

Summit Scientific

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September 03, 2013

Alyssa Beard
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: FEM Hillman 9-1

Enclosed are the results of analyses for samples received by Summit Scientific on 08/30/13 08:20. 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 Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
09/03/13 11:35

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B05	R308290-01	Soil	08/29/13 15:30	08/30/13 08:20
B06	R308290-02	Soil	08/29/13 15:40	08/30/13 08:20
B07	R308290-03	Soil	08/29/13 16:00	08/30/13 08:20
B08	R308290-04	Soil	08/29/13 16:10	08/30/13 08:20
B09	R308290-05	Soil	08/29/13 16:20	08/30/13 08:20

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6899 Pecos Street
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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
09/03/13 11:35

B05

R308290-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/29/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	53	50	mg/kg	1	3083010	08/30/13	08/30/13	8015M	

Date Sampled: **08/29/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		111 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.012	0.0020	mg/kg	1	3083009	08/30/13	08/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.021	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.011	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	3.8	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/13 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		113 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		109 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

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Project: FEM Hillman 9-1

Project Number: [none]
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Reported:
09/03/13 11:35

B06
R308290-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/29/13 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	3083010	08/30/13	08/30/13	8015M	

Date Sampled: **08/29/13 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		110 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/13 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.034	0.0020	mg/kg	1	3083009	08/30/13	08/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.061	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.063	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	9.4	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/13 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		123 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	21-167		"	"	"	"	

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Project Number: [none]
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Reported:
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B07
R308290-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/29/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	350	50	mg/kg	1	3083010	08/30/13	08/30/13	8015M	

Date Sampled: **08/29/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		116 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.019	0.0020	mg/kg	1	3083009	08/30/13	08/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.098	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.071	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	29	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/13 16:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		88.5 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		123 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		114 %	21-167		"	"	"	"	

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Project: FEM Hillman 9-1

Project Number: [none]
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Reported:
09/03/13 11:35

B08
R308290-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/29/13 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	210	50	mg/kg	1	3083010	08/30/13	08/30/13	8015M	

Date Sampled: **08/29/13 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		114 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/13 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.017	0.0020	mg/kg	1	3083009	08/30/13	08/30/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.028	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.050	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	14	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/13 16:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		142 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		115 %	21-167		"	"	"	"	

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Project: FEM Hillman 9-1

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B09
R308290-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/29/13 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	400	50	mg/kg	1	3083010	08/30/13	08/30/13	8015M	

Date Sampled: **08/29/13 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>		116 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/29/13 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.034	0.0020	mg/kg	1	3083009	08/30/13	08/30/13	EPA 8260B	
Toluene	0.099	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.067	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.23	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	17	0.50	"	"	"	"	"	"	

Date Sampled: **08/29/13 16:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		101 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		151 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		115 %	21-167		"	"	"	"	

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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 3083010 - EPA 3550A

Blank (3083010-BLK1)

Prepared & Analyzed: 08/30/13

C10-C28 (DRO) ND 50 mg/kg

LCS (3083010-BS1)

Prepared & Analyzed: 08/30/13

C10-C28 (DRO) 530 50 mg/kg 501 106 73-134

LCS Dup (3083010-BSD1)

Prepared & Analyzed: 08/30/13

C10-C28 (DRO) 539 50 mg/kg 501 108 73-134 1.64 11

Matrix Spike (3083010-MS1)

Source: R308290-01

Prepared & Analyzed: 08/30/13

C10-C28 (DRO) 550 50 mg/kg 489 53.1 102 50-148

Matrix Spike Dup (3083010-MSD1)

Source: R308290-01

Prepared & Analyzed: 08/30/13

C10-C28 (DRO) 507 50 mg/kg 477 53.1 95.1 50-148 8.20 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		

Batch 3083009 - EPA 5030 Soil MS

Blank (3083009-BLK1)

Prepared & Analyzed: 08/30/13

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0524		"	0.0397	132	23-173				
Surrogate: Toluene-d8	0.0413		"	0.0400	103	20-170				
Surrogate: 4-Bromofluorobenzene	0.0466		"	0.0400	116	21-167				

LCS (3083009-BS1)

Prepared & Analyzed: 08/30/13

Benzene	0.104	0.0020	mg/kg	0.100	104	58-130				
Toluene	0.122	0.0050	"	0.100	122	61-134				
Ethylbenzene	0.120	0.0050	"	0.100	120	74-139				
m,p-Xylene	0.228	0.010	"	0.200	114	73-137				
o-Xylene	0.114	0.0050	"	0.100	114	73-141				
Surrogate: 1,2-Dichloroethane-d4	0.0533		"	0.0397	134	23-173				
Surrogate: Toluene-d8	0.0417		"	0.0400	104	20-170				
Surrogate: 4-Bromofluorobenzene	0.0457		"	0.0400	114	21-167				

LCS Dup (3083009-BSD1)

Prepared & Analyzed: 08/30/13

Benzene	0.105	0.0020	mg/kg	0.100	105	58-130	0.287	13		
Toluene	0.123	0.0050	"	0.100	123	61-134	1.10	16		
Ethylbenzene	0.121	0.0050	"	0.100	121	74-139	0.824	12		
m,p-Xylene	0.229	0.010	"	0.200	115	73-137	0.709	14		
o-Xylene	0.115	0.0050	"	0.100	115	73-141	0.445	12		
Surrogate: 1,2-Dichloroethane-d4	0.0526		"	0.0397	133	23-173				
Surrogate: Toluene-d8	0.0424		"	0.0400	106	20-170				
Surrogate: 4-Bromofluorobenzene	0.0451		"	0.0400	113	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 3083009 - EPA 5030 Soil MS

Matrix Spike (3083009-MS1)	Source: R308290-01			Prepared & Analyzed: 08/30/13								
Benzene	0.111	0.0020	mg/kg	0.0954	0.0120	103	30-131					
Toluene	0.112	0.0050	"	0.0954	ND	118	30-134					
Ethylbenzene	0.136	0.0050	"	0.0954	0.0206	121	22-153					
m,p-Xylene	0.234	0.010	"	0.191	0.0107	117	10-159					
o-Xylene	0.114	0.0050	"	0.0954	ND	120	31-151					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0415</i>		<i>"</i>	<i>0.0379</i>		<i>109</i>	<i>23-173</i>					
<i>Surrogate: Toluene-d8</i>	<i>0.0416</i>		<i>"</i>	<i>0.0382</i>		<i>109</i>	<i>20-170</i>					
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0419</i>		<i>"</i>	<i>0.0382</i>		<i>110</i>	<i>21-167</i>					

Matrix Spike Dup (3083009-MSD1)	Source: R308290-01			Prepared & Analyzed: 08/30/13								
Benzene	0.117	0.0020	mg/kg	0.0963	0.0120	109	30-131	5.81	34			
Toluene	0.118	0.0050	"	0.0963	ND	123	30-134	5.29	30			
Ethylbenzene	0.141	0.0050	"	0.0963	0.0206	125	22-153	4.09	24			
m,p-Xylene	0.242	0.010	"	0.193	0.0107	120	10-159	3.66	68			
o-Xylene	0.117	0.0050	"	0.0963	ND	122	31-151	2.80	38			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0425</i>		<i>"</i>	<i>0.0382</i>		<i>111</i>	<i>23-173</i>					
<i>Surrogate: Toluene-d8</i>	<i>0.0428</i>		<i>"</i>	<i>0.0385</i>		<i>111</i>	<i>20-170</i>					
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0415</i>		<i>"</i>	<i>0.0385</i>		<i>108</i>	<i>21-167</i>					

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Project Number: [none]
Project Manager: Alyssa Beard

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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