

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 25, 2016

Ryan Bruner
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: Brereton 14-1

Enclosed are the results of analyses for samples received by Summit Scientific on 02/24/16 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 'P. Shrewsbury', written in a cursive style.

Paul Shrewsbury
President



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/25/16 06:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH05@14	1602189-01	Soil	02/23/16 11:19	02/24/16 16:12

Summit Scientific

S₂

1602189

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

Page 1 of 1

Client: EXTRACTION (TASMAN) Project Manager: RYAN BRUNER
 Address: _____ E-Mail: _____
 City/State/Zip: _____
 Phone: _____ Fax: _____ Project Name: BRERETON 14-1
 Sampler Name: RYAN BRUNER Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative			Other (Specify)	Matrix			Analysis Requested				Special Instructions	
					HCl	HNO3	None		Groundwater	Soil	Air-Canister #	Other (Specify)	TPH/DRO	CBTEX			
1	BH05@14	2-23	11:19	1			X			X			X	X			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
Relinquished by: <u>R.B.</u>		Date/Time: <u>2/23/16 4:12</u>	Received by: <u>MA</u>		Date/Time: <u>2/23/16 16:12</u>	Turn Around Time (Check)			Notes:								
						Same Day <input type="checkbox"/>			72 hours <input type="checkbox"/>								
						24 hours <input checked="" type="checkbox"/>			Standard <input type="checkbox"/>								
						48 hours <input type="checkbox"/>											
						Sample Integrity:			Temperature Upon Receipt: <u>19.7°C</u>								
						Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No											

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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/25/16 06:33

BH05@14
1602189-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/23/16 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1602247	02/24/16	02/24/16	8015M	

Date Sampled: **02/23/16 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		88.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/23/16 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0087	0.0020	mg/kg	1	1602245	02/24/16	02/24/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.0085	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.021	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	5.1	0.50	"	"	"	"	"	"	

Date Sampled: **02/23/16 11:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/25/16 06:33

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1602247 - EPA 3550A

Blank (1602247-BLK1)

Prepared & Analyzed: 02/24/16

C10-C28 (DRO)	ND	50	mg/kg							
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		87.7	30-150			

LCS (1602247-BS1)

Prepared & Analyzed: 02/24/16

C10-C28 (DRO)	432	50	mg/kg	499		86.6	73-134			
Surrogate: <i>o</i> -Terphenyl	11.2		"	12.5		89.6	30-150			

Matrix Spike (1602247-MS1)

Source: 1602188-01

Prepared & Analyzed: 02/24/16

C10-C28 (DRO)	417	50	mg/kg	474	17.0	84.2	50-148			
Surrogate: <i>o</i> -Terphenyl	10.6		"	11.9		89.1	30-150			

Matrix Spike Dup (1602247-MSD1)

Source: 1602188-01

Prepared & Analyzed: 02/24/16

C10-C28 (DRO)	418	50	mg/kg	470	17.0	85.4	50-148	0.431	13	
Surrogate: <i>o</i> -Terphenyl	10.5		"	11.8		88.9	30-150			

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/25/16 06:33

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 1602245 - EPA 5030 Soil MS

Blank (1602245-BLK1)

Prepared & Analyzed: 02/24/16

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>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0393</i>		<i>"</i>	<i>0.0400</i>		<i>98.2</i>	<i>21-167</i>			

LCS (1602245-BS1)

Prepared & Analyzed: 02/24/16

Benzene	0.102	0.0020	mg/kg	0.100		102	58-130			
Toluene	0.0908	0.0050	"	0.100		90.8	61-134			
Ethylbenzene	0.119	0.0050	"	0.0992		120	74-139			
m,p-Xylene	0.231	0.010	"	0.200		116	73-137			
o-Xylene	0.114	0.0050	"	0.0980		117	73-141			
Xylenes (total)	0.345	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.21	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.6</i>	<i>21-167</i>			

Matrix Spike (1602245-MS1)

Source: 1602188-01

Prepared & Analyzed: 02/24/16

Benzene	0.0968	0.0020	mg/kg	0.0938	ND	103	30-131			
Toluene	0.0864	0.0050	"	0.0938	ND	92.1	30-134			
Ethylbenzene	0.113	0.0050	"	0.0931	ND	121	22-153			
m,p-Xylene	0.217	0.010	"	0.187	ND	116	10-159			
o-Xylene	0.105	0.0050	"	0.0919	ND	114	31-151			
Xylenes (total)	0.322	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.11	0.50	"		0.195		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0375</i>		<i>"</i>	<i>0.0375</i>		<i>100</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0367</i>		<i>"</i>	<i>0.0375</i>		<i>97.7</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0374</i>		<i>"</i>	<i>0.0375</i>		<i>99.6</i>	<i>21-167</i>			

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/25/16 06:33

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 1602245 - EPA 5030 Soil MS

Matrix Spike Dup (1602245-MSD1)	Source: 1602188-01			Prepared & Analyzed: 02/24/16						
Benzene	0.101	0.0020	mg/kg	0.0984	ND	103	30-131	4.69	34	
Toluene	0.0876	0.0050	"	0.0984	ND	89.0	30-134	1.36	30	
Ethylbenzene	0.113	0.0050	"	0.0976	ND	116	22-153	0.543	24	
m,p-Xylene	0.219	0.010	"	0.196	ND	112	10-159	0.971	68	
o-Xylene	0.106	0.0050	"	0.0965	ND	110	31-151	1.42	38	
Xylenes (total)	0.325	0.0050	"		ND		30-150	1.12	20	
Gasoline Range Hydrocarbons	2.12	0.50	"		0.195		30-150	0.659	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0390</i>		<i>"</i>	<i>0.0394</i>		<i>99.1</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0383</i>		<i>"</i>	<i>0.0394</i>		<i>97.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0387</i>		<i>"</i>	<i>0.0394</i>		<i>98.4</i>	<i>21-167</i>			

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/25/16 06:33

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

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303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 28, 2016

Ryan Bruner
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: Brereton 14-1

Enclosed are the results of analyses for samples received by Summit Scientific on 02/26/16 15:17. 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: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@13	1602213-01	Soil	02/26/16 10:33	02/26/16 15:17
W01@13	1602213-02	Soil	02/26/16 12:15	02/26/16 15:17
W02@13	1602213-03	Soil	02/26/16 13:14	02/26/16 15:17

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

Summit Scientific

S₂

1602213

741 Corporate Circle, Suite J • Golden, Colorado 80401
303-277-9310 • 303-374-5933

Page 1 of 11

Client: EXTRACTION / TASMAN Project Manager: RYAN BRUNER
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: Brereton 14-1
Sampler Name: Ryan Bruner 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)	TPH (DLS)	GBTEC				
1	W01@13	2-26	10:33	1						X			X	X				
2	W01@13	1	12:15	1						X								
3	W02@13	1	1:14	1						X								
4																		
5																		
6																		
7																		
8																		
9																		
10																		
Relinquished by: <u>Ryan Bruner</u>		Date/Time: <u>2/26 3:17</u>		Received by: _____		Date/Time: _____		Turn Around Time (Check)		Same Day <u>f</u>		72 hours <u>—</u>		24 hours <u>f</u>		Standard <u>—</u>		Notes:
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		48 hours <u>—</u>		Sample Integrity:		Temperature Upon Receipt: <u>12.2</u>		Intact: <u>Yes</u> No				
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: <u>2-26-12 15:17</u>												

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

N01@13
1602213-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/16 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1602262	02/26/16	02/27/16	8015M	

Date Sampled: **02/26/16 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		94.8 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/16 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1602261	02/26/16	02/27/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **02/26/16 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

W01@13
1602213-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1602262	02/26/16	02/27/16	8015M	

Date Sampled: **02/26/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		91.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0018	mg/kg	1	1602261	02/26/16	02/27/16	EPA 8260B	
Toluene	ND	0.0044	"	"	"	"	"	"	
Ethylbenzene	ND	0.0044	"	"	"	"	"	"	
Xylenes (total)	ND	0.0044	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	1.9	0.44	"	"	"	"	"	"	

Date Sampled: **02/26/16 12:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

W02@13
1602213-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/26/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1602262	02/26/16	02/27/16	8015M	

Date Sampled: **02/26/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		86.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/26/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0018	mg/kg	1	1602261	02/26/16	02/27/16	EPA 8260B	
Toluene	ND	0.0045	"	"	"	"	"	"	
Ethylbenzene	ND	0.0045	"	"	"	"	"	"	
Xylenes (total)	ND	0.0045	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.8	0.45	"	"	"	"	"	"	

Date Sampled: **02/26/16 13:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1602262 - EPA 3550A

Blank (1602262-BLK1)

Prepared & Analyzed: 02/26/16

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	11.2		"	12.5		89.8	30-150				

LCS (1602262-BS1)

Prepared & Analyzed: 02/26/16

C10-C28 (DRO)	437	50	mg/kg	499		87.6	73-134				
<i>Surrogate: o-Terphenyl</i>	11.5		"	12.5		92.2	30-150				

Matrix Spike (1602262-MS1)

Source: 1602203-01

Prepared & Analyzed: 02/26/16

C10-C28 (DRO)	437	50	mg/kg	493	18.4	84.9	50-148				
<i>Surrogate: o-Terphenyl</i>	11.2		"	12.4		90.8	30-150				

Matrix Spike Dup (1602262-MSD1)

Source: 1602203-01

Prepared & Analyzed: 02/26/16

C10-C28 (DRO)	383	50	mg/kg	460	18.4	79.3	50-148	13.1		13	
<i>Surrogate: o-Terphenyl</i>	10.3		"	11.5		88.9	30-150				

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

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 1602261 - EPA 5030 Soil MS

Blank (1602261-BLK1)

Prepared: 02/26/16 Analyzed: 02/27/16

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>0.0391</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.3</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.7</i>	<i>21-167</i>			

LCS (1602261-BS1)

Prepared: 02/26/16 Analyzed: 02/27/16

Benzene	0.124	0.0020	mg/kg	0.100		124	58-130			
Toluene	0.109	0.0050	"	0.100		109	61-134			
Ethylbenzene	0.138	0.0050	"	0.0992		139	74-139			
m,p-Xylene	0.265	0.010	"	0.200		133	73-137			
o-Xylene	0.125	0.0050	"	0.0980		127	73-141			
Xylenes (total)	0.390	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.49	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0393</i>		<i>"</i>	<i>0.0400</i>		<i>98.2</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0392</i>		<i>"</i>	<i>0.0400</i>		<i>97.9</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0383</i>		<i>"</i>	<i>0.0400</i>		<i>95.7</i>	<i>21-167</i>			

Matrix Spike (1602261-MS1)

Source: 1602203-01

Prepared: 02/26/16 Analyzed: 02/27/16

Benzene	0.117	0.0020	mg/kg	0.0931	ND	126	30-131			
Toluene	0.104	0.0050	"	0.0931	ND	112	30-134			
Ethylbenzene	0.137	0.0050	"	0.0924	ND	148	22-153			
m,p-Xylene	0.267	0.010	"	0.186	ND	143	10-159			
o-Xylene	0.125	0.0050	"	0.0912	ND	137	31-151			
Xylenes (total)	0.391	0.0050	"		ND		30-150			
Gasoline Range Hydrocarbons	2.43	0.50	"		ND		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0370</i>		<i>"</i>	<i>0.0372</i>		<i>99.4</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0355</i>		<i>"</i>	<i>0.0372</i>		<i>95.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0370</i>		<i>"</i>	<i>0.0372</i>		<i>99.4</i>	<i>21-167</i>			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

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 1602261 - EPA 5030 Soil MS

Matrix Spike Dup (1602261-MSD1)	Source: 1602203-01			Prepared: 02/26/16		Analyzed: 02/27/16			
Benzene	0.116	0.0018	mg/kg	0.0903	ND	128	30-131	1.30	34
Toluene	0.102	0.0045	"	0.0903	ND	113	30-134	1.73	30
Ethylbenzene	0.131	0.0045	"	0.0895	ND	146	22-153	4.70	24
m,p-Xylene	0.252	0.0090	"	0.180	ND	140	10-159	5.58	68
o-Xylene	0.119	0.0045	"	0.0884	ND	135	31-151	4.65	38
Xylenes (total)	0.371	0.0045	"		ND		30-150	5.28	20
Gasoline Range Hydrocarbons	2.34	0.45	"		ND		30-150	3.68	20
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0377</i>		<i>"</i>	<i>0.0361</i>		<i>104</i>	<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0347</i>		<i>"</i>	<i>0.0361</i>		<i>96.0</i>	<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0366</i>		<i>"</i>	<i>0.0361</i>		<i>101</i>	<i>21-167</i>		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
02/28/16 14:24

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

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

March 01, 2016

Ryan Bruner
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: Brereton 14-1

Enclosed are the results of analyses for samples received by Summit Scientific on 02/29/16 15:30. 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: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
E01@13	1602222-01	Soil	02/29/16 13:22	02/29/16 15:30

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

Summit Scientific

S₂

1602222

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

Page 1 of 1

Client: EXTRACTION / TASMAN Project Manager: RYAN BRUNER
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: BRERETON 14-1
Sampler Name: RYAN BRUNER 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)	TPH (0-6)	CBTEX		
1	E01013	2-29	1:22	1						X			X	X		
2																
3																
4																
5																
6																
7																
8																
9																
10																

Relinquished by: <u>RJB</u>	Date/Time: <u>3:30 2/29</u>	Received by: _____	Date/Time: _____	Turn Around Time (Check)	Notes:
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Same Day <input checked="" type="checkbox"/> 72 hours _____	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	24 hours _____ Standard _____	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	48 hours _____	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Sample Integrity:	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Temperature Upon Receipt: <u>21.5</u>	
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____	Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

Sample Receipt Checklist

S2 Work Order: 1602222

Client: Tasman Client Project ID: Brereton 14-1

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

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

Cooler ID					
Temp (°C)	<u>21.5°C</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, etc.				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Mindy Mach
Custodian Printed Name

[Signature]
Signature or Initials of Custodian

2/29/16 16:00
Date/Time

[Signature]



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

E01@13
1602222-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/29/16 13:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	210	50	mg/kg	1	1602277	02/29/16	02/29/16	8015M	

Date Sampled: **02/29/16 13:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		71.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/29/16 13:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.0085	0.0020	mg/kg	1	1602278	02/29/16	02/29/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.066	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.32	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	57	0.50	"	"	"	"	"	"	

Date Sampled: **02/29/16 13:22**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		71.3 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		156 %	21-167		"	"	"	"	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1602277 - EPA 3550A

Blank (1602277-BLK1)

Prepared & Analyzed: 02/29/16

C10-C28 (DRO)	ND	50	mg/kg							
<i>Surrogate: o-Terphenyl</i>	8.73		"	12.5		69.8	30-150			

LCS (1602277-BS1)

Prepared & Analyzed: 02/29/16

C10-C28 (DRO)	458	50	mg/kg	499		91.8	73-134			
<i>Surrogate: o-Terphenyl</i>	8.85		"	12.5		70.8	30-150			

Matrix Spike (1602277-MS1)

Source: 1602222-01

Prepared & Analyzed: 02/29/16

C10-C28 (DRO)	567	50	mg/kg	463	208	77.7	50-148			
<i>Surrogate: o-Terphenyl</i>	8.05		"	11.6		69.5	30-150			

Matrix Spike Dup (1602277-MSD1)

Source: 1602222-01

Prepared & Analyzed: 02/29/16

C10-C28 (DRO)	580	50	mg/kg	498	208	74.7	50-148	2.23	13	
<i>Surrogate: o-Terphenyl</i>	8.79		"	12.5		70.5	30-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

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 1602278 - EPA 5030 Soil MS

Blank (1602278-BLK1)

Prepared & Analyzed: 02/29/16

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>0.0421</i>		<i>"</i>	<i>0.0396</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0412</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>21-167</i>			

LCS (1602278-BS1)

Prepared & Analyzed: 02/29/16

Benzene	0.108	0.0020	mg/kg	0.100		108	58-130			
Toluene	0.103	0.0050	"	0.100		103	61-134			
Ethylbenzene	0.116	0.0050	"	0.0992		117	74-139			
m,p-Xylene	0.223	0.010	"	0.200		112	73-137			
o-Xylene	0.109	0.0050	"	0.0984		110	73-141			
Xylenes (total)	0.332	0.0050	"				30-150			
Gasoline Range Hydrocarbons	2.65	0.50	"				30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0443</i>		<i>"</i>	<i>0.0396</i>		<i>112</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0415</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0387</i>		<i>"</i>	<i>0.0400</i>		<i>96.8</i>	<i>21-167</i>			

Matrix Spike (1602278-MS1)

Source: 1602222-01

Prepared & Analyzed: 02/29/16

Benzene	0.0935	0.0020	mg/kg	0.0971	0.00849	87.6	30-131			
Toluene	0.0878	0.0050	"	0.0971	ND	90.5	30-134			
Ethylbenzene	0.0998	0.0050	"	0.0963	0.0664	34.7	22-153			
m,p-Xylene	0.194	0.010	"	0.194	0.303	NR	10-159			
o-Xylene	0.0943	0.0050	"	0.0955	0.0128	85.3	31-151			
Xylenes (total)	0.288	0.0050	"		0.316		30-150			
Gasoline Range Hydrocarbons	2.33	0.50	"		57.1		30-150			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0421</i>		<i>"</i>	<i>0.0384</i>		<i>109</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0403</i>		<i>"</i>	<i>0.0388</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0374</i>		<i>"</i>	<i>0.0388</i>		<i>96.4</i>	<i>21-167</i>			

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

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 1602278 - EPA 5030 Soil MS

Matrix Spike Dup (1602278-MSD1)	Source: 1602222-01			Prepared & Analyzed: 02/29/16						
Benzene	0.0953	0.0020	mg/kg	0.0938	0.00849	92.5	30-131	1.84	34	
Toluene	0.0911	0.0050	"	0.0938	ND	97.1	30-134	3.60	30	
Ethylbenzene	0.102	0.0050	"	0.0931	0.0664	38.2	22-153	2.07	24	
m,p-Xylene	0.199	0.010	"	0.187	0.303	NR	10-159	2.55	68	
o-Xylene	0.0970	0.0050	"	0.0923	0.0128	91.2	31-151	2.85	38	
Xylenes (total)	0.296	0.0050	"		0.316		30-150	2.65	20	
Gasoline Range Hydrocarbons	2.38	0.50	"		57.1		30-150	2.39	20	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0413</i>		<i>"</i>	<i>0.0371</i>		<i>111</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0389</i>		<i>"</i>	<i>0.0375</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0365</i>		<i>"</i>	<i>0.0375</i>		<i>97.4</i>	<i>21-167</i>			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/01/16 06:54

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

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

March 02, 2016

Ryan Bruner
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: Brereton 14-1

Enclosed are the results of analyses for samples received by Summit Scientific on 03/01/16 11:25. 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: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/02/16 07:19

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
S01@13	1603007-01	Soil	03/01/16 10:30	03/01/16 11:25

Summit Scientific

1603007

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

Page 1 of 1

Client: EXTRACTION/TASMAN Project Manager: RYAN BRUNER
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: _____ Fax: _____ Project Name: BRERETON 14-1
Sampler Name: RYAN BRUNER 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)	TPH (D60)	CS/IEC			
1	S01@13	3-1	10:30	1						X			X	X			
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished by: <u>RJB</u> Date/Time: <u>3-1 11:25</u>	Received by: <u>MA</u> Date/Time: <u>3/1/16 11:25</u>	Turn Around Time (Check) Same Day <input checked="" type="checkbox"/> 72 hours ___ 24 hours ___ Standard ___ 48 hours ___	Notes:
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____	Sample Integrity: Temperature Upon Receipt: <u>17.5°C</u> Intact: <input checked="" type="radio"/> Yes No	
Relinquished by: _____ Date/Time: _____	Received by: _____ Date/Time: _____		

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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/02/16 07:19

S01@13
1603007-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/01/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	140	50	mg/kg	1	1603015	03/01/16	03/01/16	8015M	

Date Sampled: **03/01/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		83.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/01/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	1603009	03/01/16	03/01/16	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.9	0.50	"	"	"	"	"	"	

Date Sampled: **03/01/16 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		111 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		92.2 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	21-167		"	"	"	"	

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/02/16 07:19

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1603015 - EPA 3550A

Blank (1603015-BLK1)

Prepared & Analyzed: 03/01/16

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	10.1		"	12.5		80.8	30-150				

LCS (1603015-BS1)

Prepared & Analyzed: 03/01/16

C10-C28 (DRO)	485	50	mg/kg	499		97.3	73-134				
<i>Surrogate: o-Terphenyl</i>	11.2		"	12.5		89.6	30-150				

Matrix Spike (1603015-MS1)

Source: 1603007-01

Prepared & Analyzed: 03/01/16

C10-C28 (DRO)	567	50	mg/kg	496	136	86.7	50-148				
<i>Surrogate: o-Terphenyl</i>	10.4		"	12.4		83.9	30-150				

Matrix Spike Dup (1603015-MSD1)

Source: 1603007-01

Prepared & Analyzed: 03/01/16

C10-C28 (DRO)	558	50	mg/kg	487	136	86.5	50-148	1.54		13	
<i>Surrogate: o-Terphenyl</i>	10.5		"	12.2		85.7	30-150				

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Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/02/16 07:19

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 1603009 - EPA 5030 Soil MS

Blank (1603009-BLK1)

Prepared & Analyzed: 03/01/16

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>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>		<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>		<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>		<i>21-167</i>		

LCS (1603009-BS1)

Prepared & Analyzed: 03/01/16

Benzene	0.103	0.0020	mg/kg	0.100		103		58-130		
Toluene	0.0982	0.0050	"	0.100		98.2		61-134		
Ethylbenzene	0.108	0.0050	"	0.0992		109		74-139		
m,p-Xylene	0.210	0.010	"	0.200		105		73-137		
o-Xylene	0.101	0.0050	"	0.0980		103		73-141		
Xylenes (total)	0.311	0.0050	"					30-150		
Gasoline Range Hydrocarbons	2.48	0.50	"					30-150		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0454</i>		<i>"</i>	<i>0.0400</i>		<i>114</i>		<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>		<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>95.0</i>		<i>21-167</i>		

Matrix Spike (1603009-MS1)

Source: 1603007-01

Prepared & Analyzed: 03/01/16

Benzene	0.0999	0.0020	mg/kg	0.0963	ND	104		30-131		
Toluene	0.0931	0.0050	"	0.0963	ND	96.7		30-134		
Ethylbenzene	0.106	0.0050	"	0.0956	ND	111		22-153		
m,p-Xylene	0.204	0.010	"	0.192	ND	106		10-159		
o-Xylene	0.0979	0.0050	"	0.0944	ND	104		31-151		
Xylenes (total)	0.302	0.0050	"		ND			30-150		
Gasoline Range Hydrocarbons	7.37	0.50	"		8.90			30-150		
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0432</i>		<i>"</i>	<i>0.0385</i>		<i>112</i>		<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0376</i>		<i>"</i>	<i>0.0385</i>		<i>97.6</i>		<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0385</i>		<i>101</i>		<i>21-167</i>		

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Denver CO, 80221

Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/02/16 07:19

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 1603009 - EPA 5030 Soil MS

Matrix Spike Dup (1603009-MSD1)	Source: 1603007-01			Prepared & Analyzed: 03/01/16						
Benzene	0.104	0.0020	mg/kg	0.0984	ND	106	30-131	4.49	34	
Toluene	0.0957	0.0050	"	0.0984	ND	97.3	30-134	2.76	30	
Ethylbenzene	0.114	0.0050	"	0.0976	ND	116	22-153	7.20	24	
m,p-Xylene	0.221	0.010	"	0.196	ND	113	10-159	8.05	68	
o-Xylene	0.105	0.0050	"	0.0965	ND	109	31-151	7.40	38	
Xylenes (total)	0.327	0.0050	"		ND		30-150	7.84	20	
Gasoline Range Hydrocarbons	9.85	0.50	"		8.90		30-150	28.8	20	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0433</i>		<i>"</i>	<i>0.0394</i>		<i>110</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0369</i>		<i>"</i>	<i>0.0394</i>		<i>93.7</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0411</i>		<i>"</i>	<i>0.0394</i>		<i>104</i>	<i>21-167</i>			

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Project: Brereton 14-1

Project Number: [none]
Project Manager: Ryan Bruner

Reported:
03/02/16 07:19

Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- 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

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