



Beebe Draw 3-15 Location

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Summit Scientific

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July 17, 2015

Paul Henehan
Fremont Environmental
1630 South College Avenue
Ft. Collins, CO 80525
RE: Noble - Beebe Draw 3-15

Enclosed are the results of analyses for samples received by Summit Scientific on 07/16/15 18:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



Fremont Environmental
1630 South College Avenue
Ft. Collins CO, 80525

Project: Noble - Beebe Draw 3-15

Project Number: [none]
Project Manager: Paul Henehan

Reported:
07/17/15 07:17

**South Wall FT
1507172-01 (Soil)**

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1507192	07/16/15	07/17/15	8015M	

Date Sampled: 07/16/15 00:00

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

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1507191	07/16/15	07/16/15	EPA 8260B	
Benzene	ND	0.0020	"	"	"	"	"	"	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	50	"	"	"	"	"	"	

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %	21-167		"	"	"	"	

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

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	768	10.5	mg/kg dry	1	1507183	07/16/15	07/16/15	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	262	5.27	"	"	"	"	"	"	
Sodium	113	5.27	"	"	"	"	"	"	

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.900		units	"	1507195	07/17/15	07/17/15	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.31	0.0100	mmhos/cm	1	1507194	07/16/15	07/16/15	SM 2510B	

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08	0.100	pH Units	"	1507193	07/16/15	07/16/15	EPA 9045	

Date Sampled: 07/16/15 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.6		%	"	1507184	07/16/15	07/17/15	% calculation	

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch 1507192 - EPA 3550A

Blank (1507192-BLK1)

Prepared & Analyzed: 07/16/15

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	12.6		"	12.2		104	30-150				

LCS (1507192-BS1)

Prepared & Analyzed: 07/16/15

C10-C28 (DRO)	483	50	mg/kg	501		96.4	73-134				
<i>Surrogate: o-Terphenyl</i>	12.9		"	12.2		105	30-150				

Matrix Spike (1507192-MS1)

Source: 1507169-02

Prepared & Analyzed: 07/16/15

C10-C28 (DRO)	431	50	mg/kg	477	ND	90.4	50-148				
<i>Surrogate: o-Terphenyl</i>	12.2		"	11.6		105	30-150				

Matrix Spike Dup (1507192-MSD1)

Source: 1507169-02

Prepared & Analyzed: 07/16/15

C10-C28 (DRO)	441	50	mg/kg	467	ND	94.4	50-148	2.25	13		
<i>Surrogate: o-Terphenyl</i>	12.8		"	11.4		112	30-150				

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Project: Noble - Beebe Draw 3-15

Project Number: [none]
Project Manager: Paul Henehan

Reported:
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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 1507191 - EPA 5030 Soil MS

Blank (1507191-BLK1)

Prepared & Analyzed: 07/16/15

Naphthalene	ND	0.010	mg/kg							
Benzene	ND	0.0020	"							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
Gasoline Range Hydrocarbons	ND	50	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0393</i>		<i>"</i>	<i>0.0396</i>		<i>99.3</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0398</i>		<i>"</i>	<i>0.0400</i>		<i>99.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>21-167</i>			

LCS (1507191-BS1)

Prepared & Analyzed: 07/16/15

Naphthalene	0.0101	0.010	mg/kg				66-138			
Benzene	0.109	0.0020	"	0.100		109	58-130			
Toluene	0.120	0.0050	"	0.100		120	61-134			
Ethylbenzene	0.134	0.0050	"	0.0992		135	74-139			
m,p-Xylene	0.278	0.010	"	0.200		139	73-137			
o-Xylene	0.135	0.0050	"	0.0984		137	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0410</i>		<i>"</i>	<i>0.0396</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0399</i>		<i>"</i>	<i>0.0400</i>		<i>99.8</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 (1507191-MS1)

Source: 1507169-06

Prepared & Analyzed: 07/16/15

Naphthalene	0.00703	0.010	mg/kg		0.00750		10-158			
Benzene	0.0977	0.0020	"	0.0904	ND	108	30-131			
Toluene	0.106	0.0050	"	0.0904	ND	117	30-134			
Ethylbenzene	0.122	0.0050	"	0.0897	ND	137	22-153			
m,p-Xylene	0.252	0.010	"	0.180	0.00497	137	10-159			
o-Xylene	0.125	0.0050	"	0.0890	0.00552	134	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0370</i>		<i>"</i>	<i>0.0358</i>		<i>103</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0356</i>		<i>"</i>	<i>0.0362</i>		<i>98.5</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0353</i>		<i>"</i>	<i>0.0362</i>		<i>97.7</i>	<i>21-167</i>			

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Project Number: [none]
Project Manager: Paul Henehan

Reported:
07/17/15 07:17

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

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

Batch 1507191 - EPA 5030 Soil MS

Matrix Spike Dup (1507191-MSD1)	Source: 1507169-06			Prepared & Analyzed: 07/16/15					
Naphthalene	0.00826	0.010	mg/kg	0.00750			10-158	16.2	42
Benzene	0.106	0.0020	"	0.0960	ND	111	30-131	8.40	34
Toluene	0.115	0.0050	"	0.0960	ND	119	30-134	7.68	30
Ethylbenzene	0.134	0.0050	"	0.0952	ND	141	22-153	9.31	24
m,p-Xylene	0.275	0.010	"	0.192	0.00497	141	10-159	8.77	68
o-Xylene	0.139	0.0050	"	0.0944	0.00552	141	31-151	10.6	38
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0388</i>		<i>"</i>	<i>0.0380</i>		<i>102</i>	<i>23-173</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0375</i>		<i>"</i>	<i>0.0384</i>		<i>97.8</i>	<i>20-170</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0362</i>		<i>"</i>	<i>0.0384</i>		<i>94.4</i>	<i>21-167</i>		

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Soluble Nutrients by EPA 6020/Mod. USDA60 6(2, 3A) - Dry Weight Basis - Quality Control
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Analyte	Reporting		Spike Level	Source Result	%REC		RPD		Notes
	Result	Limit			Units	%REC	Limits	RPD	

Batch 1507183 - General Preparation

Blank (1507183-BLK1)

Prepared & Analyzed: 07/16/15

Calcium	ND	10.0	mg/kg wet						
Magnesium	ND	5.00	"						
Sodium	ND	5.00	"						

LCS (1507183-BS1)

Prepared & Analyzed: 07/16/15

Calcium	508	10.0	mg/kg wet	500	102	82.9-118			
Magnesium	474	5.00	"	500	94.7	77.1-123			
Sodium	495	5.00	"	500	99.0	71-129			

Duplicate (1507183-DUP1)

Source: 1507165-01

Prepared & Analyzed: 07/16/15

Calcium	2760	7.34	mg/kg wet	4380			45.2	200	
Magnesium	267	3.67	"	363			30.5	200	
Sodium	598	3.67	"	569			4.94	200	

Matrix Spike (1507183-MS1)

Source: 1507165-01

Prepared & Analyzed: 07/16/15

Calcium	3280	8.74	mg/kg wet	437	4380	NR	75-125		QM-07
Magnesium	718	4.37	"	437	363	81.2	75-125		
Sodium	1080	4.37	"	437	569	116	75-125		

Matrix Spike Dup (1507183-MSD1)

Source: 1507165-01

Prepared & Analyzed: 07/16/15

Calcium	3360	8.36	mg/kg wet	418	4380	NR	75-125	2.23	25	QM-07
Magnesium	662	4.18	"	418	363	71.6	75-125	8.04	25	QM-07
Sodium	1010	4.18	"	418	569	104	75-125	6.71	25	

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Project Number: [none]
Project Manager: Paul Henehan

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Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
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Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch 1507184 - General Preparation

Duplicate (1507184-DUP1)	Source: 1507158-01			Prepared: 07/16/15		Analyzed: 07/17/15				
% Solids	0.00		%		ND				20	

Batch 1507193 - General Preparation

LCS (1507193-BS1)				Prepared & Analyzed: 07/16/15						
pH	8.03	0.100	pH Units	8.00		100	95-105			
Duplicate (1507193-DUP1)	Source: 1507172-01			Prepared & Analyzed: 07/16/15						
pH	8.17	0.100	pH Units		8.08			1.11	20	

Batch 1507194 - General Preparation

Blank (1507194-BLK1)				Prepared & Analyzed: 07/16/15						
Specific Conductance (EC)	ND	0.0100	mmhos/cm							
LCS (1507194-BS1)				Prepared & Analyzed: 07/16/15						
Specific Conductance (EC)	490	0.0100	mmhos/cm	500		98.0	90-110			
Duplicate (1507194-DUP1)	Source: 1507172-01			Prepared & Analyzed: 07/16/15						
Specific Conductance (EC)	1.16	0.0100	mmhos/cm		1.31			12.0	20	

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Project Number: [none]
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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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