

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 03, 2015

Travis Johansen  
Tasman Geosciences  
6899 Pecos Street  
Denver, CO 80221  
RE: Tammer Release

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/15 18:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

**Reported:**  
06/03/15 06:28

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01@1'	1506010-01	Soil	06/02/15 09:10	06/02/15 18:30
SS02@1'	1506010-02	Soil	06/02/15 09:15	06/02/15 18:30
SS03@1'	1506010-03	Soil	06/02/15 10:35	06/02/15 18:30
SS04@1'	1506010-04	Soil	06/02/15 11:05	06/02/15 18:30

Summit Scientific

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

Reported:  
06/03/15 06:28

# Summit Scientific 1506010

S<sub>2</sub>

741 Corporate Circle, Suite J&K ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933

Page 1 of 1

Client: Tasman / DCP Project Manager: Travis Johansen  
Address: \_\_\_\_\_ E-Mail: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_ Project Name: Tammer Release  
Sampler Name: Eric Siegel 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)	BTEX	GRD	
1	SS01e1'	6/2/15	9:10	1			X		X			X	X	X	
2	SS02e1'	↓	9:15	↓								↓	↓	↓	
3	SS03e1'	↓	10:35	↓								↓	↓	↓	
4	SS04e1'	↓	11:05	↓								↓	↓	↓	
5															
6															
7															
8															
9															
10															
Relinquished by: <u>C. A. [Signature]</u>		Date/Time: <u>6/2/15 1544</u>		Received by: <u>[Signature]</u>		Date/Time: <u>1544</u>		Turn Around Time (Check)			Notes:				
Relinquished by: <u>AD</u>		Date/Time: <u>6/2/15 1830</u>		Received by: _____		Date/Time: _____		Same Day <input checked="" type="checkbox"/> 72 hours =			From the field				
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		24 hours = Standard =							
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		48 hours =			Sample Integrity: <u>4.7</u>				
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		Temperature Upon Receipt: _____			Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				

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Tasman Geosciences  
6899 Pecos Street  
Denver CO, 80221

Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

Reported:  
06/03/15 06:28

**SS01@1'**  
**1506010-01 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/02/15 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1506039	06/02/15	06/02/15	8015M	

Date Sampled: **06/02/15 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		96.5 %	30-150		"	"	"	"	

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

Date Sampled: **06/02/15 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1506038	06/02/15	06/02/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/02/15 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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Denver CO, 80221

Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

Reported:  
06/03/15 06:28

**SS02@1'**  
**1506010-02 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/02/15 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1506039	06/02/15	06/03/15	8015M	

Date Sampled: **06/02/15 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		95.8 %	30-150		"	"	"	"	

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

Date Sampled: **06/02/15 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1506038	06/02/15	06/02/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/02/15 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

Reported:  
06/03/15 06:28

**SS03@1'**  
**1506010-03 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/02/15 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1506039	06/02/15	06/03/15	8015M	

Date Sampled: **06/02/15 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		93.7 %	30-150		"	"	"	"	

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

Date Sampled: **06/02/15 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1506038	06/02/15	06/02/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/02/15 10:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %	21-167		"	"	"	"	

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Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

Reported:  
06/03/15 06:28

**SS04@1'**  
**1506010-04 (Soil)**

**Summit Scientific**

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/02/15 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1506039	06/02/15	06/03/15	8015M	

Date Sampled: **06/02/15 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		95.3 %	30-150		"	"	"	"	

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

Date Sampled: **06/02/15 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1506038	06/02/15	06/02/15	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **06/02/15 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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Project Manager: Travis Johansen

**Reported:**  
06/03/15 06:28

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch 1506039 - EPA 3550A**

**Blank (1506039-BLK1)**

Prepared: 06/02/15 Analyzed: 06/03/15

C10-C28 (DRO)	ND	50	mg/kg								
Surrogate: <i>o</i> -Terphenyl	12.8		"	12.2		105	30-150				

**LCS (1506039-BS1)**

Prepared: 06/02/15 Analyzed: 06/03/15

C10-C28 (DRO)	456	50	mg/kg	501		91.0	73-134				
Surrogate: <i>o</i> -Terphenyl	13.2		"	12.2		108	30-150				

**Matrix Spike (1506039-MS1)**

Source: 1506010-01

Prepared: 06/02/15 Analyzed: 06/03/15

C10-C28 (DRO)	458	50	mg/kg	496	45.3	83.2	50-148				
Surrogate: <i>o</i> -Terphenyl	13.5		"	12.1		112	30-150				

**Matrix Spike Dup (1506039-MSD1)**

Source: 1506010-01

Prepared: 06/02/15 Analyzed: 06/03/15

C10-C28 (DRO)	489	50	mg/kg	498	45.3	89.0	50-148	6.51	13		
Surrogate: <i>o</i> -Terphenyl	13.6		"	12.1		112	30-150				

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Project Number: [none]  
Project Manager: Travis Johansen

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06/03/15 06:28

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

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

**Batch 1506038 - EPA 5030 Soil MS**

**Blank (1506038-BLK1)**

Prepared: 06/02/15 Analyzed: 06/03/15

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0442</i>		<i>"</i>	<i>0.0396</i>	<i>112</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>	<i>99.4</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>	<i>102</i>	<i>21-167</i>				

**LCS (1506038-BS1)**

Prepared: 06/02/15 Analyzed: 06/03/15

Benzene	0.108	0.0020	mg/kg	0.100	108	58-130				
Toluene	0.113	0.0050	"	0.100	113	61-134				
Ethylbenzene	0.123	0.0050	"	0.0992	124	74-139				
m,p-Xylene	0.240	0.010	"	0.200	120	73-137				
o-Xylene	0.128	0.0050	"	0.0984	130	73-141				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0445</i>		<i>"</i>	<i>0.0396</i>	<i>112</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0408</i>		<i>"</i>	<i>0.0400</i>	<i>102</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>	<i>101</i>	<i>21-167</i>				

**LCS (1506038-BS2)**

Prepared: 06/02/15 Analyzed: 06/03/15

Benzene	0.112	0.0020	mg/kg	0.100	112	58-130				
Toluene	0.118	0.0050	"	0.100	118	61-134				
Ethylbenzene	0.133	0.0050	"	0.0992	134	74-139				
m,p-Xylene	0.257	0.010	"	0.200	129	73-137				
o-Xylene	0.135	0.0050	"	0.0984	137	73-141				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0430</i>		<i>"</i>	<i>0.0396</i>	<i>109</i>	<i>23-173</i>				
<i>Surrogate: Toluene-d8</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>	<i>101</i>	<i>20-170</i>				
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0411</i>		<i>"</i>	<i>0.0400</i>	<i>103</i>	<i>21-167</i>				

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Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

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06/03/15 06:28

**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 1506038 - EPA 5030 Soil MS**

<b>Matrix Spike (1506038-MS1)</b>	<b>Source: 1506007-01</b>			Prepared: 06/02/15		Analyzed: 06/03/15	
Benzene	0.110	0.0020	mg/kg	0.0998	ND	110	30-131
Toluene	0.116	0.0050	"	0.0998	ND	116	30-134
Ethylbenzene	0.129	0.0050	"	0.0990	ND	131	22-153
m,p-Xylene	0.257	0.010	"	0.199	ND	129	10-159
o-Xylene	0.135	0.0050	"	0.0982	ND	138	31-151
Surrogate: 1,2-Dichloroethane-d4	0.0476		"	0.0395		120	23-173
Surrogate: Toluene-d8	0.0404		"	0.0399		101	20-170
Surrogate: 4-Bromofluorobenzene	0.0417		"	0.0399		104	21-167

<b>Matrix Spike (1506038-MS2)</b>	<b>Source: 1506007-02</b>			Prepared: 06/02/15		Analyzed: 06/03/15	
Benzene	0.109	0.0020	mg/kg	0.0992	ND	110	30-131
Toluene	0.114	0.0050	"	0.0992	ND	115	30-134
Ethylbenzene	0.127	0.0050	"	0.0984	ND	129	22-153
m,p-Xylene	0.247	0.010	"	0.198	ND	125	10-159
o-Xylene	0.129	0.0050	"	0.0976	ND	132	31-151
Surrogate: 1,2-Dichloroethane-d4	0.0457		"	0.0393		116	23-173
Surrogate: Toluene-d8	0.0402		"	0.0397		101	20-170
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0397		101	21-167

<b>Matrix Spike Dup (1506038-MSD1)</b>	<b>Source: 1506007-01</b>			Prepared: 06/02/15		Analyzed: 06/03/15			
Benzene	0.101	0.0020	mg/kg	0.0929	ND	109	30-131	8.38	34
Toluene	0.107	0.0050	"	0.0929	ND	115	30-134	7.95	30
Ethylbenzene	0.120	0.0050	"	0.0922	ND	130	22-153	7.35	24
m,p-Xylene	0.233	0.010	"	0.186	ND	126	10-159	10.0	68
o-Xylene	0.120	0.0050	"	0.0914	ND	132	31-151	11.6	38
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0368		116	23-173		
Surrogate: Toluene-d8	0.0369		"	0.0372		99.4	20-170		
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0372		103	21-167		

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Project: Tammer Release  
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Project Manager: Travis Johansen

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06/03/15 06:28

**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 1506038 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (1506038-MSD2)</b>	<b>Source: 1506007-02</b>			Prepared: 06/02/15		Analyzed: 06/03/15				
Benzene	0.103	0.0020	mg/kg	0.0938	ND	110	30-131	6.00	34	
Toluene	0.108	0.0050	"	0.0938	ND	116	30-134	5.39	30	
Ethylbenzene	0.122	0.0050	"	0.0931	ND	131	22-153	4.01	24	
m,p-Xylene	0.239	0.010	"	0.187	ND	128	10-159	3.39	68	
o-Xylene	0.125	0.0050	"	0.0923	ND	136	31-151	2.88	38	
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0371		114	23-173			
Surrogate: Toluene-d8	0.0377		"	0.0375		100	20-170			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0375		101	21-167			

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Project: Tammer Release

Project Number: [none]  
Project Manager: Travis Johansen

**Reported:**  
06/03/15 06:28

### 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