

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

April 24, 2018

Jeffi Freitas

Top Operating Co.

3609 S Wadsworth Blvd Ste 340

Lakewood, CO 80235

RE: Serafini Gas Unit

Enclosed are the results of analyses for samples received by Summit Scientific on 04/19/18 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury
President / Laboratory Director



Top Operating Co.
3609 S Wadsworth Blvd Ste 340
Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SGU-MW01	1804114-01	Water	04/19/18 11:00	04/19/18 16:30
SGU-MW02R	1804114-02	Water	04/19/18 11:20	04/19/18 16:30
SGU-MW03	1804114-03	Water	04/19/18 11:30	04/19/18 16:30
SGU-MW04	1804114-04	Water	04/19/18 11:44	04/19/18 16:30
SGU-MW05	1804114-05	Water	04/19/18 11:55	04/19/18 16:30
SGU-MW06	1804114-06	Water	04/19/18 11:38	04/19/18 16:30
SGU-MW07	1804114-07	Water	04/19/18 11:10	04/19/18 16:30

Summit Scientific

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Summit Scientific

1804114

S₂

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 1

Client: Top Operating Co. Project Manager: J Freitas
 Address: 3609 S Wadsworth Blvd Ste. 340 E-Mail: jeff.freitas@topoperating.com
 City/State/Zip: Lakewood, CO 80235
 Phone: (303) 727-9915 Project Name: Serafini Gas Unit
 Sampler Name: Jeff/Paul Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX						
1	SGU-MW01	4/19/18	11:00am	3	X				X				X						
2	SGU-MW02R	4/19/18	11:20am	3	X				X				X						
3	SGU-MW03	4/19/18	11:30am	3	X				X				X						
4	SGU-MW04	4/19/18	11:44am	3	X				X				X						
5	SGU-MW05	4/19/18	11:55am	3	X				X				X						
6	SGU-MW06	4/19/18	11:38am	3	X				X				X						
7	SGU-MW07	4/19/18	11:10am	3	X				X				X						
8																			
9																			
10																			

Relinquished by: 	Date/Time: <u>4/19/18 1630</u>	Received by:	Date/Time:	Turn Around Time (Check)	Notes: 49
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day <input type="checkbox"/> 72 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished by:	Date/Time:	Received by: 	Date/Time: <u>4-19-18 1630</u>	48 hours <input type="checkbox"/>	
				Sample Integrity:	
				Temperature Upon Receipt: <u>4-9</u>	
				Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

Sample Receipt Checklist

S2 Work Order: 1804114

Client: TOP Operating Co Client Project ID: Serafini Gas

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

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

Temp (°C) 4.9

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 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 with 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, etc.	✓			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.

[Signature]
Custodian Printed Name or Initials

[Signature]
Signature of Custodian

4-19-17 1630
Date/Time



Top Operating Co.
3609 S Wadsworth Blvd Ste 340
Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

SGU-MW01
1804114-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		80.9 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		88.3 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.0 %	70-130		"	"	"	"	

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Top Operating Co.
 3609 S Wadsworth Blvd Ste 340
 Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
 Project Manager: Jefifi Freitas

Reported:
 04/24/18 12:28

SGU-MW02R
1804114-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		86.1 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		89.3 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.8 %	70-130		"	"	"	"	

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Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

SGU-MW03
1804114-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		85.8 %	70-130		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		88.2 %	70-130		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %	70-130		"	"	"	"	

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Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

SGU-MW04
1804114-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		81.7 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		89.2 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.8 %	70-130		"	"	"	"	

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Top Operating Co.
3609 S Wadsworth Blvd Ste 340
Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

SGU-MW05
1804114-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		80.8 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		88.9 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %	70-130		"	"	"	"	

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Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

SGU-MW06
1804114-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		80.2 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		89.3 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.5 %	70-130		"	"	"	"	

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Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

SGU-MW07
1804114-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/19/18 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1804197	04/20/18	04/21/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **04/19/18 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.2 %	70-130		"	"	"	"	
Surrogate: Toluene-d8		87.5 %	70-130		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %	70-130		"	"	"	"	

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Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

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 1804197 - EPA 5030 Water MS

Blank (1804197-BLK1)

Prepared: 04/20/18 Analyzed: 04/21/18

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	11.9		"	13.2		90.0	70-130			
Surrogate: Toluene-d8	13.6		"	13.3		102	70-130			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.8	70-130			

LCS (1804197-BS1)

Prepared: 04/20/18 Analyzed: 04/21/18

Benzene	28.2	1.0	ug/l	33.3		84.6	70-130			
Toluene	33.6	1.0	"	33.3		101	70-130			
Ethylbenzene	38.0	1.0	"	33.3		114	70-130			
m,p-Xylene	77.7	2.0	"	66.7		117	70-130			
o-Xylene	38.0	1.0	"	33.3		114	70-130			
Xylenes (total)	116	2.0	"				63-131			
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.2		81.8	70-130			
Surrogate: Toluene-d8	11.8		"	13.3		88.3	70-130			
Surrogate: 4-Bromofluorobenzene	12.1		"	13.3		90.6	70-130			

Matrix Spike (1804197-MS1)

Source: 1804246-01

Prepared: 04/20/18 Analyzed: 04/21/18

Benzene	27.7	1.0	ug/l	33.3	4.32	70.2	70-130			
Toluene	33.5	1.0	"	33.3	ND	100	70-130			
Ethylbenzene	37.7	1.0	"	33.3	ND	113	70-130			
m,p-Xylene	79.4	2.0	"	66.7	ND	119	70-130			
o-Xylene	38.3	1.0	"	33.3	ND	115	70-130			
Xylenes (total)	118	2.0	"		ND		63-131			
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.2		82.1	70-130			
Surrogate: Toluene-d8	11.9		"	13.3		89.4	70-130			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.5	70-130			

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3609 S Wadsworth Blvd Ste 340
Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

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 1804197 - EPA 5030 Water MS

Matrix Spike Dup (1804197-MSD1)	Source: 1804246-01			Prepared: 04/20/18		Analyzed: 04/21/18				
Benzene	29.3	1.0	ug/l	33.3	4.32	74.9	70-130	5.44	30	
Toluene	34.2	1.0	"	33.3	ND	103	70-130	2.28	30	
Ethylbenzene	39.1	1.0	"	33.3	ND	117	70-130	3.64	30	
m,p-Xylene	81.4	2.0	"	66.7	ND	122	70-130	2.49	30	
o-Xylene	38.8	1.0	"	33.3	ND	116	70-130	1.43	30	
Xylenes (total)	120	2.0	"		ND		63-131	2.14	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>11.0</i>		<i>"</i>	<i>13.2</i>		<i>83.5</i>	<i>70-130</i>			
<i>Surrogate: Toluene-d8</i>	<i>11.8</i>		<i>"</i>	<i>13.3</i>		<i>88.9</i>	<i>70-130</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>12.4</i>		<i>"</i>	<i>13.3</i>		<i>92.7</i>	<i>70-130</i>			

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Lakewood CO, 80235

Project: Serafini Gas Unit

Project Number: [none]
Project Manager: Jefifi Freitas

Reported:
04/24/18 12:28

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