

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 11, 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 07/02/13 16:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Joseph J Egry IV For Ben Shrewsbury
President / Laboratory Manager

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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:
07/11/13 11:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B01@3'	R307017-01	Soil	07/02/13 08:45	07/02/13 16:00
N01	R307017-02	Soil	07/02/13 09:00	07/02/13 16:00
E01	R307017-03	Soil	07/02/13 09:05	07/02/13 16:00
W01	R307017-04	Soil	07/02/13 09:10	07/02/13 16:00
S01	R307017-05	Soil	07/02/13 09:15	07/02/13 16:00
B02@6"	R307017-06	Soil	07/02/13 09:30	07/02/13 16:00
BKG	R307017-07	Soil	07/02/13 09:40	07/02/13 16:00

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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:
07/11/13 11:45

R307017

Summit Scientific

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

Client: Foundation Services/THS/THN
Address:
City/State/Zip:
Phone:
Fax:
Project Manager: Alyssa Beard
E-Mail: alyssa@summit-scientific.com
Project Name: Hillman 9-1
Project Number: 1

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:	Special Instructions
				HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil		
601031	7/2/13	845	1							Full Trace	
NDI		900									
601		905									
601		910									
601		915									
602001		936									
604		940									

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
[Signature]	7/2/13 1500	[Signature]	7/2/13 1600	72 Hours <input checked="" type="checkbox"/> Same Day <input type="checkbox"/> 24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:	Sample Integrity:	Temperature Upon Receipt
				Intact <input checked="" type="checkbox"/> No <input type="checkbox"/>	5°C

[Signature]



Tasman Geosciences
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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

B01@3'
R307017-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	110	50	mg/kg	1	3070305	07/03/13	07/03/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		80.9 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	0.026	0.0050	mg/kg	1	3070304	07/03/13	07/03/13	EPA 8260B	
Toluene	0.13	0.0050	"	"	"	"	"	"	
Ethylbenzene	0.072	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.23	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	250	50	"	100	"	"	"	"	

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.5 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	

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Reported:
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B01@3'
R307017-01 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Acenaphthylene	7.60	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM
Anthracene	ND	5.00	"	"	"	"	"	"
Benzo (a) anthracene	ND	5.00	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"
Benzo (g,h,i) perylene	ND	5.00	"	"	"	"	"	"
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"
Chrysene	17.6	5.00	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"
Fluoranthene	ND	5.00	"	"	"	"	"	"
Fluorene	ND	5.00	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	ND	10.0	"	"	"	"	"	"
Naphthalene	93.3		"	"	"	"	"	"
Phenanthrene	93.1	5.00	"	"	"	"	"	"
Pyrene	16.3	5.00	"	"	"	"	"	"

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		62.7 %	40-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 07/02/13 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	8.36	0.269	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	
Barium	271	0.269	"	"	"	"	"	"	
Cadmium	0.490	0.269	"	"	"	"	"	"	
Chromium	25.2	0.269	"	"	"	"	"	"	
Copper	47.2	1.34	"	"	"	"	"	"	
Lead	18.7	0.269	"	"	"	"	"	"	
Nickel	29.4	0.269	"	"	"	"	"	"	
Selenium	1.60	0.269	"	"	"	"	07/03/13	"	
Silver	ND	0.269	"	"	"	"	"	"	
Zinc	74.9	26.9	"	"	"	"	07/08/13	"	

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Project: FEM Hillman 9-1

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Project Manager: Alyssa Beard

Reported:
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B01@3'
R307017-01 (Soil)

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Total Metals by EPA Method 6020 - Dry Weight Basis

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.114	mg/kg dry	1	3070801	07/08/13	07/08/13	EPA 7471	

Calculated Analytes

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	24.2	1.00	mg/kg	1	3071105	07/10/13	07/10/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	3460	8.28	mg/kg dry	1	3070303	07/03/13	07/03/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	140	3.31	"	"	"	"	"	"	
Sodium	3970	16.6	"	"	"	"	"	"	

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	18.0		units	"	3070909	07/09/13	07/09/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	5.42	0.00100	mmhos/cm	1	3070307	07/03/13	07/03/13	SM 2510B	

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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

B01@3'
R307017-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.88	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	30.2		%	"	3070907	07/09/13	07/10/13	% calculation	

Accutest Laboratories - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)

Date Sampled: **07/02/13 08:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1	mg/kg	1	3071104	07/10/13	07/10/13	3060A/7196 A	

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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

N01
R307017-02 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3070305	07/03/13	07/03/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		77.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3070304	07/03/13	07/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		92.8 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	

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Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

N01
R307017-02 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthylene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (a) anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.0	"	"	"	"	"	"	
Naphthalene	0.621		"	"	"	"	"	"	
Phenanthrene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		68.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		79.2 %	40-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 07/02/13 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.735	0.0898	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	
Barium	79.8	0.0898	"	"	"	"	"	"	
Cadmium	ND	0.0898	"	"	"	"	"	"	
Chromium	4.56	0.0898	"	"	"	"	"	"	
Copper	2.56	0.449	"	"	"	"	"	"	
Lead	4.42	0.0898	"	"	"	"	"	"	
Nickel	3.07	0.0898	"	"	"	"	"	"	
Selenium	ND	0.0898	"	"	"	"	07/03/13	"	
Silver	ND	0.0898	"	"	"	"	"	"	
Zinc	10.8	8.98	"	"	"	"	07/08/13	"	

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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

N01
R307017-02 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0529	mg/kg dry	1	3070801	07/08/13	07/08/13	EPA 7471	

Calculated Analytes

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	3.56	1.00	mg/kg	1	3071105	07/10/13	07/10/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	532	2.65	mg/kg dry	1	3070303	07/03/13	07/03/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	35.7	1.06	"	"	"	"	"	"	
Sodium	29.2	5.29	"	"	"	"	"	"	

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.330		units	"	3070909	07/09/13	07/09/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.314	0.00100	mmhos/cm	1	3070307	07/03/13	07/03/13	SM 2510B	

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N01
R307017-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.31	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.5		%	"	3070907	07/09/13	07/10/13	% calculation	

Accutest Laboratories - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)

Date Sampled: **07/02/13 09:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1	mg/kg	1	3071104	07/10/13	07/10/13	3060A/7196 A	

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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

E01
R307017-03 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3070305	07/03/13	07/04/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.2 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3070304	07/03/13	07/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		94.0 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	

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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

E01
R307017-03 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthylene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (a) anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.0	"	"	"	"	"	"	
Naphthalene	0.516		"	"	"	"	"	"	
Phenanthrene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		59.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		66.7 %	40-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 07/02/13 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.765	0.0959	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	
Barium	93.6	0.0959	"	"	"	"	"	"	
Cadmium	ND	0.0959	"	"	"	"	"	"	
Chromium	4.29	0.0959	"	"	"	"	"	"	
Copper	2.45	0.480	"	"	"	"	"	"	
Lead	3.89	0.0959	"	"	"	"	"	"	
Nickel	3.18	0.0959	"	"	"	"	"	"	
Selenium	ND	0.0959	"	"	"	"	07/03/13	"	
Silver	ND	0.0959	"	"	"	"	"	"	
Zinc	9.84	9.59	"	"	"	"	07/08/13	"	

Summit Scientific

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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:
07/11/13 11:45

E01
R307017-03 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0562	mg/kg dry	1	3070801	07/08/13	07/08/13	EPA 7471	

Calculated Analytes

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	3.29	1.00	mg/kg	1	3071105	07/10/13	07/10/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	733	2.81	mg/kg dry	1	3070303	07/03/13	07/03/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	33.3	1.12	"	"	"	"	"	"	
Sodium	23.8	5.62	"	"	"	"	"	"	

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.230		units	"	3070909	07/09/13	07/09/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.324	0.00100	mmhos/cm	1	3070307	07/03/13	07/03/13	SM 2510B	

Summit Scientific

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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:
07/11/13 11:45

E01
R307017-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.03	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.0		%	"	3070907	07/09/13	07/10/13	% calculation	

Accutest Laboratories - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)

Date Sampled: **07/02/13 09:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1	mg/kg	1	3071104	07/10/13	07/10/13	3060A/7196 A	

Summit Scientific

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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:
07/11/13 11:45

W01
R307017-04 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3070305	07/03/13	07/04/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		77.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3070304	07/03/13	07/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.4 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	

Summit Scientific

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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:
07/11/13 11:45

W01
R307017-04 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthylene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (a) anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.0	"	"	"	"	"	"	
Naphthalene	0.00		"	"	"	"	"	"	
Phenanthrene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		55.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		65.4 %	40-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 07/02/13 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.02	0.0891	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	
Barium	154	0.0891	"	"	"	"	"	"	
Cadmium	ND	0.0891	"	"	"	"	"	"	
Chromium	4.64	0.0891	"	"	"	"	"	"	
Copper	2.73	0.446	"	"	"	"	"	"	
Lead	4.61	0.0891	"	"	"	"	"	"	
Nickel	3.56	0.0891	"	"	"	"	"	"	
Selenium	ND	0.0891	"	"	"	"	07/03/13	"	
Silver	ND	0.0891	"	"	"	"	"	"	
Zinc	12.6	8.91	"	"	"	"	07/08/13	"	

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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:
07/11/13 11:45

W01
R307017-04 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0462	mg/kg dry	1	3070801	07/08/13	07/08/13	EPA 7471	

Calculated Analytes

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	3.64	1.00	mg/kg	1	3071105	07/10/13	07/10/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	485	2.66	mg/kg dry	1	3070303	07/03/13	07/03/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	59.7	1.06	"	"	"	"	"	"	
Sodium	1020	5.31	"	"	"	"	"	"	

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	11.6		units	"	3070909	07/09/13	07/09/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.212	0.00100	mmhos/cm	1	3070307	07/03/13	07/03/13	SM 2510B	

Summit Scientific

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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:
07/11/13 11:45

W01
R307017-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.81	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	"	3070907	07/09/13	07/10/13	% calculation	

Accutest Laboratories - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)

Date Sampled: **07/02/13 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1	mg/kg	1	3071104	07/10/13	07/10/13	3060A/7196 A	

Summit Scientific

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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:
07/11/13 11:45

S01
R307017-05 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	ND	50	mg/kg	1	3070305	07/03/13	07/04/13	8015M	
C28-C36 (TEPH-ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		95.5 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3070304	07/03/13	07/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.3 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	

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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:
07/11/13 11:45

S01
R307017-05 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthylene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (a) anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	ND	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.0	"	"	"	"	"	"	
Naphthalene	0.00		"	"	"	"	"	"	
Phenanthrene	ND	5.00	"	"	"	"	"	"	
Pyrene	ND	5.00	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		51.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		62.7 %	40-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 07/02/13 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.558	0.0946	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	
Barium	58.4	0.0946	"	"	"	"	"	"	
Cadmium	ND	0.0946	"	"	"	"	"	"	
Chromium	2.33	0.0946	"	"	"	"	"	"	
Copper	1.52	0.473	"	"	"	"	"	"	
Lead	2.46	0.0946	"	"	"	"	"	"	
Nickel	1.69	0.0946	"	"	"	"	"	"	
Selenium	ND	0.0946	"	"	"	"	07/03/13	"	
Silver	ND	0.0946	"	"	"	"	"	"	
Zinc	ND	9.46	"	"	"	"	07/08/13	"	

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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:
07/11/13 11:45

S01
R307017-05 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0391	mg/kg dry	1	3070801	07/08/13	07/08/13	EPA 7471	

Calculated Analytes

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	1.33	1.00	mg/kg	1	3071105	07/10/13	07/10/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	406	2.85	mg/kg dry	1	3070303	07/03/13	07/03/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	17.5	1.14	"	"	"	"	"	"	
Sodium	173	5.71	"	"	"	"	"	"	

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.28		units	"	3070909	07/09/13	07/09/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.301	0.00100	mmhos/cm	1	3070307	07/03/13	07/03/13	SM 2510B	

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: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

S01
R307017-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.65	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.6		%	"	3070907	07/09/13	07/10/13	% calculation	

Accutest Laboratories - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)

Date Sampled: **07/02/13 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1	mg/kg	1	3071104	07/10/13	07/10/13	3060A/7196 A	

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: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

B02@6"
R307017-06 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (TEPH-DRO)	10000	50	mg/kg	1	3070305	07/03/13	07/04/13	8015M	
C28-C36 (TEPH-ORO)	1600	50	"	"	"	"	"	"	

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		79.3 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0050	mg/kg	1	3070304	07/03/13	07/03/13	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.0080	0.0050	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	200	50	"	100	"	"	"	"	

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.9 %	21-167		"	"	"	"	

Semivolatile Organic Compounds by EPA Method 8270D SIM

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	

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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:
07/11/13 11:45

B02@6"
R307017-06 (Soil)

Summit Scientific

Semivolatile Organic Compounds by EPA Method 8270D SIM

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthylene	ND	5.00	ug/kg	1	3070701	07/08/13	07/08/13	EPA 8270D SIM	
Anthracene	ND	5.00	"	"	"	"	"	"	
Benzo (a) anthracene	61.0	5.00	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	5.00	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	5.00	"	"	"	"	"	"	
Benzo (a) pyrene	ND	5.00	"	"	"	"	"	"	
Chrysene	55.3	5.00	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	10.0	"	"	"	"	"	"	
Fluoranthene	ND	5.00	"	"	"	"	"	"	
Fluorene	ND	5.00	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	10.0	"	"	"	"	"	"	
Naphthalene	0.00		"	"	"	"	"	"	
Phenanthrene	1340	5.00	"	"	"	"	"	"	
Pyrene	63.4	5.00	"	"	"	"	"	"	

Date Sampled: 07/02/13 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		69.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		101 %	40-150		"	"	"	"	

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: 07/02/13 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.819	0.105	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	
Barium	84.4	0.105	"	"	"	"	"	"	
Cadmium	ND	0.105	"	"	"	"	"	"	
Chromium	5.45	0.105	"	"	"	"	"	"	
Copper	7.89	0.523	"	"	"	"	"	"	
Lead	9.48	0.105	"	"	"	"	"	"	
Nickel	4.74	0.105	"	"	"	"	"	"	
Selenium	ND	0.105	"	"	"	"	07/03/13	"	
Silver	ND	0.105	"	"	"	"	"	"	
Zinc	15.7	10.5	"	"	"	"	07/08/13	"	

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6899 Pecos Street
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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

B02@6"
R307017-06 (Soil)

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Total Metals by EPA Method 6020 - Dry Weight Basis

Total Mercury by EPA Method 7471/7470/245.1

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Mercury	ND	0.0522	mg/kg dry	1	3070801	07/08/13	07/08/13	EPA 7471	

Calculated Analytes

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium+3 Calculated	4.45	1.00	mg/kg	1	3071105	07/10/13	07/10/13	Calculation	

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	376	3.10	mg/kg dry	1	3070303	07/03/13	07/03/13	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	65.3	1.24	"	"	"	"	"	"	
Sodium	2770	6.20	"	"	"	"	"	"	

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	34.7		units	"	3070909	07/09/13	07/09/13	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.08	0.00100	mmhos/cm	1	3070307	07/03/13	07/03/13	SM 2510B	

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Denver CO, 80221

Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

B02@6"
R307017-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.05	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.6		%	"	3070907	07/09/13	07/10/13	% calculation	

Accutest Laboratories - 6010 Hexavalent Chromium, Soil (3060A Mod Digest)

Date Sampled: **07/02/13 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	1	mg/kg	1	3071104	07/10/13	07/10/13	3060A/7196 A	

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Denver CO, 80221

Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

BKG
R307017-07 (Soil)

Summit Scientific

Total Metals by EPA Method 6020 - Dry Weight Basis

Date Sampled: **07/02/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.823	0.0896	mg/kg dry	1	3070302	07/03/13	07/08/13	EPA 6020A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.41	0.100	pH Units	1	3070306	07/03/13	07/03/13	EPA 9045	

Date Sampled: **07/02/13 09:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.3		%	"	3070907	07/09/13	07/10/13	% calculation	

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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:
07/11/13 11:45

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 3070305 - EPA 3550A

Blank (3070305-BLK1)

Prepared & Analyzed: 07/03/13

C10-C28 (TEPH-DRO)	ND	50	mg/kg
C28-C36 (TEPH-ORO)	ND	50	"

LCS (3070305-BS1)

Prepared & Analyzed: 07/03/13

C10-C28 (TEPH-DRO)	603	50	mg/kg	501	120	73-134
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LCS Dup (3070305-BSD1)

Prepared & Analyzed: 07/03/13

C10-C28 (TEPH-DRO)	624	50	mg/kg	501	125	73-134	3.33	11
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Matrix Spike (3070305-MS1)

Source: R307016-02

Prepared & Analyzed: 07/03/13

C10-C28 (TEPH-DRO)	608	50	mg/kg	501	ND	121	50-148
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Matrix Spike Dup (3070305-MSD1)

Source: R307016-02

Prepared & Analyzed: 07/03/13

C10-C28 (TEPH-DRO)	578	50	mg/kg	501	ND	115	50-148	5.19	13
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6899 Pecos Street
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Project: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

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

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

Batch 3070304 - EPA 5030 Soil MS

Blank (3070304-BLK1)

Prepared & Analyzed: 07/03/13

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	0.0412	"	0.0397	104	23-173
Surrogate: Toluene-d8	0.0385	"	0.0400	96.3	20-170
Surrogate: 4-Bromofluorobenzene	0.0416	"	0.0400	104	21-167

LCS (3070304-BS1)

Prepared & Analyzed: 07/03/13

Benzene	0.0857	0.0050	mg/kg	0.100	85.7	58-130
Toluene	0.0965	0.0050	"	0.100	96.5	61-134
Ethylbenzene	0.126	0.0050	"	0.100	126	74-139
m,p-Xylene	0.241	0.010	"	0.200	120	73-137
o-Xylene	0.119	0.0050	"	0.100	119	73-141
<hr/>						
Surrogate: 1,2-Dichloroethane-d4	0.0397		"	0.0397	100	23-173
Surrogate: Toluene-d8	0.0367		"	0.0400	91.8	20-170
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400	103	21-167

LCS Dup (3070304-BSD1)

Prepared & Analyzed: 07/03/13

Benzene	0.0921	0.0050	mg/kg	0.100	92.1	58-130	7.15	13
Toluene	0.104	0.0050	"	0.100	104	61-134	7.83	16
Ethylbenzene	0.126	0.0050	"	0.100	126	74-139	0.0237	12
m,p-Xylene	0.243	0.010	"	0.200	121	73-137	0.782	14
o-Xylene	0.120	0.0050	"	0.100	120	73-141	0.553	12
<hr/>								
Surrogate: 1,2-Dichloroethane-d4	0.0429		"	0.0397	108	23-173		
Surrogate: Toluene-d8	0.0395		"	0.0400	98.7	20-170		
Surrogate: 4-Bromofluorobenzene	0.0399		"	0.0400	99.8	21-167		

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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:
07/11/13 11:45

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

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

Batch 3070304 - EPA 5030 Soil MS

Matrix Spike (3070304-MS1)		Source: R307016-02			Prepared & Analyzed: 07/03/13					
Benzene	0.0900	0.0050	mg/kg	0.100	ND	90.0	30-131			
Toluene	0.0995	0.0050	"	0.100	ND	99.5	30-134			
Ethylbenzene	0.125	0.0050	"	0.100	ND	125	22-153			
m,p-Xylene	0.243	0.010	"	0.200	ND	121	10-159			
o-Xylene	0.120	0.0050	"	0.100	ND	120	31-151			
Surrogate: 1,2-Dichloroethane-d4	0.0439		"	0.0397		111	23-173			
Surrogate: Toluene-d8	0.0381		"	0.0400		95.2	20-170			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	21-167			

Matrix Spike Dup (3070304-MSD1)		Source: R307016-02			Prepared & Analyzed: 07/03/13					
Benzene	0.0838	0.0050	mg/kg	0.100	ND	83.8	30-131	7.04	34	
Toluene	0.0951	0.0050	"	0.100	ND	95.1	30-134	4.56	30	
Ethylbenzene	0.124	0.0050	"	0.100	ND	124	22-153	1.13	24	
m,p-Xylene	0.241	0.010	"	0.200	ND	121	10-159	0.695	68	
o-Xylene	0.121	0.0050	"	0.100	ND	121	31-151	0.774	38	
Surrogate: 1,2-Dichloroethane-d4	0.0405		"	0.0397		102	23-173			
Surrogate: Toluene-d8	0.0368		"	0.0400		91.9	20-170			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		104	21-167			

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6899 Pecos Street
Denver CO, 80221

Project: FEM Hillman 9-1
Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3070701 - EPA 5030 Soil MS

Blank (3070701-BLK1)

Prepared: 07/07/13 Analyzed: 07/09/13

Acenaphthene	ND	5.00	ug/kg							
Acenaphthylene	ND	5.00	"							
Anthracene	ND	5.00	"							
Benzo (a) anthracene	ND	5.00	"							
Benzo (b) fluoranthene	ND	5.00	"							
Benzo (k) fluoranthene	ND	5.00	"							
Benzo (g,h,i) perylene	ND	5.00	"							
Benzo (a) pyrene	ND	5.00	"							
Chrysene	ND	5.00	"							
Dibenz (a,h) anthracene	ND	10.0	"							
Fluoranthene	ND	5.00	"							
Fluorene	ND	5.00	"							
Indeno (1,2,3-cd) pyrene	ND	10.0	"							
Naphthalene	0.00		"							
Phenanthrene	ND	5.00	"							
Pyrene	ND	5.00	"							
Surrogate: 2-Methylnaphthalene-d10	19.0		"	34.8		54.5	40-150			
Surrogate: Fluoranthene-d10	20.6		"	34.5		59.9	40-150			

LCS (3070701-BS1)

Prepared: 07/07/13 Analyzed: 07/09/13

Acenaphthene	18.4	5.00	ug/kg	33.3		55.3	48-131			
Acenaphthylene	17.0	5.00	"	33.3		50.9	49-130			
Anthracene	16.8	5.00	"	33.3		50.4	48-135			
Benzo (a) anthracene	18.2	5.00	"	33.3		54.7	37-142			
Benzo (b) fluoranthene	24.6	5.00	"	33.3		73.7	35-139			
Benzo (k) fluoranthene	41.2	5.00	"	33.3		124	30-139			
Benzo (g,h,i) perylene	10.2	5.00	"	33.3		30.7	30-132			
Benzo (a) pyrene	28.6	5.00	"	33.3		85.8	41-132			
Chrysene	28.4	5.00	"	33.3		85.3	30-136			
Dibenz (a,h) anthracene	15.9	10.0	"	33.3		47.7	24-127			
Fluoranthene	17.8	5.00	"	33.3		53.4	50-139			
Fluorene	20.6	5.00	"	33.3		61.8	50-130			
Indeno (1,2,3-cd) pyrene	18.3	10.0	"	33.3		54.8	26-139			
Naphthalene	17.9		"	33.3		53.6	40-135			
Phenanthrene	17.2	5.00	"	33.3		51.7	50-130			
Pyrene	25.7	5.00	"	33.3		77.2	39-141			
Surrogate: 2-Methylnaphthalene-d10	15.2		"	34.8		43.8	40-150			
Surrogate: Fluoranthene-d10	17.0		"	34.5		49.4	40-150			

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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:
07/11/13 11:45

Semivolatile Organic Compounds by EPA Method 8270D SIM - Quality Control
Summit Scientific

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

Batch 3070701 - EPA 5030 Soil MS

Matrix Spike (3070701-MS1)	Source: R307017-01			Prepared: 07/07/13		Analyzed: 07/09/13				
Acenaphthene	21.7	5.00	ug/kg	33.3	ND	65.1	27-140			
Acenaphthylene	19.7	5.00	"	33.3	7.60	36.3	24-136			
Anthracene	26.0	5.00	"	33.3	ND	77.9	23-144			
Benzo (a) anthracene	26.5	5.00	"	33.3	ND	79.6	12-168			
Benzo (b) fluoranthene	30.9	5.00	"	33.3	ND	92.6	10-170			
Benzo (k) fluoranthene	53.2	5.00	"	33.3	ND	160	11-150			QM-07
Benzo (g,h,i) perylene	11.6	5.00	"	33.3	ND	34.7	10-161			
Benzo (a) pyrene	35.7	5.00	"	33.3	ND	107	11-162			
Chrysene	32.1	5.00	"	33.3	17.6	43.7	10-167			
Dibenz (a,h) anthracene	20.0	10.0	"	33.3	ND	59.9	10-128			
Fluoranthene	27.7	5.00	"	33.3	ND	83.0	18-157			
Fluorene	25.1	5.00	"	33.3	ND	75.2	37-133			
Indeno (1,2,3-cd) pyrene	23.8	10.0	"	33.3	ND	71.3	10-161			
Naphthalene	23.8		"	33.3	93.3	NR	10-157			QM-07
Phenanthrene	24.4	5.00	"	33.3	93.1	NR	10-156			QM-07
Pyrene	34.2	5.00	"	33.3	16.3	53.7	10-166			
Surrogate: 2-Methylnaphthalene-d10	24.2		"	34.8		69.5	40-150			
Surrogate: Fluoranthene-d10	26.9		"	34.5		78.1	40-150			

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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:
07/11/13 11:45

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3070302 - EPA 3050B

Blank (3070302-BLK1)

Prepared: 07/03/13 Analyzed: 07/08/13

Arsenic	ND	0.100	mg/kg wet
Arsenic	ND	0.100	"
Barium	ND	0.100	"
Cadmium	ND	0.100	"
Chromium	ND	0.100	"
Copper	ND	0.500	"
Lead	ND	0.100	"
Nickel	ND	0.100	"
Selenium	ND	0.100	"
Silver	ND	0.100	"
Zinc	ND	10.0	"

LCS (3070302-BS1)

Prepared: 07/03/13 Analyzed: 07/08/13

Arsenic	2.62	0.100	mg/kg wet	2.40	109	80-120	
Arsenic	2.62	0.100	"	2.40	109	80-120	
Barium	212	0.100	"	216	98.5	80-120	
Cadmium	1.12	0.100	"	0.960	116	80-120	
Chromium	10.8	0.100	"	9.60	113	80-120	
Copper	20.2	0.500	"	19.2	106	80-120	
Lead	8.35	0.100	"	7.20	116	80-120	
Nickel	16.2	0.100	"	14.4	112	80-120	
Selenium	1.42	0.100	"	1.20	118	80-120	
Silver	0.300	0.100	"	0.240	125	80-120	QLCS-01
Zinc	6.97	10.0	"	7.20	96.8	80-120	

LCS Dup (3070302-BSD1)

Prepared: 07/03/13 Analyzed: 07/08/13

Arsenic	2.81	0.100	mg/kg wet	2.40	117	80-120	6.86	20
Arsenic	2.81	0.100	"	2.40	117	80-120	6.86	20
Barium	239	0.100	"	216	111	80-120	11.7	20
Cadmium	1.12	0.100	"	0.960	116	80-120	0.0204	20
Chromium	11.5	0.100	"	9.60	119	80-120	5.66	20
Copper	21.5	0.500	"	19.2	113	80-120	6.43	20
Lead	8.57	0.100	"	7.20	119	80-120	2.65	20
Nickel	17.2	0.100	"	14.4	120	80-120	6.19	20
Selenium	1.23	0.100	"	1.20	102	80-120	14.5	20
Silver	0.301	0.100	"	0.240	126	80-120	0.169	20
Zinc	7.21	10.0	"	7.20	100	80-120	3.38	20

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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:
07/11/13 11:45

Total Metals by EPA Method 6020 - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3070302 - EPA 3050B

Matrix Spike (3070302-MS1)			Source: R307017-02		Prepared: 07/03/13		Analyzed: 07/08/13			
Arsenic	3.16	0.0899	mg/kg dry	2.15	0.735	113	75-125			
Arsenic	3.16	0.0899	"	2.15	0.735	113	75-125			
Barium	316	0.0899	"	194	79.8	122	75-125			
Cadmium	0.815	0.0899	"	0.863	0.0485	88.9	75-125			
Chromium	15.1	0.0899	"	8.63	4.56	122	75-125			
Copper	21.3	0.449	"	17.2	2.56	109	75-125			
Lead	12.9	0.0899	"	6.47	4.42	131	75-125			QM-07
Nickel	18.5	0.0899	"	12.9	3.07	120	75-125			
Selenium	1.06	0.0899	"	1.08	ND	97.9	75-125			
Silver	0.282	0.0899	"	0.215	0.0279	118	75-125			
Zinc	18.4	8.99	"	6.47	10.8	119	75-125			

Matrix Spike Dup (3070302-MSD1)			Source: R307017-02		Prepared: 07/03/13		Analyzed: 07/08/13			
Arsenic	3.47	0.0899	mg/kg dry	2.15	0.735	127	75-125	9.26	25	QM-07
Arsenic	3.47	0.0899	"	2.15	0.735	127	75-125	9.26	25	QM-07
Barium	355	0.0899	"	194	79.8	142	75-125	11.6	25	QM-07
Cadmium	0.902	0.0899	"	0.863	0.0485	98.8	75-125	10.1	25	
Chromium	16.9	0.0899	"	8.63	4.56	143	75-125	11.7	25	QM-07
Copper	24.3	0.450	"	17.2	2.56	126	75-125	13.1	25	QM-07
Lead	14.5	0.0899	"	6.47	4.42	156	75-125	12.0	25	QM-07
Nickel	21.0	0.0899	"	12.9	3.07	138	75-125	12.4	25	QM-07
Selenium	1.18	0.0899	"	1.08	ND	109	75-125	11.0	25	
Silver	0.325	0.0899	"	0.215	0.0279	138	75-125	14.3	25	QLCS-01
Zinc	19.6	8.99	"	6.47	10.8	137	75-125	6.24	25	QM-07

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: FEM Hillman 9-1

Project Number: [none]
Project Manager: Alyssa Beard

Reported:
07/11/13 11:45

Total Mercury by EPA Method 7471/7470/245.1 - Quality Control
Summit Scientific

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

Batch 3070801 - EPA 7471A

Blank (3070801-BLK1)

Prepared & Analyzed: 07/08/13

Mercury ND 0.0500 mg/kg wet

LCS (3070801-BS1)

Prepared & Analyzed: 07/08/13

Mercury 0.344 0.0500 mg/kg wet 0.400 85.9 80-120

LCS Dup (3070801-BSD1)

Prepared & Analyzed: 07/08/13

Mercury 0.382 0.0500 mg/kg wet 0.400 95.6 80-120 10.7 20

Matrix Spike (3070801-MS1)

Source: R307017-02

Prepared & Analyzed: 07/08/13

Mercury 0.333 0.0529 mg/kg dry 0.388 0.00248 85.1 80-120

Matrix Spike Dup (3070801-MSD1)

Source: R307017-02

Prepared & Analyzed: 07/08/13

Mercury 0.372 0.0473 mg/kg dry 0.378 0.00248 97.7 80-120 11.1 20

Summit Scientific

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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:
07/11/13 11:45

Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis - Quality Control
Summit Scientific

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

Batch 3070303 - General Preparation

Blank (3070303-BLK1)

Prepared & Analyzed: 07/03/13

Calcium	ND	2.50	mg/kg wet
Magnesium	ND	1.00	"
Sodium	ND	5.00	"

LCS (3070303-BS1)

Prepared & Analyzed: 07/03/13

Calcium	421	2.50	mg/kg wet	383	110	77-118
Magnesium	215	1.00	"	192	112	77-117
Sodium	537	5.00	"	479	112	80-119

LCS Dup (3070303-BSD1)

Prepared & Analyzed: 07/03/13

Calcium	365	2.50	mg/kg wet	383	95.2	77-118	14.2	14
Magnesium	192	1.00	"	192	99.8	77-117	11.4	12
Sodium	465	5.00	"	479	97.1	80-119	14.4	14

Matrix Spike (3070303-MS1)

Source: R307017-02

Prepared & Analyzed: 07/03/13

Calcium	1520	2.65	mg/kg dry	402	532	246	13-170	QM-07
Magnesium	307	1.06	"	202	35.7	135	34-152	
Sodium	564	5.29	"	503	29.2	106	43-155	

Matrix Spike Dup (3070303-MSD1)

Source: R307017-02

Prepared & Analyzed: 07/03/13

Calcium	906	2.65	mg/kg dry	403	532	92.8	13-170	50.8	37	QM-07
Magnesium	231	1.06	"	202	35.7	96.6	34-152	28.3	33	
Sodium	490	5.29	"	504	29.2	91.3	43-155	14.2	25	

Summit Scientific

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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:
07/11/13 11:45

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

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

Batch 3070306 - General Preparation

LCS (3070306-BS1)				Prepared & Analyzed: 07/03/13						
pH	8.05	0.100	pH Units	8.00	101	0-200				

Duplicate (3070306-DUP1)				Source: R307017-01		Prepared & Analyzed: 07/03/13				
pH	9.92	0.100	pH Units		9.88			0.404	20	

Batch 3070307 - General Preparation

Duplicate (3070307-DUP1)				Source: R307017-01		Prepared & Analyzed: 07/03/13				
Specific Conductance (EC)	5.44	0.00100	mmhos/cm		5.42			0.368	20	

Batch 3070907 - General Preparation

Duplicate (3070907-DUP1)				Source: R307017-01		Prepared: 07/09/13 Analyzed: 07/10/13				
% Solids	30.6		%		30.2			1.32	20	

Summit Scientific

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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:
07/11/13 11:45

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.
- QLCS-01 The spike recovery was outside acceptance limits for this analyte indicating a potential high bias. The corresponding samples did not exhibit concentrations above reporting level for this analyte. Data quality is not affected.
- 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