



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 JMA	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,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

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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A handwritten signature in black ink, appearing to be 'MSM'.



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

Summit Scientific

S₂

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

1602141

Page 1 of 1

Client: FREMONT/NOBLE

Project Manager: HENEHAN

Address:

E-Mail:

City/State/Zip:

Phone: 303 956 8714

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	HNO ₃	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:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes: on ice
<u>Paul Henehan</u>	<u>2/18/16 14:00</u>	<u>Paul Henehan</u>	<u>2/18/16 14:00</u>	Same Day <input checked="" type="checkbox"/> 72 hours <input type="checkbox"/>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours <input type="checkbox"/> Standard <input type="checkbox"/>	
<u>Paul Henehan</u>	<u>2/18/16 15:15</u>	<u>Paul Henehan</u>	<u>2/14/16 15:15</u>	48 hours <input type="checkbox"/> <u>FR AM PLZ.</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
				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: o-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	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	984	9.35	mg/kg dry	1	1602183	02/18/16	02/18/16	EPA 6020/Mod. USDA60 6(2, 3A)	
Magnesium	120	4.67	"	"	"	"	"	"	
Sodium	21.0	4.67	"	"	"	"	"	"	

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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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

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 1602186 - EPA 3550A

Blank (1602186-BLK1)

Prepared & Analyzed: 02/18/16

C10-C28 (DRO) ND 50 mg/kg

Surrogate: o-Terphenyl 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

Surrogate: o-Terphenyl 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

Surrogate: o-Terphenyl 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

Surrogate: o-Terphenyl 11.2 " 12.1 92.5 30-150

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	23-173			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	20-170			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	21-167			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0404		"	0.0400		101	23-173			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	20-170			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	21-167			

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			
Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0394		106	23-173			
Surrogate: Toluene-d8	0.0400		"	0.0394		102	20-170			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0394		96.2	21-167			

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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	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

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		10-158		42	
Benzene	0.114	0.0020	"	0.0984	ND	115	30-131	1.70	34	
Toluene	0.0981	0.0050	"	0.0984	ND	99.7	30-134	3.11	30	
Ethylbenzene	0.134	0.0050	"	0.0976	ND	138	22-153	0.418	24	
m,p-Xylene	0.256	0.010	"	0.196	ND	130	10-159	1.01	68	
o-Xylene	0.123	0.0050	"	0.0965	ND	127	31-151	1.03	38	
Surrogate: 1,2-Dichloroethane-d4		0.0399	"	0.0394		101	23-173			
Surrogate: Toluene-d8		0.0375	"	0.0394		95.2	20-170			
Surrogate: 4-Bromofluorobenzene		0.0389	"	0.0394		98.9	21-167			

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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

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 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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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

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 1602181 - General Preparation

LCS (1602181-BS1)

Prepared & Analyzed: 02/18/16

pH	8.06	0.100	pH Units	8.00	101	95-105
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Duplicate (1602181-DUP1)

Source: 1602141-02

Prepared & Analyzed: 02/18/16

pH	8.68	0.100	pH Units	8.68	0.00	20
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Batch 1602182 - General Preparation

Blank (1602182-BLK1)

Prepared & Analyzed: 02/18/16

Specific Conductance (EC)	ND	0.0100	mmhos/cm
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LCS (1602182-BS1)

Prepared & Analyzed: 02/18/16

Specific Conductance (EC)	0.505	0.0100	mmhos/cm	0.500	101	90-110
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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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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

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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