

Summit Scientific

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,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

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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S₂

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: Lakewood, 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	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air-Canister #	Other (Specify)									
1	SGW-MW03	11/30/17	14:15	3	X				X					X							
2	SGW-MW04	11/30/17	14:24	3	X				X					X							
3	SGW-MW02	11/30/17	14:32	3	X				X					X							
4	SGW-MW05	11/30/17	14:40	3	X				X					X							
5	SGW-MW01	11/30/17	14:47	3	X				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>	Turn Around Time (Check) 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"/>	Notes:
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Sample Integrity: Temperature Upon Receipt: <u>3.6</u> Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____		

1711380

Sample Receipt Checklist

S2 Work Order: _____

Client: Top Operating Co. Client Project ID: SGW-MWShipped Via: H.D. ON ICE
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: _____

Matrix (check all that apply): Air Soil/Solid X 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 ⁽¹⁾ ?				
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 ⁽¹⁾ ?	X			
Was adequate sample volume provided ⁽¹⁾ ?	X			
If custody seals are present, are they intact ⁽¹⁾ ?			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 ⁽¹⁾ ?	X			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	X			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	X			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	X			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		X		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? 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 ⁽¹⁾ ? Record the pH in Comments.			X	
If dissolved metals are requested, were samples field filtered?			X	
Additional Comments (if any):				

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

Muri 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		"	"	"	"	

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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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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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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
Surrogate: 1,2-Dichloroethane-d4		109 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	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-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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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

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

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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1712019 - EPA 5030 Water MS

Matrix Spike Dup (1712019-MSD1)	Source: 1711378-01			Prepared & Analyzed: 12/06/17						
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	
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.3		112	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	45-146			

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

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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