

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

August 07, 2023

Paul Henehan

Fremont Environmental

PO Box 1289

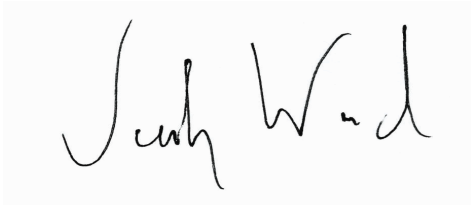
Wellington, CO 80549

RE: Noble - Patriot B16-20 FL09/SEP

Work Order # 2307556

Enclosed are the results of analyses for samples received by Summit Scientific on 07/28/23 16:30. 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:
08/07/23 09:36

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N02 Wall 3'	2307556-01	Soil	07/28/23 08:52	07/28/23 16:30
E Wall 3'	2307556-02	Soil	07/28/23 08:57	07/28/23 16:30
S02 Wall 3'	2307556-03	Soil	07/28/23 08:59	07/28/23 16:30
Floor 4'	2307556-04	Soil	07/28/23 09:05	07/28/23 16:30

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
2307556	

		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 Blk-20 FLO9/SEP
City/State/Zip:			AFE#:
Phone: 303-261-6246		Project Name: Patriot Blk-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	NO2 Wall 3'	7/28/23	8:52	2			X			X			X	X	X	X	X		
2	E Wall 3'	I	8:57	I			I			I			I	I	I	I	I		
3	SO2 Wall 3'	I	8:59	I			I			I			I	I	I	I	I		
4	FLOOR 4'	I	9:05	I			I			I			I	I	I	I	I		
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by:	Date/Time: 7/28/23 14:20	Received by: Summit North	Date/Time: 7/28/23 14:20	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: 52	Date/Time: 7/28/23 16:30	Received by:	Date/Time: 7/28/23 16:30	1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days <input type="checkbox"/>	Field Temp.	
				Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: 8.9	Corrected Temperature: 0	IR gun #:)	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2307556

Client: Freemont 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) 8.9 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"/>	on ICE
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"/>	Sameday
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"/>	
Additional Comments (if any):				

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

AS
Custodian Printed Name

7/28/23
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:
08/07/23 09:36

N02 Wall 3'
2307556-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0983	07/28/23	07/29/23	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: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		68.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		85.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0982	07/28/23	07/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		89.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Manager: Paul Henehan

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08/07/23 09:36

N02 Wall 3'
2307556-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0997	07/31/23	08/01/23	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: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		61.2 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		53.3 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.422	0.0100		mg/L	1	BGG1015	07/31/23	08/01/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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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:
 08/07/23 09:36

N02 Wall 3'
2307556-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.828	0.234		mg/kg dry	1	BGG0992	07/31/23	08/01/23	EPA 6020B	
Barium	76.0	0.468		"	"	"	"	"	"	
Cadmium	0.268	0.234		"	"	"	"	"	"	
Copper	1.35	0.468		"	"	"	"	"	"	
Lead	12.4	0.234		"	"	"	"	"	"	
Nickel	2.12	0.468		"	"	"	"	"	"	
Selenium	ND	0.304	0.205	"	"	"	"	"	"	
Silver	0.111	0.0234		"	"	"	"	"	"	
Zinc	14.9	0.468		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0996	07/31/23	07/31/23	EPA 7196A	

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

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	124	0.0585		mg/L dry	1	BGG1009	07/31/23	08/01/23	EPA 6020B	
Magnesium	56.9	0.0585		"	"	"	"	"	"	
Sodium	5.60	0.0585		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.104	0.00100		units	1	BGH0076	08/02/23	08/02/23	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:
 08/07/23 09:36

N02 Wall 3'
2307556-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	85.4			%	1	BGG0991	07/31/23	07/31/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.215	0.0100		mmhos/cm	1	BGH0037	08/01/23	08/01/23	EPA 120.1	

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

Date Sampled: **07/28/23 08:52**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.56			pH Units	1	BGH0038	08/01/23	08/01/23	EPA 9045D	

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 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/07/23 09:36

E Wall 3'
2307556-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0983	07/28/23	07/29/23	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: **07/28/23 08:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		65.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		87.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0982	07/28/23	07/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		90.5 %		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:
08/07/23 09:36

E Wall 3'
2307556-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0997	07/31/23	08/01/23	EPA 8270D SIM	
Anthracene	ND	0.00500		"	"	"	"	"	"	"
Benzo (a) anthracene	0.00545	0.00500		"	"	"	"	"	"	"
Benzo (a) pyrene	0.00615	0.00500		"	"	"	"	"	"	"
Benzo (b) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Benzo (k) fluoranthene	ND	0.00500		"	"	"	"	"	"	"
Chrysene	0.00661	0.00500		"	"	"	"	"	"	"
Dibenz (a,h) anthracene	ND	0.00500		"	"	"	"	"	"	"
Fluoranthene	0.0122	0.00500		"	"	"	"	"	"	"
Fluorene	ND	0.00500		"	"	"	"	"	"	"
Indeno (1,2,3-cd) pyrene	0.00699	0.00500		"	"	"	"	"	"	"
Pyrene	0.00898	0.00500		"	"	"	"	"	"	"
1-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"
2-Methylnaphthalene	ND	0.00500		"	"	"	"	"	"	"

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	59.1 %			40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10	40.8 %			40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.456	0.0100		mg/L	1	BGG1015	07/31/23	08/01/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/28/23 08:57**

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:
08/07/23 09:36

E Wall 3'
2307556-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.753	0.240		mg/kg dry	1	BGG0992	07/31/23	08/01/23	EPA 6020B	
Barium	75.7	0.479		"	"	"	"	"	"	
Cadmium	0.283	0.240		"	"	"	"	"	"	
Copper	1.78	0.479		"	"	"	"	"	"	
Lead	10.8	0.240		"	"	"	"	"	"	
Nickel	2.44	0.479		"	"	"	"	"	"	
Selenium	0.369	0.312	0.210	"	"	"	"	"	"	
Silver	0.106	0.0240		"	"	"	"	"	"	
Zinc	17.5	0.479		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0996	07/31/23	07/31/23	EPA 7196A	

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

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	18.9	0.0599		mg/L dry	1	BGG1009	07/31/23	08/01/23	EPA 6020B	
Magnesium	10.5	0.0599		"	"	"	"	"	"	
Sodium	16.1	0.0599		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.737	0.00100		units	1	BGH0076	08/02/23	08/02/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 PO Box 1289
 Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 08/07/23 09:36

E Wall 3'
2307556-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	83.4			%	1	BGG0991	07/31/23	07/31/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/28/23 08:57**

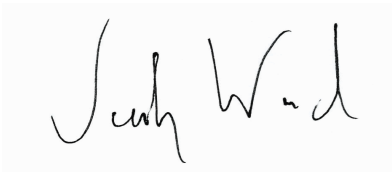
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.536	0.0100		mmhos/cm	1	BGH0037	08/01/23	08/01/23	EPA 120.1	

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

Date Sampled: **07/28/23 08:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.69			pH Units	1	BGH0038	08/01/23	08/01/23	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:
 08/07/23 09:36

S02 Wall 3'
2307556-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0983	07/28/23	07/29/23	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: **07/28/23 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		68.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0982	07/28/23	07/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		89.6 %		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:
 08/07/23 09:36

S02 Wall 3'
2307556-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGG0997	07/31/23	08/01/23	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: **07/28/23 08:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		54.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.5 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.574	0.0100		mg/L	1	BGG1015	07/31/23	08/01/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/28/23 08:59**

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:
 08/07/23 09:36

S02 Wall 3'
2307556-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.677	0.249		mg/kg dry	1	BGG0992	07/31/23	08/01/23	EPA 6020B	
Barium	74.7	0.498		"	"	"	"	"	"	
Cadmium	0.347	0.249		"	"	"	"	"	"	
Copper	1.17	0.498		"	"	"	"	"	"	
Lead	10.5	0.249		"	"	"	"	"	"	
Nickel	2.81	0.498		"	"	"	"	"	"	
Selenium	0.240	0.323	0.218	"	"	"	"	"	"	J
Silver	0.117	0.0249		"	"	"	"	"	"	
Zinc	14.6	0.498		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0996	07/31/23	07/31/23	EPA 7196A	

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

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	13.6	0.0622		mg/L dry	1	BGG1009	07/31/23	08/01/23	EPA 6020B	
Magnesium	9.00	0.0622		"	"	"	"	"	"	
Sodium	8.73	0.0622		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.451	0.00100		units	1	BGH0076	08/02/23	08/02/23	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:
 08/07/23 09:36

S02 Wall 3'
2307556-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	80.4			%	1	BGG0991	07/31/23	07/31/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/28/23 08:59**

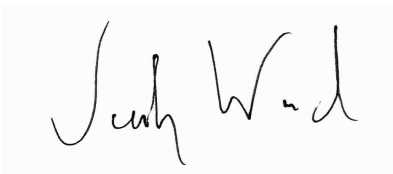
Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.259	0.0100		mmhos/cm	1	BGH0037	08/01/23	08/01/23	EPA 120.1	

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

Date Sampled: **07/28/23 08:59**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.49			pH Units	1	BGH0038	08/01/23	08/01/23	EPA 9045D	

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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:
08/07/23 09:36

Floor 4'
2307556-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGG0983	07/28/23	07/29/23	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: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		72.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		88.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGG0982	07/28/23	07/29/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		75.5 %		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:
 08/07/23 09:36

Floor 4'
2307556-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGG0997	07/31/23	08/01/23	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: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 2-Methylnaphthalene-d10		67.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		61.8 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.144	0.0100		mg/L	1	BGG1015	07/31/23	08/01/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/28/23 09:05**

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:
08/07/23 09:36

Floor 4'
2307556-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.915	0.247		mg/kg dry	1	BGG0992	07/31/23	08/01/23	EPA 6020B	
Barium	71.3	0.493		"	"	"	"	"	"	
Cadmium	ND	0.247		"	"	"	"	"	"	
Copper	ND	0.493		"	"	"	"	"	"	
Lead	9.80	0.247		"	"	"	"	"	"	
Nickel	1.75	0.493		"	"	"	"	"	"	
Selenium	ND	0.321	0.216	"	"	"	"	"	"	
Silver	0.0518	0.0247		"	"	"	"	"	"	
Zinc	7.60	0.493		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 07/28/23 09:05

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGG0996	07/31/23	07/31/23	EPA 7196A	

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

Date Sampled: 07/28/23 09:05

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	9.36	0.0617		mg/L dry	1	BGG1009	07/31/23	08/01/23	EPA 6020B	
Magnesium	6.36	0.0617		"	"	"	"	"	"	
Sodium	33.7	0.0617		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 07/28/23 09:05

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.08	0.00100		units	1	BGH0076	08/02/23	08/02/23	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:
 08/07/23 09:36

Floor 4'
2307556-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	81.1			%	1	BGG0991	07/31/23	07/31/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.537	0.0100		mmhos/cm	1	BGH0037	08/01/23	08/01/23	EPA 120.1	

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

Date Sampled: **07/28/23 09:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.02			pH Units	1	BGH0038	08/01/23	08/01/23	EPA 9045D	

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PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/07/23 09:36

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 BGG0983 - EPA 5030 Soil MS

Blank (BGG0983-BLK1)

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

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0274		"	0.0400		68.5	50-150			
<i>Surrogate: Toluene-d8</i>	0.0359		"	0.0400		89.8	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0369		"	0.0400		92.3	50-150			

LCS (BGG0983-BS1)

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

Benzene	0.0979	0.0020	mg/kg	0.100		97.9	70-130			
Toluene	0.101	0.0050	"	0.100		101	70-130			
Ethylbenzene	0.120	0.0050	"	0.100		120	70-130			
m,p-Xylene	0.238	0.010	"	0.200		119	70-130			
o-Xylene	0.111	0.0050	"	0.100		111	70-130			
1,2,4-Trimethylbenzene	0.0913	0.0050	"	0.100		91.3	70-130			
1,3,5-Trimethylbenzene	0.0971	0.0050	"	0.100		97.1	70-130			
Naphthalene	0.114	0.0038	"	0.100		114	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0285		"	0.0400		71.2	50-150			
<i>Surrogate: Toluene-d8</i>	0.0340		"	0.0400		85.0	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0372		"	0.0400		92.9	50-150			

Matrix Spike (BGG0983-MS1)

Source: 2307549-01

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

Benzene	0.0962	0.0020	mg/kg	0.100	ND	96.2	70-130			
Toluene	0.101	0.0050	"	0.100	ND	101	70-130			
Ethylbenzene	0.123	0.0050	"	0.100	ND	123	70-130			
m,p-Xylene	0.245	0.010	"	0.200	ND	123	70-130			
o-Xylene	0.114	0.0050	"	0.100	ND	114	70-130			
1,2,4-Trimethylbenzene	0.0966	0.0050	"	0.100	ND	96.6	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
Naphthalene	0.0993	0.0038	"	0.100	ND	99.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0269		"	0.0400		67.4	50-150			
<i>Surrogate: Toluene-d8</i>	0.0333		"	0.0400		83.2	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0384		"	0.0400		96.0	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:
 08/07/23 09:36

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 BGG0983 - EPA 5030 Soil MS

Matrix Spike Dup (BGG0983-MSD1)	Source: 2307549-01			Prepared: 07/28/23 Analyzed: 07/29/23						
Benzene	0.0981	0.0020	mg/kg	0.100	ND	98.1	70-130	1.95	30	
Toluene	0.102	0.0050	"	0.100	ND	102	70-130	1.12	30	
Ethylbenzene	0.119	0.0050	"	0.100	ND	119	70-130	3.29	30	
m,p-Xylene	0.241	0.010	"	0.200	ND	121	70-130	1.66	30	
o-Xylene	0.113	0.0050	"	0.100	ND	113	70-130	1.14	30	
1,2,4-Trimethylbenzene	0.0949	0.0050	"	0.100	ND	94.9	70-130	1.85	30	
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130	1.89	30	
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130	3.07	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0272</i>		<i>"</i>	<i>0.0400</i>		<i>67.9</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0343</i>		<i>"</i>	<i>0.0400</i>		<i>85.7</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0369</i>		<i>"</i>	<i>0.0400</i>		<i>92.2</i>	<i>50-150</i>			

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:
 08/07/23 09:36

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 BGG0982 - EPA 3550A

Blank (BGG0982-BLK1)

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

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	10.8		"	12.5		86.8	30-150				

LCS (BGG0982-BS1)

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

C10-C28 (DRO)	472	50	mg/kg	500		94.4	70-130				
Surrogate: <i>o</i> -Terphenyl	8.06		"	12.5		64.5	30-150				

Matrix Spike (BGG0982-MS1)

Source: 2307549-01

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

C10-C28 (DRO)	472	50	mg/kg	500	14.5	91.6	70-130				
Surrogate: <i>o</i> -Terphenyl	10.8		"	12.5		86.6	30-150				

Matrix Spike Dup (BGG0982-MSD1)

Source: 2307549-01

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

C10-C28 (DRO)	467	50	mg/kg	500	14.5	90.5	70-130	1.08	20		
Surrogate: <i>o</i> -Terphenyl	8.71		"	12.5		69.7	30-150				

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:
 08/07/23 09:36

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 BGG0997 - EPA 5030 Soil MS

Blank (BGG0997-BLK1)

Prepared & Analyzed: 07/31/23

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>0.0333</i>		"	<i>0.0333</i>		<i>99.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0305</i>		"	<i>0.0333</i>		<i>91.4</i>	<i>40-150</i>			

LCS (BGG0997-BS1)

Prepared & Analyzed: 07/31/23

Acenaphthene	0.0322	0.00500	mg/kg	0.0333		96.5	31-137			
Anthracene	0.0311	0.00500	"	0.0333		93.2	30-120			
Benzo (a) anthracene	0.0295	0.00500	"	0.0333		88.6	30-120			
Benzo (a) pyrene	0.0302	0.00500	"	0.0333		90.7	30-120			
Benzo (b) fluoranthene	0.0299	0.00500	"	0.0333		89.8	30-120			
Benzo (k) fluoranthene	0.0302	0.00500	"	0.0333		90.7	30-120			
Chrysene	0.0310	0.00500	"	0.0333		93.1	30-120			
Dibenz (a,h) anthracene	0.0277	0.00500	"	0.0333		83.2	30-120			
Fluoranthene	0.0311	0.00500	"	0.0333		93.2	30-120			
Fluorene	0.0321	0.00500	"	0.0333		96.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0233	0.00500	"	0.0333		69.9	30-120			
Pyrene	0.0304	0.00500	"	0.0333		91.2	35-142			
1-Methylnaphthalene	0.0365	0.00500	"	0.0333		110	35-142			
2-Methylnaphthalene	0.0380	0.00500	"	0.0333		114	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0330</i>		"	<i>0.0333</i>		<i>98.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0335</i>		"	<i>0.0333</i>		<i>100</i>	<i>40-150</i>			

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:
08/07/23 09:36

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 BGG0997 - EPA 5030 Soil MS

Matrix Spike (BGG0997-MS1)	Source: 2307549-01			Prepared & Analyzed: 07/31/23						
Acenaphthene	0.0235	0.00500	mg/kg	0.0333	ND	70.6	31-137			
Anthracene	0.0228	0.00500	"	0.0333	ND	68.3	30-120			
Benzo (a) anthracene	0.0222	0.00500	"	0.0333	ND	66.7	30-120			
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	ND	65.9	30-120			
Benzo (b) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.5	30-120			
Benzo (k) fluoranthene	0.0217	0.00500	"	0.0333	ND	65.2	30-120			
Chrysene	0.0229	0.00500	"	0.0333	ND	68.7	30-120			
Dibenz (a,h) anthracene	0.0199	0.00500	"	0.0333	ND	59.7	30-120			
Fluoranthene	0.0233	0.00500	"	0.0333	ND	70.0	30-120			
Fluorene	0.0238	0.00500	"	0.0333	ND	71.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0175	0.00500	"	0.0333	ND	52.6	30-120			
Pyrene	0.0220	0.00500	"	0.0333	ND	66.1	35-142			
1-Methylnaphthalene	0.0258	0.00500	"	0.0333	ND	77.3	15-130			
2-Methylnaphthalene	0.0255	0.00500	"	0.0333	ND	76.5	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0233</i>		<i>"</i>	<i>0.0333</i>		<i>69.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0249</i>		<i>"</i>	<i>0.0333</i>		<i>74.8</i>	<i>40-150</i>			

Matrix Spike Dup (BGG0997-MSD1)	Source: 2307549-01			Prepared & Analyzed: 07/31/23						
Acenaphthene	0.0202	0.00500	mg/kg	0.0333	ND	60.6	31-137	15.3	30	
Anthracene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	15.4	30	
Benzo (a) anthracene	0.0196	0.00500	"	0.0333	ND	58.8	30-120	12.6	30	
Benzo (a) pyrene	0.0190	0.00500	"	0.0333	ND	57.1	30-120	14.2	30	
Benzo (b) fluoranthene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	16.8	30	
Benzo (k) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.6	30-120	16.0	30	
Chrysene	0.0197	0.00500	"	0.0333	ND	59.0	30-120	15.1	30	
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	14.0	30	
Fluoranthene	0.0203	0.00500	"	0.0333	ND	61.0	30-120	13.7	30	
Fluorene	0.0203	0.00500	"	0.0333	ND	60.8	30-120	15.9	30	
Indeno (1,2,3-cd) pyrene	0.0143	0.00500	"	0.0333	ND	43.0	30-120	20.1	30	
Pyrene	0.0189	0.00500	"	0.0333	ND	56.8	35-142	15.2	30	
1-Methylnaphthalene	0.0177	0.00500	"	0.0333	ND	53.0	15-130	37.2	50	
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.2	15-130	20.6	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0185</i>		<i>"</i>	<i>0.0333</i>		<i>55.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0214</i>		<i>"</i>	<i>0.0333</i>		<i>64.3</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:
 08/07/23 09:36

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 BGG1015 - EPA 3050B

Blank (BGG1015-BLK1)

Prepared: 07/31/23 Analyzed: 08/01/23

Boron ND 0.0100 mg/L

LCS (BGG1015-BS1)

Prepared: 07/31/23 Analyzed: 08/01/23

Boron 5.87 0.0100 mg/L 5.00 117 80-120

Duplicate (BGG1015-DUP1)

Source: 2307501-01

Prepared: 07/31/23 Analyzed: 08/01/23

Boron 0.0586 0.0100 mg/L 0.0908 43.1 20 QR-04

Matrix Spike (BGG1015-MS1)

Source: 2307501-01

Prepared: 07/31/23 Analyzed: 08/01/23

Boron 6.15 0.0100 mg/L 5.00 0.0908 121 75-125

Matrix Spike Dup (BGG1015-MSD1)

Source: 2307501-01

Prepared: 07/31/23 Analyzed: 08/01/23

Boron 6.15 0.0100 mg/L 5.00 0.0908 121 75-125 0.0734 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:
 08/07/23 09:36

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 BGG0992 - EPA 3050B

Blank (BGG0992-BLK1)

Prepared: 07/31/23 Analyzed: 08/01/23

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 (BGG0992-BS1)

Prepared: 07/31/23 Analyzed: 08/01/23

Arsenic	40.8	0.200	mg/kg wet	40.0	102	80-120					
Barium	34.6	0.400	"	40.0	86.4	80-120					
Cadmium	1.79	0.200	"	2.00	89.4	80-120					
Copper	37.9	0.400	"	40.0	94.7	80-120					
Lead	16.9	0.200	"	20.0	84.3	80-120					
Nickel	38.7	0.400	"	40.0	96.6	80-120					
Selenium	4.57	0.260	"	4.00	114	80-120					
Silver	1.81	0.0200	"	2.00	90.4	80-120					
Zinc	39.7	0.400	"	40.0	99.3	80-120					

Duplicate (BGG0992-DUP1)

Source: 2307553-01

Prepared: 07/31/23 Analyzed: 08/01/23

Arsenic	1.70	0.236	mg/kg dry	2.21	26.1	20				QR-01
Barium	33.4	0.473	"	32.1	3.72	20				
Cadmium	0.0591	0.236	"	0.0610	3.15	20				
Copper	0.691	0.473	"	0.987	35.3	20				QR-01
Lead	10.4	0.236	"	10.5	1.20	20				
Nickel	3.48	0.473	"	3.58	2.67	20				
Selenium	ND	0.307	"	ND		20				
Silver	0.0194	0.0236	"	0.0199	2.41	20				
Zinc	15.8	0.473	"	17.6	10.8	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:
 08/07/23 09:36

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 BGG0992 - EPA 3050B

Matrix Spike (BGG0992-MS1)

Source: 2307553-01

Prepared: 07/31/23 Analyzed: 08/01/23

Arsenic	11.5	0.236	mg/kg dry	47.3	2.21	19.6	75-125				QM-01
Barium	65.1	0.473	"	47.3	32.1	69.7	75-125				QM-01
Cadmium	1.64	0.236	"	2.36	0.0610	67.0	75-125				QM-01
Copper	10.4	0.473	"	47.3	0.987	20.0	75-125				QM-01
Lead	24.7	0.236	"	23.6	10.5	60.0	75-125				QM-01
Nickel	13.1	0.473	"	47.3	3.58	20.1	75-125				QM-01
Selenium	4.65	0.307	"	4.73	ND	98.3	75-125				
Silver	1.66	0.0236	"	2.36	0.0199	69.5	75-125				QM-01
Zinc	25.7	0.473	"	47.3	17.6	17.0	75-125				QM-01

Matrix Spike Dup (BGG0992-MSD1)

Source: 2307553-01

Prepared: 07/31/23 Analyzed: 08/01/23

Arsenic	11.5	0.236	mg/kg dry	47.3	2.21	19.8	75-125	0.476	25		QM-01
Barium	59.2	0.473	"	47.3	32.1	57.2	75-125	9.48	25		QM-01
Cadmium	1.49	0.236	"	2.36	0.0610	60.4	75-125	9.90	25		QM-01
Copper	10.5	0.473	"	47.3	0.987	20.1	75-125	0.705	25		QM-01
Lead	23.0	0.236	"	23.6	10.5	52.5	75-125	7.44	25		QM-01
Nickel	13.2	0.473	"	47.3	3.58	20.3	75-125	0.562	25		QM-01
Selenium	4.70	0.307	"	4.73	ND	99.5	75-125	1.20	25		
Silver	1.51	0.0236	"	2.36	0.0199	63.0	75-125	9.63	25		QM-01
Zinc	25.9	0.473	"	47.3	17.6	17.5	75-125	0.925	25		QM-01

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:
 08/07/23 09:36

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGG0996 - 3060A Mod

Blank (BGG0996-BLK1)

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGG0996-BS1)

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent 20.0 0.30 mg/kg wet 25.0 80.0 80-120

Duplicate (BGG0996-DUP1)

Source: 2307457-08

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGG0996-MS1)

Source: 2307457-08

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent 22.3 0.30 mg/kg dry 27.0 ND 82.8 75-125

Matrix Spike Dup (BGG0996-MSD1)

Source: 2307457-08

Prepared & Analyzed: 07/31/23

Chromium, Hexavalent 23.7 0.30 mg/kg dry 27.0 ND 87.8 75-125 5.86 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:
 08/07/23 09:36

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 BGG1009 - General Preparation

Blank (BGG1009-BLK1)

Prepared: 07/31/23 Analyzed: 08/01/23

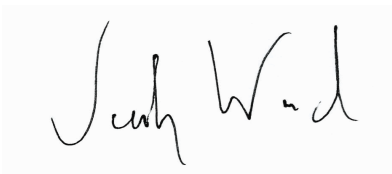
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BGG1009-BS1)

Prepared: 07/31/23 Analyzed: 08/01/23

Calcium	4.74	0.0500	mg/L wet	5.00	94.8	70-130
Magnesium	5.47	0.0500	"	5.00	109	70-130
Sodium	5.40	0.0500	"	5.00	108	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:
 08/07/23 09:36

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 BGG0991 - General Preparation

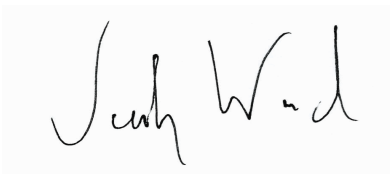
Duplicate (BGG0991-DUP1)

Source: 2307549-01

Prepared & Analyzed: 07/31/23

% Solids	94.9		%		94.8			0.0516	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:
 08/07/23 09:36

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

Summit Scientific

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

Batch BGH0037 - General Preparation

Blank (BGH0037-BLK1)

Prepared & Analyzed: 08/01/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGH0037-BS1)

Prepared & Analyzed: 08/01/23

Specific Conductance (EC) 0.156 0.0100 mmhos/cm 0.150 104 95-105

Duplicate (BGH0037-DUP1)

Source: 2307549-01

Prepared & Analyzed: 08/01/23

Specific Conductance (EC) 3.43 0.0100 mmhos/cm 3.47 1.30 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:
 08/07/23 09:36

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 BGH0038 - General Preparation

LCS (BGH0038-BS1)

Prepared & Analyzed: 08/01/23

pH	9.35	pH Units	9.18	102	95-105
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Duplicate (BGH0038-DUP1)

Source: 2307549-01

Prepared & Analyzed: 08/01/23

pH	7.88	pH Units	7.84	0.509	20
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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.



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Patriot B16-20 FL09/SEP

Project Number: [none]
Project Manager: Paul Henehan

Reported:
08/07/23 09:36

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- J Detected but below the Reporting Limit; therefore, result is an estimated concentration
- 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