

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 31, 2017

Jeff Freitas

Top Operating Co

3609 South Wadsworth BLVD Suite 340

Lakewood, CO 80235

RE: SGU-MW

Enclosed are the results of analyses for samples received by Summit Scientific on 08/29/17 16:12. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ben Shrewsbury', with a long, sweeping horizontal line extending to the right.

Ben Shrewsbury

Laboratory Manager



Top Operating Co
3609 South Wadsworth BLVD Suite 340
Lakewood CO, 80235

Project: SGU-MW
Project Number: [none]
Project Manager: Jeff Freitas

Reported:
08/31/17 19:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SGU-MW01	1708261-01	Water	08/29/17 14:19	08/29/17 16:12
SGU-MW05	1708261-02	Water	08/29/17 14:25	08/29/17 16:12
SGU-MW04	1708261-03	Water	08/29/17 14:35	08/29/17 16:12
SGU-MW02	1708261-04	Water	08/29/17 14:46	08/29/17 16:12
SGU-MW03	1708261-05	Water	08/29/17 14:58	08/29/17 16:12

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Summit Scientific

1708261

S₂

741 Corporate Circle, Suite J ♦ Golden, Colorado 80401

303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: Top Operating Co. Project Manager: Jeff Freitas
 Address: _____ E-Mail: jeff.freitas@topoperating.com
 City/State/Zip: Lakewood CO 80235
 Phone: (303) 727-9915 Fax: _____ Project Name: SGU-MW
 Sampler Name: _____ Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)					
1	SGU-MW Ø 1	8/29/17	14:19	3	X				X								
2	SGU-MW Ø 5	8/29/17	14:25	3	X				X								
3	SGU-MW Ø 4	8/29/17	14:35	3	X				X								
4	SGU-MW Ø 2	8/29/17	14:46	3	X				X								
5	SGU-MW Ø 3	8/29/17	14:58	3	X				X								
6																	
7																	
8																	
9																	
10																	

Relinquished by: [Signature] Date/Time: 8/29/17 16:12 Received by: [Signature] Date/Time: 8/29/17 16:12
 Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____
 Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Turn Around Time (Check)
 Same Day _____ 72 hours _____
 24 hours _____ Standard X
 48 hours _____

Sample Integrity:
 Temperature Upon Receipt: 9.2
 Intact: (Yes) No

Notes:

Sample Receipt Checklist

1708261

S2 Work Order: _____

Client: top operating Client Project ID: SG-UK - MC

Shipped Via: _____ Airbill #: _____
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Matrix (check all that apply): Air Soil/Solid Water Other: _____
(Describe)

Cooler ID				
Temp (°C)	9.2			

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	✓			
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
If custody seals are present, are they intact ⁽¹⁾ ?			✓	
Are short holding time analytes or samples with HTs due within 48 hours present?		✓		
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	✓			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		✓		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	✓			HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			/	
If dissolved metals are requested, were samples field filtered?			/	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

MC
Custodian Printed Name

MC
Signature or Initials of Custodian

8/29/17
Date/Time



Top Operating Co
 3609 South Wadsworth BLVD Suite 340
 Lakewood CO, 80235

Project: SGU-MW
 Project Number: [none]
 Project Manager: Jeff Freitas

Reported:
 08/31/17 19:53

SGU-MW01
1708261-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/17 14:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1708284	08/31/17	08/31/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **08/29/17 14:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %	45-146		"	"	"	"	

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Project: SGU-MW
 Project Number: [none]
 Project Manager: Jeff Freitas

Reported:
 08/31/17 19:53

SGU-MW05
1708261-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/17 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1708284	08/31/17	08/31/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **08/29/17 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.2 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %	45-146		"	"	"	"	

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Project: SGU-MW
 Project Number: [none]
 Project Manager: Jeff Freitas

Reported:
 08/31/17 19:53

SGU-MW04
1708261-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1708284	08/31/17	08/31/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **08/29/17 14:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %	45-146		"	"	"	"	

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Project: SGU-MW
 Project Number: [none]
 Project Manager: Jeff Freitas

Reported:
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SGU-MW02
1708261-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/17 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1708284	08/31/17	08/31/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **08/29/17 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %	45-146		"	"	"	"	

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Project: SGU-MW
 Project Number: [none]
 Project Manager: Jeff Freitas

Reported:
 08/31/17 19:53

SGU-MW03
1708261-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/17 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1708284	08/31/17	08/31/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **08/29/17 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		115 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %	45-146		"	"	"	"	

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Project: SGU-MW
Project Number: [none]
Project Manager: Jeff Freitas

Reported:
08/31/17 19:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1708284 - EPA 5030 Water MS

Blank (1708284-BLK1)

Prepared & Analyzed: 08/30/17

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.4	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

LCS (1708284-BS1)

Prepared & Analyzed: 08/30/17

Benzene	36.8	1.0	ug/l	33.3		110	51-132			
Toluene	36.6	1.0	"	33.3		110	51-138			
Ethylbenzene	35.4	1.0	"	33.1		107	58-146			
m,p-Xylene	65.2	2.0	"	66.5		97.9	57-144			
o-Xylene	33.0	1.0	"	32.7		101	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.9		"	13.3		104	37-154			
Surrogate: Toluene-d8	14.8		"	13.3		111	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

Matrix Spike (1708284-MS1)

Source: 1708261-01

Prepared & Analyzed: 08/30/17

Benzene	39.0	1.0	ug/l	33.3	ND	117	34-141			
Toluene	39.1	1.0	"	33.3	ND	117	27-151			
Ethylbenzene	40.3	1.0	"	33.1	ND	122	29-160			
m,p-Xylene	73.6	2.0	"	66.5	ND	111	20-166			
o-Xylene	37.1	1.0	"	32.7	ND	114	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111	37-154			
Surrogate: Toluene-d8	14.0		"	13.3		105	45-149			
Surrogate: 4-Bromofluorobenzene	13.3		"	13.3		99.8	45-146			

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Project: SGU-MW
 Project Number: [none]
 Project Manager: Jeff Freitas

Reported:
 08/31/17 19:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1708284 - EPA 5030 Water MS

Matrix Spike Dup (1708284-MSD1)	Source: 1708261-01			Prepared & Analyzed: 08/30/17						
Benzene	40.0	1.0	ug/l	33.3	ND	120	34-141	2.63	32	
Toluene	39.7	1.0	"	33.3	ND	119	27-151	1.65	25	
Ethylbenzene	41.8	1.0	"	33.1	ND	126	29-160	3.61	50	
m,p-Xylene	76.8	2.0	"	66.5	ND	115	20-166	4.22	36	
o-Xylene	38.4	1.0	"	32.7	ND	117	33-159	3.39	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.4</i>		<i>"</i>	<i>13.3</i>		<i>115</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.2</i>		<i>"</i>	<i>13.3</i>		<i>98.8</i>	<i>45-146</i>			

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Lakewood CO, 80235

Project: SGU-MW
Project Number: [none]
Project Manager: Jeff Freitas

Reported:
08/31/17 19:53

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference