

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 09, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Spike State Excavation

Work Order #2407021

Enclosed are the results of analyses for samples received by Summit Scientific on 07/02/24 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is fluid and cursive, with the first name being more prominent.

Natalie Tessier For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

ANALYTICAL REPORT FOR SAMPLES

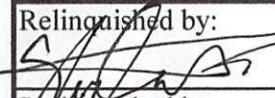
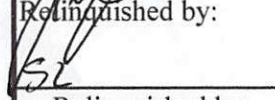
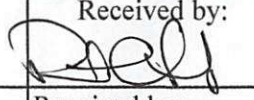
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N Wall - 4FT	2407021-01	Soil	07/02/24 00:00	07/02/24 16:30
E Wall - 4FT	2407021-02	Soil	07/02/24 00:00	07/02/24 16:30
S Wall - 4FT	2407021-03	Soil	07/02/24 00:00	07/02/24 16:30
W Wall - 4FT	2407021-04	Soil	07/02/24 00:00	07/02/24 16:30
B - 5FT	2407021-05	Soil	07/02/24 00:00	07/02/24 16:30
Backfill	2407021-06	Soil	07/02/24 00:00	07/02/24 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.

Client: Fremont Environmental		Send Data To:	Send Invoice To:
Address:		Project Manager: Paul Henehan	Company: Noble
City/State/Zip:		E-Mail: Fremont Distribution List	Project Name/Location:
Phone: 303-261-6246		Project Name: Spike State Excavation	AFE#:
Sampler Name: Stanley Gilbert		Project Number: C023-156	PO/Billing Codes:
		Contact: Dan Peterson	

					Preservative				Matrix				Analysis Requested							Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)	TDS, Chloride, Sulfate		HOLD	
1	N Wall - 4Ft	7/2/24		2			X			X			X	X	X	X	X				
2	E Wall - 4Ft	I		I			I			I			I	I	I	I	I				
3	S Wall - 4Ft																				
4	W Wall - 4Ft																				
5	B - 5Ft																				
6	Backfill	I		I			I			I			I	I	I	I	I				
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: 	Date/Time: 7/2/24 15:50	Received by: Summit North	Date/Time: 7/2/24 15:50	TAT Business Days	Field DO	Notes:
Relinquished by: 	Date/Time: 7/2/24 16:30	Received by: 	Date/Time: 7/2/24 16:30	Same Day ☒	Field EC	
				1 Day ☐	Field ORP	
				2 Days ☐	Field pH	
				3 Days ☐	Field Temp.	
				Standard ☐	Field Turb.	
Temperature Upon Receipt: 9.6	Corrected Temperature: 	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2407021Client: FremontClient Project ID: Spike State ExcavationShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #:

☐	☒	☐	☐	☐
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Matrix (Check all that apply)

Air

☐

Soil

☒ Solid☐

Water

☐

Other

☐

Temp (°C)

Thermometer #

	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.	☒	☐	☐	at 20C
If custody seals are present, are they intact? ⁽¹⁾	☒	☐	☐	
Are samples due within 48 hours present?	☒	☐	☐	Same day
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	☐	☒	☐	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	☒	☐	☐	no sample times
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	☒	☐	☐	
Were all samples received intact? ⁽¹⁾	☒	☐	☐	
Was adequate sample volume provided? ⁽¹⁾	☒	☐	☐	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	☒	☐	☐	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	☒	☐	☐	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	☐	☐	☒	
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.	☐	☐	☒	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	☐	☐	☒	
If dissolved metals are requested, were samples field filtered?	☐	☐	☒	

Additional Comments (if any):

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

Custodian Printed Name

Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

N Wall - 4FT
2407021-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0087	07/02/24	07/02/24	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: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0357	89.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0088	"	07/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.99	80.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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07/09/24 13:48

N Wall - 4FT
2407021-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0097	07/03/24	07/04/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0125	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00772	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0117	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0120	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0258	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00795	0.00500	"	"	"	"	"	"	
Pyrene	0.0245	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0200	59.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0229	68.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0111	07/03/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/02/24 00:00**

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

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

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N Wall - 4FT
2407021-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.83	0.200	mg/kg dry	1	BHG0092	07/03/24	07/04/24	EPA 6020B
Barium	37.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.59	0.400	"	"	"	"	"	"
Lead	4.87	0.200	"	"	"	"	"	"
Nickel	3.41	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	15.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0107	07/03/24	07/03/24	EPA 7196A	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	101	0.0500	mg/L dry	1	BHG0089	07/02/24	07/04/24	EPA 6020B	
Magnesium	11.6	0.0500	"	"	"	"	"	"	
Sodium	1.98	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0497	0.00100	units	1	BHG0192	07/08/24	07/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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N Wall - 4FT
2407021-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BHG0118	07/03/24	07/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.297	0.0100	mmhos/cm	1	BHG0091	07/02/24	07/08/24	EPA 120.1	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.33		pH Units	1	BHG0090	07/02/24	07/08/24	EPA 9045D	

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

E Wall - 4FT
2407021-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0087	07/02/24	07/02/24	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: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0328	82.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0389	97.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0410	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0088	"	07/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.0	80.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

E Wall - 4FT
2407021-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0097	07/03/24	07/04/24	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: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0190	57.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0231	69.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0111	07/03/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/02/24 00:00**

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

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

E Wall - 4FT
2407021-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.34	0.180	mg/kg dry	1	BHG0092	07/03/24	07/04/24	EPA 6020B
Barium	40.1	0.360	"	"	"	"	"	"
Cadmium	ND	0.180	"	"	"	"	"	"
Copper	4.77	0.360	"	"	"	"	"	"
Lead	7.28	0.180	"	"	"	"	"	"
Nickel	4.24	0.360	"	"	"	"	"	"
Silver	ND	0.0180	"	"	"	"	"	"
Zinc	18.2	0.360	"	"	"	"	"	"
Selenium	ND	0.234	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0107	07/03/24	07/03/24	EPA 7196A	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	95.6	0.0500	mg/L dry	1	BHG0089	07/02/24	07/04/24	EPA 6020B	
Magnesium	16.3	0.0500	"	"	"	"	"	"	
Sodium	0.959	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0239	0.00100	units	1	BHG0192	07/08/24	07/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

E Wall - 4FT
2407021-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.7		%	1	BHG0118	07/03/24	07/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.354	0.0100	mmhos/cm	1	BHG0091	07/02/24	07/08/24	EPA 120.1	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.66		pH Units	1	BHG0090	07/02/24	07/08/24	EPA 9045D	

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Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

S Wall - 4FT
2407021-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0087	07/02/24	07/02/24	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: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0406	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0422	105 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0413	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0088	"	07/02/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	7.01	56.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

S Wall - 4FT
2407021-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0097	07/03/24	07/04/24	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: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0201	60.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0211	63.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0111	07/03/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/02/24 00:00**

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

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

S Wall - 4FT
2407021-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.37	0.200	mg/kg dry	1	BHG0092	07/03/24	07/04/24	EPA 6020B
Barium	33.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.72	0.400	"	"	"	"	"	"
Lead	3.84	0.200	"	"	"	"	"	"
Nickel	2.44	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0107	07/03/24	07/03/24	EPA 7196A	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	66.6	0.0500	mg/L dry	1	BHG0089	07/02/24	07/04/24	EPA 6020B	
Magnesium	8.65	0.0500	"	"	"	"	"	"	
Sodium	3.37	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.103	0.00100	units	1	BHG0192	07/08/24	07/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

S Wall - 4FT
2407021-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.3		%	1	BHG0118	07/03/24	07/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.323	0.0100	mmhos/cm	1	BHG0091	07/02/24	07/08/24	EPA 120.1	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.95		pH Units	1	BHG0090	07/02/24	07/08/24	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

W Wall - 4FT
2407021-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0087	07/02/24	07/02/24	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: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0417	104 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0088	"	07/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.26	66.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

W Wall - 4FT
2407021-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0097	07/03/24	07/04/24	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: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0181	54.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0234	70.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0111	07/03/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/02/24 00:00**

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

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

W Wall - 4FT
2407021-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.84	0.200	mg/kg dry	1	BHG0092	07/03/24	07/04/24	EPA 6020B
Barium	41.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.82	0.400	"	"	"	"	"	"
Lead	5.14	0.200	"	"	"	"	"	"
Nickel	3.58	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	15.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0107	07/03/24	07/03/24	EPA 7196A	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	125	0.0500	mg/L dry	1	BHG0089	07/02/24	07/04/24	EPA 6020B	
Magnesium	24.5	0.0500	"	"	"	"	"	"	
Sodium	1.53	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0328	0.00100	units	1	BHG0192	07/08/24	07/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

W Wall - 4FT
2407021-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.4		%	1	BHG0118	07/03/24	07/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.222	0.0100	mmhos/cm	1	BHG0091	07/02/24	07/08/24	EPA 120.1	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BHG0090	07/02/24	07/08/24	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

B - 5FT
2407021-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0087	07/02/24	07/03/24	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: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0360	90.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0088	"	07/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.62	69.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Wellington CO, 80549

Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

B - 5FT
2407021-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0097	07/03/24	07/04/24	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	0.00645	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.00745	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0192	57.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0227	68.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0111	07/03/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/02/24 00:00**

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

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

B - 5FT
2407021-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.51	0.200	mg/kg dry	1	BHG0092	07/03/24	07/04/24	EPA 6020B
Barium	36.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.51	0.400	"	"	"	"	"	"
Lead	4.83	0.200	"	"	"	"	"	"
Nickel	3.12	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	15.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0107	07/03/24	07/03/24	EPA 7196A	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	126	0.0500	mg/L dry	1	BHG0089	07/02/24	07/04/24	EPA 6020B	
Magnesium	18.9	0.0500	"	"	"	"	"	"	
Sodium	4.26	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0936	0.00100	units	1	BHG0192	07/08/24	07/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

B - 5FT
2407021-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.7		%	1	BHG0118	07/03/24	07/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.331	0.0100	mmhos/cm	1	BHG0091	07/02/24	07/08/24	EPA 120.1	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BHG0090	07/02/24	07/08/24	EPA 9045D	

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PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Backfill
2407021-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHG0087	07/02/24	07/03/24	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: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0339	84.8 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0402	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0411	103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0088	"	07/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.6	84.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Backfill
2407021-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0097	07/03/24	07/04/24	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: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0136	40.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0172	51.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHG0111	07/03/24	07/04/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Manager: Paul Henchan

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Total Metals by EPA 6020B

Arsenic	1.55	0.181	mg/kg dry	1	BHG0092	07/03/24	07/04/24	EPA 6020B
Barium	35.0	0.362	"	"	"	"	"	"
Cadmium	ND	0.181	"	"	"	"	"	"
Copper	3.03	0.362	"	"	"	"	"	"
Lead	3.66	0.181	"	"	"	"	"	"
Nickel	2.99	0.362	"	"	"	"	"	"
Silver	0.0184	0.0181	"	"	"	"	"	"
Zinc	13.2	0.362	"	"	"	"	"	"
Selenium	ND	0.236	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHG0107	07/03/24	07/03/24	EPA 7196A	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.3	0.0500	mg/L dry	1	BHG0089	07/02/24	07/04/24	EPA 6020B	
Magnesium	11.3	0.0500	"	"	"	"	"	"	
Sodium	3.09	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.102	0.00100	units	1	BHG0192	07/08/24	07/08/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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2407021-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.5		%	1	BHG0118	07/03/24	07/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.307	0.0100	mmhos/cm	1	BHG0091	07/02/24	07/08/24	EPA 120.1	

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

Date Sampled: **07/02/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.90		pH Units	1	BHG0090	07/02/24	07/08/24	EPA 9045D	

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Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHG0087 - EPA 5030 Soil MS

Blank (BHG0087-BLK1)

Prepared: 07/02/24 Analyzed: 07/03/24

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	0.0351		"	0.0400		87.8	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	50-150			

LCS (BHG0087-BS1)

Prepared: 07/02/24 Analyzed: 07/03/24

Benzene	0.0802	0.0020	mg/kg	0.100		80.2	70-130			
Toluene	0.0921	0.0050	"	0.100		92.1	70-130			
Ethylbenzene	0.0929	0.0050	"	0.100		92.9	70-130			
m,p-Xylene	0.184	0.010	"	0.200		91.8	70-130			
o-Xylene	0.0918	0.0050	"	0.100		91.8	70-130			
1,2,4-Trimethylbenzene	0.0856	0.0050	"	0.100		85.6	70-130			
1,3,5-Trimethylbenzene	0.0865	0.0050	"	0.100		86.5	70-130			
Naphthalene	0.0728	0.0038	"	0.100		72.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.4	50-150			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		103	50-150			

Matrix Spike (BHG0087-MS1)

Source: 2407019-01

Prepared: 07/02/24 Analyzed: 07/03/24

Benzene	0.0740	0.0020	mg/kg	0.100	ND	74.0	70-130			
Toluene	0.0853	0.0050	"	0.100	ND	85.3	70-130			
Ethylbenzene	0.0793	0.0050	"	0.100	ND	79.3	70-130			
m,p-Xylene	0.159	0.010	"	0.200	ND	79.7	70-130			
o-Xylene	0.0785	0.0050	"	0.100	ND	78.5	70-130			
1,2,4-Trimethylbenzene	0.0729	0.0050	"	0.100	ND	72.9	70-130			
1,3,5-Trimethylbenzene	0.0736	0.0050	"	0.100	ND	73.6	70-130			
Naphthalene	0.0678	0.0038	"	0.100	ND	67.8	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0360		"	0.0400		90.0	50-150			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.5	50-150			

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Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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

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

Batch BHG0087 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0087-MSD1)		Source: 2407019-01			Prepared: 07/02/24 Analyzed: 07/03/24					
Benzene	0.0772	0.0020	mg/kg	0.100	ND	77.2	70-130	4.29	30	
Toluene	0.0897	0.0050	"	0.100	ND	89.7	70-130	5.04	30	
Ethylbenzene	0.0800	0.0050	"	0.100	ND	80.0	70-130	0.829	30	
m,p-Xylene	0.161	0.010	"	0.200	ND	80.6	70-130	1.12	30	
o-Xylene	0.0793	0.0050	"	0.100	ND	79.3	70-130	1.03	30	
1,2,4-Trimethylbenzene	0.0747	0.0050	"	0.100	ND	74.7	70-130	2.44	30	
1,3,5-Trimethylbenzene	0.0760	0.0050	"	0.100	ND	76.0	70-130	3.21	30	
Naphthalene	0.0699	0.0038	"	0.100	ND	69.9	70-130	3.05	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0351		"	0.0400		87.7	50-150			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		97.9	50-150			

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0088 - EPA 3550A

Blank (BHG0088-BLK1)

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.1		"	12.5		88.8	30-150			

LCS (BHG0088-BS1)

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	509	50	mg/kg	500		102	70-130			
Surrogate: o-Terphenyl	18.1		"	12.5		145	30-150			

Matrix Spike (BHG0088-MS1)

Source: 2407019-01

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	406	50	mg/kg	500	ND	81.1	70-130			
Surrogate: o-Terphenyl	13.2		"	12.5		106	30-150			

Matrix Spike Dup (BHG0088-MSD1)

Source: 2407019-01

Prepared: 07/02/24 Analyzed: 07/03/24

C10-C28 (DRO)	400	50	mg/kg	500	ND	80.0	70-130	1.41	20	
Surrogate: o-Terphenyl	13.1		"	12.5		105	30-150			

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Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

PAH by EPA Method 8270D SIM - Quality Control

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

Batch BHG0097 - EPA 5030 Soil MS

Blank (BHG0097-BLK1)

Prepared & Analyzed: 07/03/24

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	"

Surrogate: 2-Methylnaphthalene-d10	0.0234	"	0.0333	70.2	40-150
Surrogate: Fluoranthene-d10	0.0241	"	0.0333	72.3	40-150

LCS (BHG0097-BS1)

Prepared & Analyzed: 07/03/24

Acenaphthene	0.0257	0.00500	mg/kg	0.0333	77.1	31-137
Anthracene	0.0256	0.00500	"	0.0333	76.7	30-120
Benzo (a) anthracene	0.0259	0.00500	"	0.0333	77.6	30-120
Benzo (a) pyrene	0.0231	0.00500	"	0.0333	69.3	30-120
Benzo (b) fluoranthene	0.0251	0.00500	"	0.0333	75.4	30-120
Benzo (k) fluoranthene	0.0261	0.00500	"	0.0333	78.4	30-120
Chrysene	0.0259	0.00500	"	0.0333	77.8	30-120
Dibenz (a,h) anthracene	0.0196	0.00500	"	0.0333	58.9	30-120
Fluoranthene	0.0258	0.00500	"	0.0333	77.4	30-120
Fluorene	0.0252	0.00500	"	0.0333	75.6	30-120
Indeno (1,2,3-cd) pyrene	0.0199	0.00500	"	0.0333	59.8	30-120
Pyrene	0.0287	0.00500	"	0.0333	86.1	35-142
1-Methylnaphthalene	0.0241	0.00500	"	0.0333	72.3	35-142
2-Methylnaphthalene	0.0241	0.00500	"	0.0333	72.3	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0254	"	0.0333	76.2	40-150
Surrogate: Fluoranthene-d10	0.0273	"	0.0333	81.8	40-150

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0097 - EPA 5030 Soil MS

Matrix Spike (BHG0097-MS1)

Source: 2407018-01

Prepared & Analyzed: 07/03/24

Acenaphthene	0.0186	0.00500	mg/kg	0.0333	ND	55.7	31-137				
Anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120				
Benzo (a) anthracene	0.0186	0.00500	"	0.0333	ND	55.8	30-120				
Benzo (a) pyrene	0.0163	0.00500	"	0.0333	ND	49.0	30-120				
Benzo (b) fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120				
Benzo (k) fluoranthene	0.0183	0.00500	"	0.0333	ND	54.9	30-120				
Chrysene	0.0183	0.00500	"	0.0333	ND	54.9	30-120				
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.1	30-120				
Fluoranthene	0.0182	0.00500	"	0.0333	ND	54.7	30-120				
Fluorene	0.0183	0.00500	"	0.0333	ND	54.9	30-120				
Indeno (1,2,3-cd) pyrene	0.0143	0.00500	"	0.0333	ND	42.9	30-120				
Pyrene	0.0195	0.00500	"	0.0333	ND	58.5	35-142				
1-Methylnaphthalene	0.0171	0.00500	"	0.0333	ND	51.4	15-130				
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	ND	47.7	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0179		"	0.0333		53.7	40-150				
Surrogate: Fluoranthene-d10	0.0191		"	0.0333		57.2	40-150				

Matrix Spike Dup (BHG0097-MSD1)

Source: 2407018-01

Prepared & Analyzed: 07/03/24

Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.0	31-137	5.78	30		
Anthracene	0.0192	0.00500	"	0.0333	ND	57.7	30-120	6.32	30		
Benzo (a) anthracene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	5.95	30		
Benzo (a) pyrene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	7.78	30		
Benzo (b) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	4.06	30		
Benzo (k) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.6	30-120	4.66	30		
Chrysene	0.0194	0.00500	"	0.0333	ND	58.3	30-120	6.02	30		
Dibenz (a,h) anthracene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	8.71	30		
Fluoranthene	0.0195	0.00500	"	0.0333	ND	58.5	30-120	6.75	30		
Fluorene	0.0194	0.00500	"	0.0333	ND	58.3	30-120	5.97	30		
Indeno (1,2,3-cd) pyrene	0.0147	0.00500	"	0.0333	ND	44.2	30-120	3.10	30		
Pyrene	0.0210	0.00500	"	0.0333	ND	63.1	35-142	7.58	30		
1-Methylnaphthalene	0.0177	0.00500	"	0.0333	ND	53.1	15-130	3.18	50		
2-Methylnaphthalene	0.0168	0.00500	"	0.0333	ND	50.5	15-130	5.78	50		
Surrogate: 2-Methylnaphthalene-d10	0.0177		"	0.0333		53.2	40-150				
Surrogate: Fluoranthene-d10	0.0205		"	0.0333		61.6	40-150				

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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

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

Batch BHG0111 - EPA 3050B

Blank (BHG0111-BLK1)

Prepared: 07/03/24 Analyzed: 07/04/24

Boron ND 2.00 mg/L

LCS (BHG0111-BS1)

Prepared: 07/03/24 Analyzed: 07/04/24

Boron 5.02 2.00 mg/L 5.00 100 80-120

Duplicate (BHG0111-DUP1)

Source: 2407020-01

Prepared: 07/03/24 Analyzed: 07/04/24

Boron 0.0649 2.00 mg/L 0.107 48.6 20 QR-01

Matrix Spike (BHG0111-MS1)

Source: 2407020-01

Prepared: 07/03/24 Analyzed: 07/04/24

Boron 5.13 2.00 mg/L 4.98 0.107 101 75-125

Matrix Spike Dup (BHG0111-MSD1)

Source: 2407020-01

Prepared: 07/03/24 Analyzed: 07/04/24

Boron 5.57 2.00 mg/L 4.98 0.107 110 75-125 8.34 25

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Wellington CO, 80549

Project: Noble - Spike State Excavation
Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0092 - EPA 3050B

Blank (BHG0092-BLK1)

Prepared: 07/03/24 Analyzed: 07/04/24

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	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"
Selenium	ND	0.260	"

LCS (BHG0092-BS1)

Prepared: 07/03/24 Analyzed: 07/04/24

Arsenic	38.9	0.200	mg/kg wet	40.0	97.3	80-120
Barium	39.7	0.400	"	40.0	99.1	80-120
Cadmium	1.90	0.200	"	2.00	95.2	80-120
Copper	39.0	0.400	"	40.0	97.4	80-120
Lead	19.1	0.200	"	20.0	95.5	80-120
Nickel	38.6	0.400	"	40.0	96.5	80-120
Silver	1.91	0.0200	"	2.00	95.4	80-120
Zinc	38.5	0.400	"	40.0	96.4	80-120
Selenium	4.48	0.260	"	4.00	112	80-120

Duplicate (BHG0092-DUP1)

Source: 2407020-01

Prepared: 07/03/24 Analyzed: 07/09/24

Arsenic	1.24	0.200	mg/kg dry	1.15	7.39	20	
Barium	30.2	0.400	"	38.7	24.5	20	QR-04
Cadmium	0.0867	0.200	"	0.0759	13.3	20	
Copper	4.99	0.400	"	4.61	8.04	20	
Lead	2.74	0.200	"	2.40	13.3	20	
Nickel	4.06	0.400	"	3.75	7.93	20	
Silver	0.00945	0.0200	"	0.0171	57.7	20	QR-01
Zinc	14.1	0.400	"	13.7	3.18	20	
Selenium	ND	0.260	"	ND		20	

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0092 - EPA 3050B

Matrix Spike (BHG0092-MS1)			Source: 2407020-01		Prepared: 07/03/24 Analyzed: 07/09/24					
Arsenic	31.0	0.200	mg/kg dry	41.1	1.15	72.7	75-125			QM-07
Barium	78.0	0.400	"	41.1	38.7	95.8	75-125			
Cadmium	2.14	0.200	"	2.05	0.0759	100	75-125			
Copper	44.7	0.400	"	41.1	4.61	97.5	75-125			
Lead	22.4	0.200	"	20.5	2.40	97.3	75-125			
Nickel	44.3	0.400	"	41.1	3.75	98.6	75-125			
Silver	1.99	0.0200	"	2.05	0.0171	96.2	75-125			
Zinc	54.2	0.400	"	41.1	13.7	98.7	75-125			
Selenium	3.53	0.260	"	4.11	ND	86.0	75-125			

Matrix Spike Dup (BHG0092-MSD1)			Source: 2407020-01		Prepared: 07/03/24 Analyzed: 07/09/24					
Arsenic	30.1	0.200	mg/kg dry	41.1	1.15	70.6	75-125	2.87	25	QM-07
Barium	92.7	0.400	"	41.1	38.7	132	75-125	17.3	25	QM-05
Cadmium	2.17	0.200	"	2.05	0.0759	102	75-125	1.36	25	
Copper	45.6	0.400	"	41.1	4.61	99.7	75-125	1.96	25	
Lead	23.0	0.200	"	20.5	2.40	100	75-125	2.89	25	
Nickel	44.9	0.400	"	41.1	3.75	100	75-125	1.35	25	
Silver	2.02	0.0200	"	2.05	0.0171	97.3	75-125	1.09	25	
Zinc	56.1	0.400	"	41.1	13.7	103	75-125	3.38	25	
Selenium	3.52	0.260	"	4.11	ND	85.7	75-125	0.338	25	

Post Spike (BHG0092-PS1)			Source: 2407020-01		Prepared: 07/03/24 Analyzed: 07/04/24					
Arsenic	110		ug/l	100	2.80	107	75-125			
Barium	168		"	100	94.1	74.3	75-125			QM-01
Cadmium	5.13		"	5.00	0.185	99.0	75-125			
Copper	114		"	100	11.2	103	75-125			
Lead	54.5		"	50.0	5.85	97.3	75-125			
Nickel	112		"	100	9.14	102	75-125			
Silver	4.98		"	5.00	0.0417	98.7	75-125			
Zinc	136		"	100	33.3	102	75-125			
Selenium	10.9		"	10.0	0.0540	108	75-125			

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHG0107 - 3060A Mod

Blank (BHG0107-BLK1)

Prepared & Analyzed: 07/03/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHG0107-BS1)

Prepared & Analyzed: 07/03/24

Chromium, Hexavalent 25.9 0.30 mg/kg wet 25.0 104 80-120

Duplicate (BHG0107-DUP1)

Source: 2407020-01

Prepared & Analyzed: 07/03/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHG0107-MS1)

Source: 2407020-01

Prepared & Analyzed: 07/03/24

Chromium, Hexavalent 26.9 0.30 mg/kg dry 25.7 ND 105 75-125

Matrix Spike Dup (BHG0107-MSD1)

Source: 2407020-01

Prepared & Analyzed: 07/03/24

Chromium, Hexavalent 26.0 0.30 mg/kg dry 25.7 ND 101 75-125 3.50 20

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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

Summit Scientific

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

Batch BHG0089 - General Preparation

Blank (BHG0089-BLK1)

Prepared: 07/02/24 Analyzed: 07/03/24

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

LCS (BHG0089-BS1)

Prepared: 07/02/24 Analyzed: 07/03/24

Calcium	5.48	0.0500	mg/L wet	5.00	110	70-130
Magnesium	5.38	0.0500	"	5.00	108	70-130
Sodium	5.50	0.0500	"	5.00	110	70-130

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Fremont Environmental	Project: Noble - Spike State Excavation	
PO Box 1289	Project Number: CO23-156	Reported:
Wellington CO, 80549	Project Manager: Paul Henchan	07/09/24 13:48

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

Summit Scientific

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

Batch BHG0118 - General Preparation

Duplicate (BHG0118-DUP1)	Source: 2407020-01			Prepared & Analyzed: 07/03/24						
% Solids	96.6		%		97.4			0.757	20	

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Fremont Environmental
PO Box 1289
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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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

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

Batch BHG0091 - General Preparation

Blank (BHG0091-BLK1)

Prepared: 07/02/24 Analyzed: 07/08/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHG0091-BS1)

Prepared: 07/02/24 Analyzed: 07/08/24

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BHG0091-DUP1)

Source: 2407020-01

Prepared: 07/02/24 Analyzed: 07/08/24

Specific Conductance (EC) 0.243 0.0100 mmhos/cm 0.247 1.84 20

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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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

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

Batch BHG0090 - General Preparation

LCS (BHG0090-BS1)

Prepared: 07/02/24 Analyzed: 07/08/24

pH	9.16	pH Units	9.18	99.8	95-105
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Duplicate (BHG0090-DUP1)

Source: 2407020-01

Prepared: 07/02/24 Analyzed: 07/08/24

pH	8.82	pH Units	8.85	0.340	20
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Project: Noble - Spike State Excavation

Project Number: CO23-156
Project Manager: Paul Henchan

Reported:
07/09/24 13:48

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-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-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
QM-01	The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
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