



LEGEND

-  FENCE LINE
-  CONTAINMENT BERM
-  ABOVE GROUND STORAGE TANK
-  FORMER FACILITY

**Figure 1
SITE MAP**

Noble Gemini K1-13
 Facility ID - 311356
 SE SW Section 1, T4N, R66W
 Weld County, Colorado

API No. 05-123-13870	Prepared by	Drawn by JMA
Date 3/31/16	Reviewed by	Filename V011A



Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

February 19, 2016

Paul Henehan
Fremont Environmental
1759 Redwing Lane
Broomfield, CO 80020
RE: Noble - Gemini K 1-13

Enclosed are the results of analyses for samples received by Summit Scientific on 02/18/16 14:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Floor 5Ft	1602141-01	Soil	02/18/16 00:00	02/18/16 14:00
W. Wall 3Ft	1602141-02	Soil	02/18/16 00:00	02/18/16 14:00

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

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S₂

1602141

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

Page 1 of 1

Client: FREMONT/NOBLE Project Manager: HENEHAN
Address: _____ E-Mail: _____
City/State/Zip: _____
Phone: 3039568714 Fax: _____ Project Name: NOBLE-GEMINI K 1-13
Sampler Name: HENEHAN 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)	BTEX	GRO/DRO	ALAP/HTH	SAR	EC	PH						
1	FLOOR 5 FT	2/18/16		1																				
2	W. WALL 3 FT	"		1																				
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								
Relinquished by: <u>PA/FE</u>		Date/Time: <u>2/18/16 14:00</u>		Received by: <u>[Signature]</u>		Date/Time: <u>2/18/16 14:00</u>		Turn Around Time (Check)				Notes:												
								Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>				on ice												
								24 hours <input type="checkbox"/> Standard <input type="checkbox"/>																
								48 hours <input type="checkbox"/> FRI AM PLE. <input type="checkbox"/>																
Relinquished by: <u>[Signature]</u>		Date/Time: <u>2/18/16 1515</u>		Received by: <u>[Signature]</u>		Date/Time: <u>2/14/16 15:15</u>		Sample Integrity: <u>5.9°C</u>																
Relinquished by: _____		Date/Time: _____		Received by: _____		Date/Time: _____		Temperature Upon Receipt: _____																
								Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No																

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

Floor 5Ft
1602141-01 (Soil)

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1602186	02/18/16	02/18/16	8015M	

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		97.6 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1602185	02/18/16	02/18/16	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: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.4 %	21-167		"	"	"	"	

Summit Scientific

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

**W. Wall 3Ft
1602141-02 (Soil)**

Summit Scientific

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **02/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	1602186	02/18/16	02/18/16	8015M	

Date Sampled: **02/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: <i>o</i> -Terphenyl		90.1 %	30-150		"	"	"	"	

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **02/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	ND	0.010	mg/kg	1	1602185	02/18/16	02/18/16	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: **02/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	21-167		"	"	"	"	

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

Date Sampled: **02/18/16 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

**W. Wall 3Ft
1602141-02 (Soil)**

Summit Scientific

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

Analyte	Result	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	984	mg/kg dry	1	1602183	02/18/16	02/18/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	120	"	"	"	"	"	"	
Sodium	21.0	"	"	"	"	"	"	

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.170		units	"	1602188	02/19/16	02/19/16	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.366	0.0100	mmhos/cm	1	1602182	02/18/16	02/18/16	SM 2510B	

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.68	0.100	pH Units	"	1602181	02/18/16	02/18/16	EPA 9045	

Date Sampled: 02/18/16 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.7		%	"	1602184	02/18/16	02/19/16	% calculation	

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Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

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 1602186 - EPA 3550A

Blank (1602186-BLK1)

Prepared & Analyzed: 02/18/16

C10-C28 (DRO)	ND	50	mg/kg								
<i>Surrogate: o-Terphenyl</i>	10.9		"	12.5		87.0	30-150				

LCS (1602186-BS1)

Prepared & Analyzed: 02/18/16

C10-C28 (DRO)	527	50	mg/kg	499		106	73-134				
<i>Surrogate: o-Terphenyl</i>	11.4		"	12.5		91.3	30-150				

Matrix Spike (1602186-MS1)

Source: 1602141-01

Prepared & Analyzed: 02/18/16

C10-C28 (DRO)	454	50	mg/kg	487	17.3	89.6	50-148				
<i>Surrogate: o-Terphenyl</i>	11.1		"	12.2		91.1	30-150				

Matrix Spike Dup (1602186-MSD1)

Source: 1602141-01

Prepared & Analyzed: 02/18/16

C10-C28 (DRO)	461	50	mg/kg	483	17.3	91.9	50-148	1.50		13	
<i>Surrogate: o-Terphenyl</i>	11.2		"	12.1		92.5	30-150				

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Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

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 1602185 - EPA 5030 Soil MS

Blank (1602185-BLK1)

Prepared & Analyzed: 02/18/16

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>0.0409</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.8</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.4</i>	<i>21-167</i>			

LCS (1602185-BS1)

Prepared & Analyzed: 02/18/16

Naphthalene	ND	0.010	mg/kg				66-138			
Benzene	0.113	0.0020	"	0.100		113	58-130			
Toluene	0.0983	0.0050	"	0.100		98.3	61-134			
Ethylbenzene	0.128	0.0050	"	0.0992		129	74-139			
m,p-Xylene	0.241	0.010	"	0.200		121	73-137			
o-Xylene	0.117	0.0050	"	0.0980		120	73-141			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0403</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.8</i>	<i>21-167</i>			

Matrix Spike (1602185-MS1)

Source: 1602141-01

Prepared & Analyzed: 02/18/16

Naphthalene	ND	0.010	mg/kg		ND		10-158			
Benzene	0.116	0.0020	"	0.0984	ND	117	30-131			
Toluene	0.101	0.0050	"	0.0984	ND	103	30-134			
Ethylbenzene	0.134	0.0050	"	0.0976	ND	137	22-153			
m,p-Xylene	0.253	0.010	"	0.196	ND	129	10-159			
o-Xylene	0.124	0.0050	"	0.0965	ND	129	31-151			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0418</i>		<i>"</i>	<i>0.0394</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0394</i>		<i>102</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0379</i>		<i>"</i>	<i>0.0394</i>		<i>96.2</i>	<i>21-167</i>			

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Fremont Environmental
1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

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 1602185 - EPA 5030 Soil MS

Matrix Spike Dup (1602185-MSD1)	Source: 1602141-01			Prepared & Analyzed: 02/18/16						
Naphthalene	ND	0.010	mg/kg	ND	ND	115	30-131	1.70	42	
Benzene	0.114	0.0020	"	0.0984	ND	99.7	30-134	3.11	30	
Toluene	0.0981	0.0050	"	0.0984	ND	138	22-153	0.418	24	
Ethylbenzene	0.134	0.0050	"	0.0976	ND	130	10-159	1.01	68	
m,p-Xylene	0.256	0.010	"	0.196	ND	127	31-151	1.03	38	
o-Xylene	0.123	0.0050	"	0.0965	ND					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0399</i>		<i>"</i>	<i>0.0394</i>		<i>101</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0375</i>		<i>"</i>	<i>0.0394</i>		<i>95.2</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0389</i>		<i>"</i>	<i>0.0394</i>		<i>98.9</i>	<i>21-167</i>			

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Fremont Environmental
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Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

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

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

Batch 1602183 - General Preparation

Blank (1602183-BLK1)

Prepared & Analyzed: 02/18/16

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

LCS (1602183-BS1)

Prepared & Analyzed: 02/18/16

Calcium	525	10.0	mg/kg wet	500	105	82.9-118				
Magnesium	530	5.00	"	500	106	77.1-123				
Sodium	533	5.00	"	500	107	71-129				

Duplicate (1602183-DUP1)

Source: 1602123-01

Prepared & Analyzed: 02/18/16

Calcium	1360	7.80	mg/kg wet		1350			0.641	200	
Magnesium	419	3.90	"		398			5.19	200	
Sodium	1020	3.90	"		988			3.30	200	

Matrix Spike (1602183-MS1)

Source: 1602123-01

Prepared & Analyzed: 02/18/16

Calcium	1700	7.80	mg/kg wet	390	1350	89.8	75-125			
Magnesium	746	3.90	"	390	398	89.2	75-125			
Sodium	1340	3.90	"	390	988	91.0	75-125			

Matrix Spike Dup (1602183-MSD1)

Source: 1602123-01

Prepared & Analyzed: 02/18/16

Calcium	1790	7.80	mg/kg wet	390	1350	112	75-125	5.02	25	
Magnesium	810	3.90	"	390	398	106	75-125	8.27	25	
Sodium	1390	3.90	"	390	988	103	75-125	3.52	25	

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Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

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

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

Batch 1602181 - General Preparation

LCS (1602181-BS1)				Prepared & Analyzed: 02/18/16							
pH	8.06	0.100	pH Units	8.00	101	95-105					
Duplicate (1602181-DUP1)				Source: 1602141-02		Prepared & Analyzed: 02/18/16					
pH	8.68	0.100	pH Units	8.68	0.00	20					

Batch 1602182 - General Preparation

Blank (1602182-BLK1)				Prepared & Analyzed: 02/18/16							
Specific Conductance (EC)	ND	0.0100	mmhos/cm								
LCS (1602182-BS1)				Prepared & Analyzed: 02/18/16							
Specific Conductance (EC)	0.505	0.0100	mmhos/cm	0.500	101	90-110					
Duplicate (1602182-DUP1)				Source: 1602141-02		Prepared & Analyzed: 02/18/16					
Specific Conductance (EC)	0.296	0.0100	mmhos/cm	0.366	21.3	20		QR-03			

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1759 Redwing Lane
Broomfield CO, 80020

Project: Noble - Gemini K 1-13

Project Number: [none]
Project Manager: Paul Henehan

Reported:
02/19/16 06:48

Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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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