david.tewkesbury@crestonepr.com

Project

Description: moser 1

City/State

Collected:

Phone: 7202365525

Client Project #

Lab Project #

Fax:

Collected by (print):

David Tewkesbury

Site/Facility ID #

moser 1

P.O. #

Collected by (signature):

David Tewkesbury

Rush? (Lab MUST Be Notified)

☐ Same Day ☐ Five Day
☐ Next Day ☐ 5 Day (Rad Only)
☐ Two Day ☐ 10 Day (Rad Only)
☐ Three Day

Quote #

Date Results Needed

No.
of
Cntrs

BTEx

Immediately

Packed on Ice: N ☐ Y ☒

Sample ID

Comp/Grab

Matrix *

Depth

Date

Time

mu-01R

comp

GW

6/29/17

915

2

mu-02R

930

mu-03R

995

mu-04R

1000

mu-05R

1015

mu-06R

1030

* Matrix:

SS - Soil AIR - Air F - Filter
 GW - Groundwater B - Bioassay
 WW - Waste Water
 DW - Drinking Water
 OT - Other

Remarks:

Samples returned via:

UPS ☐ FedEx ☐ Courier ☐pH Temp Flow Other

Tracking #

Relinquished by: (Signature)

Date:

Time:

Relinquished by: (Signature)

Date:

Time:

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Trip Blank Received: Yes ☐ No ☒HCL/MeOH
TBR

Received by: (Signature)

Temp: 2.0 °C Bottles Received: 12Date: 7/11/17 Time: 0800

Sample Receipt Checklist

COC Seal Present/Intact: ☒ Y ☐ N
 COC Signed/Accurate: ☒ Y ☐ N
 Bottles arrive intact: ☒ Y ☐ N
 Correct bottles used: ☒ Y ☐ N
 Sufficient volume sent: ☒ Y ☐ N

If Applicable

VOA Zero Headspace: ☒ Y ☐ N
 Preservation Correct/Checked: ☒ Y ☐ N

If preservation required by Login: Date/Time

Hold:

Condition:
NCP / OK

Jeremy W. Watkins

ESC Lab Sciences
Non-Conformance Form

Login #: L920035	Client: CREPEAFCO	Date: 7/1/17	Evaluated by: Jeremy
-------------------------	--------------------------	---------------------	-----------------------------

Non-Conformance (check applicable items)

Sample Integrity	Chain of Custody Clarification	If Broken Container:
Parameter(s) past holding time	Login Clarification Needed	Insufficient packing material around container
Improper temperature	Chain of custody is incomplete	Insufficient packing material inside cooler
Improper container type	Please specify Metals requested.	
Improper preservation	Please specify TCLP requested.	Improper handling by carrier (FedEx / UPS / Courier)
Insufficient sample volume.	Received additional samples not listed on coc.	Sample was frozen
Sample is biphasic.	Sample ids on containers do not match ids on coc	Container lid not intact
x Vials received with headspace.	Trip Blank not received.	If no Chain of Custody:
Broken container	Client did not "X" analysis.	Received by:
Broken container:	Chain of Custody is missing	Date/Time:
Sufficient sample remains		Temp./Cont. Rec./pH:
		Carrier:
		Tracking#

Login Comments: 1 Vial for MW-04R has headspace

Client informed by:	Call	Email	Voice Mail	Date: 07/03/17	Time:
TSR Initials: CSG	Client Contact:				

Login Instructions:

Please use remaining vials

This E-mail and any attached files are confidential, and may be copyright protected. If you are not the addressee, any dissemination of this communication is strictly prohibited. If you have received this message in error, please contact the sender immediately and delete/destroy all information received.