

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

December 07, 2017

Jeff Freitas

Top Operating Co

3609 South Wadsworth BLVD Suite 340

Lakewood, CO 80235

RE: SGW-MW

Enclosed are the results of analyses for samples received by Summit Scientific on 11/30/17 15:56. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



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

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

**Reported:**  
12/07/17 15:53

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SGU-MW03	1711380-01	Water	11/30/17 14:15	11/30/17 15:56
SGU-MW04	1711380-02	Water	11/30/17 14:24	11/30/17 15:56
SGU-MW02	1711380-03	Water	11/30/17 14:32	11/30/17 15:56
SGU-MW05	1711380-04	Water	11/30/17 14:40	11/30/17 15:56
SGU-MW01	1711380-05	Water	11/30/17 14:47	11/30/17 15:56

Summit Scientific

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# Summit Scientific

S<sub>2</sub>

1711380

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: 3609 South Wadsworth Blvd Ste 340 E-Mail: jeff.freitas@topoperating.com  
 City/State/Zip: Littleton, CO 80235  
 Phone: (720) 284-4013 Fax: \_\_\_\_\_ Project Name: SGW-MW  
 Sampler Name: Jeff Freitas Project Number: \_\_\_\_\_

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions
					HCl	HNO3	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)					
1	SGW-MW03	11/30/17	14:15	3	X				X								
2	SGW-MW04	11/30/17	14:24	3	X				X								
3	SGW-MW02	11/30/17	14:32	3	X				X								
4	SGW-MW05	11/30/17	14:40	3	X				X								
5	SGW-MW01	11/30/17	14:47	3	X				X								
6																	
7																	
8																	
9																	
10																	

Relinquished by: <u>[Signature]</u>	Date/Time: <u>11/30/17 15:56</u>	Received by: <u>[Signature]</u>	Date/Time: <u>11-30-17 15:56</u>	<b>Turn Around Time (Check)</b> Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/> 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Temperature Upon Receipt: <u>3.6</u> Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Notes:</b>
Relinquished by:	Date/Time:	Received by:	Date/Time:		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

1711380

Sample Receipt Checklist

S2 Work Order: \_\_\_\_\_

Client: Top Operating Co. Client Project ID: SGW-MW

Shipped Via: H.D. ON ICE Airbill #: \_\_\_\_\_  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Cooler ID					
Temp (°C)	3.6				

Thermometer ID: 61857155-K

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

Additional Comments (if any):  
 \_\_\_\_\_  
 \_\_\_\_\_

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

Muci P.  
Custodian Printed Name

11-30-17  
Signature or Initials of Custodian

16:00  
Date/Time



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

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

**Reported:**  
 12/07/17 15:53

**SGU-MW03**  
**1711380-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/30/17 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1712019	12/07/17	12/07/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/30/17 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	45-146		"	"	"	"	

Summit Scientific

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

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

**Reported:**  
 12/07/17 15:53

**SGU-MW04**  
**1711380-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/30/17 14:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1712019	12/07/17	12/07/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/30/17 14:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	45-146		"	"	"	"	

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Top Operating Co  
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 Lakewood CO, 80235

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

**Reported:**  
 12/07/17 15:53

**SGU-MW02**  
**1711380-03 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/30/17 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1712019	12/07/17	12/07/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/30/17 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		108 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

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 Lakewood CO, 80235

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

**Reported:**  
 12/07/17 15:53

**SGU-MW05**  
**1711380-04 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/30/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1712019	12/07/17	12/07/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/30/17 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.5 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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Top Operating Co  
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 Lakewood CO, 80235

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

**Reported:**  
 12/07/17 15:53

**SGU-MW01**  
**1711380-05 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **11/30/17 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1712019	12/07/17	12/07/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/30/17 14:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	45-146		"	"	"	"	

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3609 South Wadsworth BLVD Suite 340  
Lakewood CO, 80235

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

Reported:  
12/07/17 15:53

**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 1712019 - EPA 5030 Water MS**

**Blank (1712019-BLK1)**

Prepared & Analyzed: 12/06/17

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.2		"	13.3		106	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.8	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

**LCS (1712019-BS1)**

Prepared & Analyzed: 12/06/17

Benzene	36.8	1.0	ug/l	33.3		110	51-132			
Toluene	37.5	1.0	"	33.3		112	51-138			
Ethylbenzene	41.4	1.0	"	33.1		125	58-146			
m,p-Xylene	77.9	2.0	"	66.5		117	57-144			
o-Xylene	39.8	1.0	"	32.7		122	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.9		"	13.3		112	37-154			
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

**Matrix Spike (1712019-MS1)**

Source: 1711378-01

Prepared & Analyzed: 12/06/17

Benzene	37.4	1.0	ug/l	33.3	ND	112	34-141			
Toluene	38.2	1.0	"	33.3	ND	115	27-151			
Ethylbenzene	42.3	1.0	"	33.1	ND	128	29-160			
m,p-Xylene	79.5	2.0	"	66.5	ND	119	20-166			
o-Xylene	40.5	1.0	"	32.7	ND	124	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.1		"	13.3		114	37-154			
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	45-146			

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

**Reported:**  
 12/07/17 15:53

**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 1712019 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1712019-MSD1)</b>	<b>Source: 1711378-01</b>			<b>Prepared &amp; Analyzed: 12/06/17</b>						
Benzene	36.3	1.0	ug/l	33.3	ND	109	34-141	3.04	32	
Toluene	37.6	1.0	"	33.3	ND	113	27-151	1.64	25	
Ethylbenzene	42.0	1.0	"	33.1	ND	127	29-160	0.664	50	
m,p-Xylene	79.0	2.0	"	66.5	ND	119	20-166	0.669	36	
o-Xylene	40.3	1.0	"	32.7	ND	123	33-159	0.322	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>15.0</i>		<i>"</i>	<i>13.3</i>		<i>112</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>100</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-146</i>			

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

**Reported:**  
12/07/17 15:53

### 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