

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

August 03, 2023

Paul Henehan

Fremont Environmental

PO Box 1289

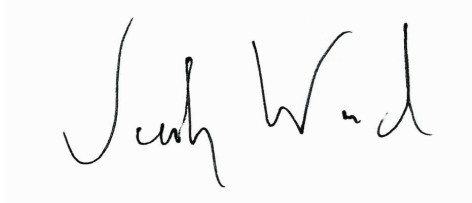
Wellington, CO 80549

RE: Noble - Patriot B16-20 FL09/SEP

Work Order # 2307509

Enclosed are the results of analyses for samples received by Summit Scientific on 07/27/23 17:15. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01 Wall 3'	2307509-01	Soil	07/27/23 12:55	07/27/23 17:15
W Wall 3'	2307509-02	Soil	07/27/23 13:00	07/27/23 17:15
S01 Wall 3'	2307509-03	Soil	07/27/23 13:05	07/27/23 17:15
FLOOR01 4'	2307509-04	Soil	07/27/23 13:10	07/27/23 17:15

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.



4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2307509	

		Send Data To:	Send Invoice To:
Client: Fremont Environmental		Project Manager: Paul Henehan	Company: Noble
Address:		E-Mail: Fremont Distribution List	Project Name/Location: Patriot B16-20 FLO9/SEP
City/State/Zip:			AFE#:
Phone: 303-261-6246		Project Name: Patriot B16-20 FLO9/SEP	PO/Billing Codes: UWRWE-A2795-ABN
Sampler Name: Stanley Gilbert		Project Number:	Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX, TMBS, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)		TDS, Chloride, Sulfate
1	N01 Wall 3'	7/27/23	12:55	2			X			X			X	X	X	X			
2	W Wall 3'	I	13:00	I			I			I			I	I	I	I			
3	S01 Wall 3'	I	13:05	I			I			I			I	I	I	I			
4	FLOOR02 4'	I	13:10	I			I			I			I	I	I	I			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>[Signature]</i>	Date/Time: 7/27/23 17:15	Received by: Summit North	Date/Time: 7/27/23 17:15	TAT Business Days	Field DO	Notes:
Relinquished by: <i>[Signature]</i>	Date/Time: 7/27/23 15:15	Received by: <i>[Signature]</i>	Date/Time: 7/27/23 15:15	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard <input checked="" type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: 9.9	Corrected Temperature: 6	IR gun #:	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2307509

Client: Fremont Client Project ID: Patriot B16-20 Fl09/sep

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) 9.9 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ICE</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
<u>Additional Comments (if any):</u>				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

AS 7/27/23
Custodian Printed Name Date/Time



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

N01 Wall 3'
2307509-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0940	07/27/23	07/27/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		82.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		117 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0941	07/27/23	07/27/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		64.7 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
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N01 Wall 3'
2307509-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0950	07/28/23	07/29/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		69.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		75.9 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.530	0.0100		mg/L	1	BGG0955	07/28/23	07/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

N01 Wall 3'
2307509-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.672	0.255		mg/kg dry	1	BGG0944	07/28/23	07/29/23	EPA 6020B	
Barium	80.3	0.509		"	"	"	"	"	"	
Cadmium	0.274	0.255		"	"	"	"	"	"	
Copper	1.75	0.509		"	"	"	"	"	"	
Lead	9.99	0.255		"	"	"	"	"	"	
Nickel	2.72	0.509		"	"	"	"	"	"	
Selenium	ND	0.331	0.223	"	"	"	"	"	"	
Silver	0.125	0.0255		"	"	"	"	"	"	
Zinc	11.7	0.509		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 07/27/23 12:55

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0995	07/31/23	07/31/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: 07/27/23 12:55

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.3	0.0637		mg/L dry	1	BGG0964	07/28/23	07/31/23	EPA 6020B	
Magnesium	10.5	0.0637		"	"	"	"	"	"	
Sodium	26.8	0.0637		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 07/27/23 12:55

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.16	0.00100		units	1	BGH0023	08/01/23	08/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
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 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

N01 Wall 3'
2307509-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	78.5			%	1	BGG0943	07/28/23	07/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.571	0.0100		mmhos/cm	1	BGG1034	07/31/23	07/31/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **07/27/23 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.87			pH Units	1	BGG1033	07/31/23	07/31/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

W Wall 3'
2307509-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0940	07/27/23	07/27/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		90.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0941	07/27/23	07/27/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		80.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

W Wall 3'
2307509-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0950	07/28/23	07/29/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		58.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		55.9 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.569	0.0100		mg/L	1	BGG0955	07/28/23	07/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

W Wall 3'
2307509-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.730	0.252		mg/kg dry	1	BGG0944	07/28/23	07/29/23	EPA 6020B	
Barium	85.9	0.505		"	"	"	"	"	"	
Cadmium	ND	0.252		"	"	"	"	"	"	
Copper	1.31	0.505		"	"	"	"	"	"	
Lead	11.3	0.252		"	"	"	"	"	"	
Nickel	2.31	0.505		"	"	"	"	"	"	
Selenium	ND	0.328	0.221	"	"	"	"	"	"	
Silver	0.130	0.0252		"	"	"	"	"	"	
Zinc	11.3	0.505		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0995	07/31/23	07/31/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	57.6	0.0631		mg/L dry	1	BGG0964	07/28/23	07/31/23	EPA 6020B	
Magnesium	29.4	0.0631		"	"	"	"	"	"	
Sodium	77.5	0.0631		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.07	0.00100		units	1	BGH0023	08/01/23	08/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

W Wall 3'
2307509-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	79.2			%	1	BGG0943	07/28/23	07/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/27/23 13:00**

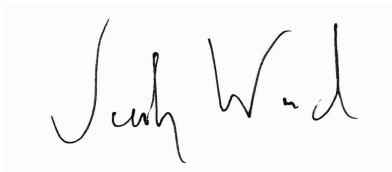
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.26	0.0100		mmhos/cm	1	BGG1034	07/31/23	07/31/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **07/27/23 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.64			pH Units	1	BGG1033	07/31/23	07/31/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

S01 Wall 3'
2307509-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0940	07/27/23	07/27/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		82.3 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		114 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0941	07/27/23	07/27/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		86.5 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

S01 Wall 3'
2307509-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0950	07/28/23	07/29/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		45.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		44.5 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.561	0.0100		mg/L	1	BGG0955	07/28/23	07/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

S01 Wall 3'
2307509-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.542	0.247		mg/kg dry	1	BGG0944	07/28/23	07/29/23	EPA 6020B	
Barium	110	0.494		"	"	"	"	"	"	
Cadmium	0.267	0.247		"	"	"	"	"	"	
Copper	1.67	0.494		"	"	"	"	"	"	
Lead	10.7	0.247		"	"	"	"	"	"	
Nickel	2.33	0.494		"	"	"	"	"	"	
Selenium	ND	0.321	0.216	"	"	"	"	"	"	
Silver	0.122	0.0247		"	"	"	"	"	"	
Zinc	11.1	0.494		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0995	07/31/23	07/31/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.0	0.0618		mg/L dry	1	BGG0964	07/28/23	07/31/23	EPA 6020B	
Magnesium	12.1	0.0618		"	"	"	"	"	"	
Sodium	38.3	0.0618		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.67	0.00100		units	1	BGH0023	08/01/23	08/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

S01 Wall 3'
2307509-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	80.9			%	1	BGG0943	07/28/23	07/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.739	0.0100		mmhos/cm	1	BGG1034	07/31/23	07/31/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **07/27/23 13:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.53			pH Units	1	BGG1033	07/31/23	07/31/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

FLOOR01 4'
2307509-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0940	07/27/23	07/27/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		83.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		115 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0941	07/27/23	07/27/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		76.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

FLOOR01 4'
2307509-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0950	07/28/23	07/29/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500		"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	
Chrysene	ND	0.00500		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	
Fluoranthene	ND	0.00500		"	"	"	"	"	"	
Fluorene	ND	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		72.5 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.2 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.220	0.0100		mg/L	1	BGG0955	07/28/23	07/29/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

FLOOR01 4'
2307509-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.806	0.243		mg/kg dry	1	BGG0944	07/28/23	07/29/23	EPA 6020B	
Barium	216	0.485		"	"	"	"	"	"	
Cadmium	0.268	0.243		"	"	"	"	"	"	
Copper	0.838	0.485		"	"	"	"	"	"	
Lead	13.2	0.243		"	"	"	"	"	"	
Nickel	1.62	0.485		"	"	"	"	"	"	
Selenium	ND	0.315	0.212	"	"	"	"	"	"	
Silver	0.0980	0.0243		"	"	"	"	"	"	
Zinc	7.91	0.485		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 07/27/23 13:10

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0995	07/31/23	07/31/23	EPA 7196A	

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction

Date Sampled: 07/27/23 13:10

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.1	0.0606		mg/L dry	1	BGG0964	07/28/23	07/31/23	EPA 6020B	
Magnesium	20.2	0.0606		"	"	"	"	"	"	
Sodium	62.9	0.0606		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 07/27/23 13:10

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.96	0.00100		units	1	BGH0023	08/01/23	08/01/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

FLOOR01 4'
2307509-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	82.4			%	1	BGG0943	07/28/23	07/28/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.07	0.0100		mmhos/cm	1	BGG1034	07/31/23	07/31/23	EPA 120.1	

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction

Date Sampled: **07/27/23 13:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.81			pH Units	1	BGG1033	07/31/23	07/31/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

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 BGG0940 - EPA 5030 Soil MS

Blank (BGG0940-BLK1)

Prepared: 07/27/23 Analyzed: 07/28/23

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0321		"	0.0400		80.3	50-150			
Surrogate: Toluene-d8	0.0434		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0451		"	0.0400		113	50-150			

LCS (BGG0940-BS1)

Prepared: 07/27/23 Analyzed: 07/28/23

Benzene	0.0957	0.0020	mg/kg	0.100		95.7	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.216	0.010	"	0.200		108	70-130			
o-Xylene	0.110	0.0050	"	0.100		110	70-130			
1,2,4-Trimethylbenzene	0.120	0.0050	"	0.100		120	70-130			
1,3,5-Trimethylbenzene	0.121	0.0050	"	0.100		121	70-130			
Naphthalene	0.128	0.0038	"	0.100		128	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0330		"	0.0400		82.5	50-150			
Surrogate: Toluene-d8	0.0439		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0454		"	0.0400		113	50-150			

Matrix Spike (BGG0940-MS1)

Source: 2307509-01

Prepared: 07/27/23 Analyzed: 07/28/23

Benzene	0.0934	0.0020	mg/kg	0.100	ND	93.4	70-130			
Toluene	0.133	0.0050	"	0.100	ND	133	70-130			QM-07
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
m,p-Xylene	0.206	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130			
1,2,4-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130			
1,3,5-Trimethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130			
Naphthalene	0.140	0.0038	"	0.100	ND	140	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0321		"	0.0400		80.3	50-150			
Surrogate: Toluene-d8	0.0430		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0443		"	0.0400		111	50-150			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

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 BGG0940 - EPA 5030 Soil MS

Matrix Spike Dup (BGG0940-MSD1)	Source: 2307509-01			Prepared: 07/27/23 Analyzed: 07/28/23						
Benzene	0.0967	0.0020	mg/kg	0.100	ND	96.7	70-130	3.44	30	
Toluene	0.141	0.0050	"	0.100	ND	141	70-130	5.66	30	QM-07
Ethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	5.31	30	
m,p-Xylene	0.218	0.010	"	0.200	ND	109	70-130	5.32	30	
o-Xylene	0.111	0.0050	"	0.100	ND	111	70-130	5.04	30	
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	8.19	30	
1,3,5-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	8.11	30	
Naphthalene	0.156	0.0038	"	0.100	ND	156	70-130	10.9	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0335</i>		<i>"</i>	<i>0.0400</i>		<i>83.7</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0446</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

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 BGG0941 - EPA 3550A

Blank (BGG0941-BLK1)

Prepared: 07/27/23 Analyzed: 07/28/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		85.7	30-150				

LCS (BGG0941-BS1)

Prepared: 07/27/23 Analyzed: 07/28/23

C10-C28 (DRO)	366	50	mg/kg	500		73.3	70-130				
Surrogate: <i>o</i> -Terphenyl	10.3		"	12.5		82.4	30-150				

Matrix Spike (BGG0941-MS1)

Source: 2307509-01

Prepared: 07/27/23 Analyzed: 07/28/23

C10-C28 (DRO)	494	50	mg/kg	500	12.9	96.3	70-130				
Surrogate: <i>o</i> -Terphenyl	7.14		"	12.5		57.1	30-150				

Matrix Spike Dup (BGG0941-MSD1)

Source: 2307509-01

Prepared: 07/27/23 Analyzed: 07/28/23

C10-C28 (DRO)	427	50	mg/kg	500	12.9	82.8	70-130	14.6	20		
Surrogate: <i>o</i> -Terphenyl	7.78		"	12.5		62.2	30-150				

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

PAH 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 BGG0950 - EPA 5030 Soil MS

Blank (BGG0950-BLK1)

Prepared & Analyzed: 07/28/23

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0324</i>		"	<i>0.0333</i>		<i>97.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0308</i>		"	<i>0.0333</i>		<i>92.5</i>	<i>40-150</i>			

LCS (BGG0950-BS1)

Prepared & Analyzed: 07/28/23

Acenaphthene	0.0365	0.00500	mg/kg	0.0333	110	31-137
Anthracene	0.0376	0.00500	"	0.0333	113	30-120
Benzo (a) anthracene	0.0321	0.00500	"	0.0333	96.2	30-120
Benzo (a) pyrene	0.0346	0.00500	"	0.0333	104	30-120
Benzo (b) fluoranthene	0.0352	0.00500	"	0.0333	105	30-120
Benzo (k) fluoranthene	0.0366	0.00500	"	0.0333	110	30-120
Chrysene	0.0360	0.00500	"	0.0333	108	30-120
Dibenz (a,h) anthracene	0.0271	0.00500	"	0.0333	81.3	30-120
Fluoranthene	0.0380	0.00500	"	0.0333	114	30-120
Fluorene	0.0360	0.00500	"	0.0333	108	30-120
Indeno (1,2,3-cd) pyrene	0.0260	0.00500	"	0.0333	78.1	30-120
Pyrene	0.0371	0.00500	"	0.0333	111	35-142
1-Methylnaphthalene	0.0380	0.00500	"	0.0333	114	35-142
2-Methylnaphthalene	0.0414	0.00500	"	0.0333	124	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0312</i>		"	<i>0.0333</i>	<i>93.6</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0338</i>		"	<i>0.0333</i>	<i>101</i>	<i>40-150</i>

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

PAH 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 BGG0950 - EPA 5030 Soil MS

Matrix Spike (BGG0950-MS1)	Source: 2307509-01			Prepared & Analyzed: 07/28/23							
Acenaphthene	0.0188	0.00500	mg/kg	0.0333	ND	56.5	31-137				
Anthracene	0.0184	0.00500	"	0.0333	ND	55.3	30-120				
Benzo (a) anthracene	0.0159	0.00500	"	0.0333	ND	47.8	30-120				
Benzo (a) pyrene	0.0163	0.00500	"	0.0333	ND	48.8	30-120				
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.1	30-120				
Benzo (k) fluoranthene	0.0154	0.00500	"	0.0333	ND	46.3	30-120				
Chrysene	0.0173	0.00500	"	0.0333	ND	51.9	30-120				
Dibenz (a,h) anthracene	0.0144	0.00500	"	0.0333	ND	43.2	30-120				
Fluoranthene	0.0184	0.00500	"	0.0333	ND	55.2	30-120				
Fluorene	0.0183	0.00500	"	0.0333	ND	55.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0160	0.00500	"	0.0333	ND	47.9	30-120				
Pyrene	0.0178	0.00500	"	0.0333	ND	53.4	35-142				
1-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.6	15-130				
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.6	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0177</i>		<i>"</i>	<i>0.0333</i>		<i>53.2</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0163</i>		<i>"</i>	<i>0.0333</i>		<i>49.0</i>	<i>40-150</i>				

Matrix Spike Dup (BGG0950-MSD1)	Source: 2307509-01			Prepared: 07/28/23 Analyzed: 07/29/23							
Acenaphthene	0.0176	0.00500	mg/kg	0.0333	ND	52.8	31-137	6.68	30		
Anthracene	0.0173	0.00500	"	0.0333	ND	52.0	30-120	6.13	30		
Benzo (a) anthracene	0.0158	0.00500	"	0.0333	ND	47.4	30-120	0.775	30		
Benzo (a) pyrene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	4.19	30		
Benzo (b) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.8	30-120	2.90	30		
Benzo (k) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.6	30-120	1.67	30		
Chrysene	0.0160	0.00500	"	0.0333	ND	48.0	30-120	7.68	30		
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.0	30-120	5.33	30		
Fluoranthene	0.0169	0.00500	"	0.0333	ND	50.8	30-120	8.28	30		
Fluorene	0.0174	0.00500	"	0.0333	ND	52.2	30-120	5.12	30		
Indeno (1,2,3-cd) pyrene	0.0154	0.00500	"	0.0333	ND	46.2	30-120	3.65	30		
Pyrene	0.0164	0.00500	"	0.0333	ND	49.3	35-142	7.89	30		
1-Methylnaphthalene	0.0212	0.00500	"	0.0333	ND	63.6	15-130	9.88	50		
2-Methylnaphthalene	0.0199	0.00500	"	0.0333	ND	59.6	15-130	8.09	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0158</i>		<i>"</i>	<i>0.0333</i>		<i>47.3</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0153</i>		<i>"</i>	<i>0.0333</i>		<i>45.9</i>	<i>40-150</i>				

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

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

Batch BGG0955 - EPA 3050B

Blank (BGG0955-BLK1)

Prepared: 07/28/23 Analyzed: 07/29/23

Boron ND 0.0100 mg/L

LCS (BGG0955-BS1)

Prepared: 07/28/23 Analyzed: 07/29/23

Boron 4.09 0.0100 mg/L 5.00 81.7 80-120

Duplicate (BGG0955-DUP1)

Source: 2307509-01

Prepared: 07/28/23 Analyzed: 07/29/23

Boron 0.495 0.0100 mg/L 0.530 6.86 20

Matrix Spike (BGG0955-MS1)

Source: 2307509-01

Prepared: 07/28/23 Analyzed: 07/29/23

Boron 5.59 0.0100 mg/L 5.00 0.530 101 75-125

Matrix Spike Dup (BGG0955-MSD1)

Source: 2307509-01

Prepared: 07/28/23 Analyzed: 07/29/23

Boron 5.84 0.0100 mg/L 5.00 0.530 106 75-125 4.42 25

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGG0944 - EPA 3050B

Blank (BGG0944-BLK1)

Prepared: 07/28/23 Analyzed: 07/29/23

Arsenic	ND	0.200	mg/kg wet								
Barium	ND	0.400	"								
Cadmium	ND	0.200	"								
Copper	ND	0.400	"								
Lead	ND	0.200	"								
Nickel	ND	0.400	"								
Selenium	ND	0.260	"								
Silver	ND	0.0200	"								
Zinc	ND	0.400	"								

LCS (BGG0944-BS1)

Prepared: 07/28/23 Analyzed: 07/29/23

Arsenic	39.9	0.200	mg/kg wet	40.0	99.7	80-120					
Barium	38.8	0.400	"	40.0	97.0	80-120					
Cadmium	1.94	0.200	"	2.00	97.1	80-120					
Copper	40.1	0.400	"	40.0	100	80-120					
Lead	23.8	0.200	"	20.0	119	80-120					
Nickel	40.3	0.400	"	40.0	101	80-120					
Selenium	4.12	0.260	"	4.00	103	80-120					
Silver	1.62	0.0200	"	2.00	81.0	80-120					
Zinc	39.6	0.400	"	40.0	99.1	80-120					

Duplicate (BGG0944-DUP1)

Source: 2307509-01

Prepared: 07/28/23 Analyzed: 07/29/23

Arsenic	0.686	0.255	mg/kg dry	0.672			2.17	20			
Barium	117	0.509	"	80.3			37.0	20			QM-04
Cadmium	0.326	0.255	"	0.274			17.3	20			
Copper	1.76	0.509	"	1.75			0.696	20			
Lead	12.2	0.255	"	9.99			19.8	20			
Nickel	2.82	0.509	"	2.72			3.59	20			
Selenium	ND	0.331	"	ND				20			
Silver	0.129	0.0255	"	0.125			3.20	20			
Zinc	12.6	0.509	"	11.7			7.20	20			

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGG0944 - EPA 3050B

Matrix Spike (BGG0944-MS1)

Source: 2307509-01

Prepared: 07/28/23 Analyzed: 07/29/23

Arsenic	8.60	0.255	mg/kg dry	50.9	0.672	15.6	75-125				QM-07
Barium	147	0.509	"	50.9	80.3	132	75-125				QM-07
Cadmium	2.34	0.255	"	2.55	0.274	81.2	75-125				
Copper	10.4	0.509	"	50.9	1.75	17.0	75-125				QM-07
Lead	29.8	0.255	"	25.5	9.99	77.7	75-125				
Nickel	11.1	0.509	"	50.9	2.72	16.4	75-125				QM-07
Selenium	4.32	0.331	"	5.09	ND	84.8	75-125				
Silver	2.22	0.0255	"	2.55	0.125	82.2	75-125				
Zinc	22.2	0.509	"	50.9	11.7	20.7	75-125				QM-07

Matrix Spike Dup (BGG0944-MSD1)

Source: 2307509-01

Prepared: 07/28/23 Analyzed: 07/29/23

Arsenic	8.55	0.255	mg/kg dry	50.9	0.672	15.5	75-125	0.618	25		QM-07
Barium	140	0.509	"	50.9	80.3	116	75-125	5.49	25		
Cadmium	2.28	0.255	"	2.55	0.274	78.6	75-125	2.78	25		
Copper	10.1	0.509	"	50.9	1.75	16.4	75-125	2.71	25		QM-07
Lead	28.5	0.255	"	25.5	9.99	72.9	75-125	4.20	25		QM-07
Nickel	10.8	0.509	"	50.9	2.72	15.9	75-125	2.32	25		QM-07
Selenium	3.91	0.331	"	5.09	ND	76.8	75-125	9.93	25		
Silver	2.16	0.0255	"	2.55	0.125	80.0	75-125	2.58	25		
Zinc	21.6	0.509	"	50.9	11.7	19.5	75-125	2.81	25		QM-07

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Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGG0995 - 3060A Mod

Blank (BGG0995-BLK1)

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGG0995-BS1)

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent 21.6 0.30 mg/kg wet 25.0 86.2 80-120

Duplicate (BGG0995-DUP1)

Source: 2307509-01

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGG0995-MS1)

Source: 2307509-01

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent 30.0 0.30 mg/kg dry 31.8 ND 94.4 75-125

Matrix Spike Dup (BGG0995-MSD1)

Source: 2307509-01

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent 29.2 0.30 mg/kg dry 31.8 ND 91.6 75-125 3.01 20

Summit Scientific

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Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BGG0964 - General Preparation

Blank (BGG0964-BLK1)

Prepared: 07/28/23 Analyzed: 07/31/23

Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BGG0964-BS1)

Prepared: 07/28/23 Analyzed: 07/31/23

Calcium	3.87	0.0500	mg/L wet	5.00		77.3	70-130			
Magnesium	5.00	0.0500	"	5.00		100	70-130			
Sodium	5.01	0.0500	"	5.00		100	70-130			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

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 BGG0943 - General Preparation


Duplicate (BGG0943-DUP1)

Source: 2307457-14

Prepared & Analyzed: 07/28/23

% Solids	82.5		%		82.2			0.346	20	
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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BGG1034 - General Preparation

Blank (BGG1034-BLK1)

Prepared & Analyzed: 07/31/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGG1034-BS1)

Prepared & Analyzed: 07/31/23

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BGG1034-DUP1)

Source: 2307509-01

Prepared & Analyzed: 07/31/23

Specific Conductance (EC) 0.562 0.0100 mmhos/cm 0.571 1.68 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/03/23 11:38

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

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

Batch BGG1033 - General Preparation

LCS (BGG1033-BS1)

Prepared & Analyzed: 07/31/23

pH	9.02	pH Units	9.18	98.3	95-105
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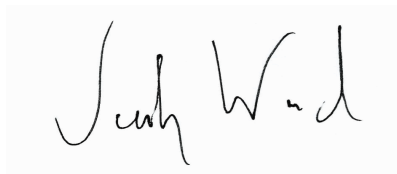
Duplicate (BGG1033-DUP1)

Source: 2307457-14

Prepared & Analyzed: 07/31/23

pH	8.08	pH Units	8.01	0.870	20
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Summit Scientific



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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/03/23 11:38

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.
- QM-04 Visual evaluation of the sample indicates the RPD is above the control limit due to a non-homogeneous sample matrix.
- 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