

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 24, 2013

Alyssa Beard
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: FEM Sooner 10-28

Enclosed are the results of analyses for samples received by Summit Scientific on 07/19/13 16:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV
Laboratory Director

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FEM Sooner 10-28

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/24/13 15:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SPOILS	R307176-01	Soil	07/19/13 11:30	07/19/13 16:45

R307176

Summit Scientific

741 Corporate Circle Suite 1 • Golden, Colorado 80401
303-277-9310 • 303-374-5933 Fax

Client: Tasman Page 1 of 1
Address: _____
City/State/Zip: _____ Project Manager: Alyssa Beard
Phone: 170 757 2502 Fax: _____ E-Mail: _____
Sample Name: Alyssa Beard Project Name: FEM Sooner 10-28
Project Number: _____

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix	Analyze For	Special Instructions	Notes
				HCl	HNO ₃	None	Other (Specify)				
SPOILS	7/19/13	11:30	1		X			Soil			
								Groundwater			
								Air - Container Serial #			
								Other (Specify)			
								BZCO BTEX GAO			
								DFO B015			

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes
<u>[Signature]</u>	7/19/13 12:00	<u>[Signature]</u>	7/19/13 16:45	Same Day <input type="checkbox"/> 72 Hours <input checked="" type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
				Temperature Upon Receipt: <u>15.9</u>	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

www.s2scientific.com

[Signature]



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Project: FEM Sooner 10-28

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/24/13 15:33

SPOILS
R307176-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/19/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	4100	50	mg/kg	1	3072309	07/23/13	07/24/13	8015M	

Date Sampled: 07/19/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		99.7 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/19/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3072210	07/22/13	07/23/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	8.5	0.50	"	"	"	"	"	"	

Date Sampled: 07/19/13 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

Summit Scientific

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Project: FEM Sooner 10-28

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/24/13 15:33

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 3072309 - EPA 3550A

Blank (3072309-BLK1)				Prepared & Analyzed: 07/23/13						
C10-C28 (DRO)	ND	50	mg/kg							
Blank (3072309-BLK2)				Prepared & Analyzed: 07/23/13						
C10-C28 (DRO)	ND	50	mg/kg							
LCS (3072309-BS1)				Prepared & Analyzed: 07/23/13						
C10-C28 (DRO)	506	50	mg/kg	501		101	73-134			
LCS (3072309-BS2)				Prepared & Analyzed: 07/23/13						
C10-C28 (DRO)	552	50	mg/kg	501		110	73-134			
LCS Dup (3072309-BSD1)				Prepared & Analyzed: 07/23/13						
C10-C28 (DRO)	516	50	mg/kg	501		103	73-134	1.85	11	
LCS Dup (3072309-BSD2)				Prepared & Analyzed: 07/23/13						
C10-C28 (DRO)	506	50	mg/kg	501		101	73-134	8.77	11	
Matrix Spike (3072309-MS1)				Source: R307175-01		Prepared & Analyzed: 07/23/13				
C10-C28 (DRO)	521	50	mg/kg	499	ND	104	50-148			
Matrix Spike (3072309-MS2)				Source: R307175-02		Prepared: 07/23/13 Analyzed: 07/24/13				
C10-C28 (DRO)	467	50	mg/kg	425	ND	110	50-148			
Matrix Spike Dup (3072309-MSD1)				Source: R307175-01		Prepared & Analyzed: 07/23/13				
C10-C28 (DRO)	485	50	mg/kg	485	ND	99.9	50-148	7.11	13	
Matrix Spike Dup (3072309-MSD2)				Source: R307175-02		Prepared: 07/23/13 Analyzed: 07/24/13				
C10-C28 (DRO)	504	50	mg/kg	501	ND	101	50-148	7.62	13	

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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 3072210 - EPA 5030 Soil MS

Blank (3072210-BLK1)

Prepared: 07/22/13 Analyzed: 07/23/13

Benzene	ND	0.0050	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.0050	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0432		"	0.0397		109	23-173			
Surrogate: Toluene-d8	0.0381		"	0.0400		95.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400		99.8	21-167			

LCS (3072210-BS1)

Prepared: 07/22/13 Analyzed: 07/23/13

Benzene	0.0944	0.0050	mg/kg	0.100		94.4	58-130			
Toluene	0.0995	0.0050	"	0.100		99.5	61-134			
Ethylbenzene	0.133	0.0050	"	0.100		133	74-139			
m,p-Xylene	0.252	0.010	"	0.200		126	73-137			
o-Xylene	0.128	0.0050	"	0.100		128	73-141			
Surrogate: 1,2-Dichloroethane-d4	0.0426		"	0.0397		107	23-173			
Surrogate: Toluene-d8	0.0362		"	0.0400		90.4	20-170			
Surrogate: 4-Bromofluorobenzene	0.0410		"	0.0400		102	21-167			

LCS Dup (3072210-BSD1)

Prepared: 07/22/13 Analyzed: 07/23/13

Benzene	0.0997	0.0050	mg/kg	0.100		99.7	58-130	5.53	13	
Toluene	0.110	0.0050	"	0.100		110	61-134	9.77	16	
Ethylbenzene	0.138	0.0050	"	0.100		138	74-139	3.69	12	
m,p-Xylene	0.261	0.010	"	0.200		131	73-137	3.41	14	
o-Xylene	0.132	0.0050	"	0.100		132	73-141	3.18	12	
Surrogate: 1,2-Dichloroethane-d4	0.0459		"	0.0397		116	23-173			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	20-170			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	21-167			

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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 3072210 - EPA 5030 Soil MS

Matrix Spike (3072210-MS1)		Source: R307175-01			Prepared: 07/22/13		Analyzed: 07/23/13		
Benzene	0.0921	0.0050	mg/kg	0.100	ND	92.1	30-131		
Toluene	0.0962	0.0050	"	0.100	ND	96.2	30-134		
Ethylbenzene	0.131	0.0050	"	0.100	ND	131	22-153		
m,p-Xylene	0.253	0.010	"	0.200	ND	127	10-159		
o-Xylene	0.132	0.0050	"	0.100	ND	132	31-151		
Surrogate: 1,2-Dichloroethane-d4	0.0429		"	0.0397		108	23-173		
Surrogate: Toluene-d8	0.0364		"	0.0400		91.0	20-170		
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		98.9	21-167		
Matrix Spike Dup (3072210-MSD1)		Source: R307175-01			Prepared: 07/22/13		Analyzed: 07/23/13		
Benzene	0.0915	0.0050	mg/kg	0.100	ND	91.5	30-131	0.588	34
Toluene	0.0957	0.0050	"	0.100	ND	95.7	30-134	0.563	30
Ethylbenzene	0.133	0.0050	"	0.100	ND	133	22-153	1.32	24
m,p-Xylene	0.250	0.010	"	0.200	ND	125	10-159	1.16	68
o-Xylene	0.128	0.0050	"	0.100	ND	128	31-151	3.53	38
Surrogate: 1,2-Dichloroethane-d4	0.0440		"	0.0397		111	23-173		
Surrogate: Toluene-d8	0.0366		"	0.0400		91.4	20-170		
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	21-167		

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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

A handwritten signature in black ink, appearing to read 'Alyssa Beard IV'.