

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 22, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

Wellington, CO 80549

RE: Noble - Lower Latham G01-32D

Work Order #2403333

Enclosed are the results of analyses for samples received by Summit Scientific on 03/21/24 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 - Lower Latham G01-32D

Project Number: UWRWE-A2461-ABN

Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 3FT	2403333-01	Soil	03/19/24 00:00	03/21/24 16:30

# SUMMIT SCIENTIFIC

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

Lab ID	Page	of
2403333		

Send Data To:		Send Invoice To:	
Client: Fremont Environmental, Inc.	Project Manager: Henghan	Company: Chevron	
Address: 8305 6th St.	E-Mail: Chevron Dist. List, DOE Dist. List, Chevron Dist. List	Project Name/Location:	
City/State/Zip: Wellington, CO, 80549	Fremont Dist. List: fremontenv.com paulH, ethanB, jerryM, jerryG, jerryB, stanO, GERRNO	AFE#:	
Phone: 603-477-6907	Project Name: Noble - Lower Latham G01-32D	PO/Billing Codes: UWRWE - A2461 - ARN	
Sampler Name: Ethan Black	Project Number:	Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEX, Naphthalene, TMBs	TPH (C6-C36)	PAH	SAR, EC, pH, Boron	Metals (Table 915-1)	TDS, Chloride, Sulfate	
1	FLOI 3PT	3/19/24		2			X			X			X	X	X	X	X		
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>Ethan Black</i>	Date/Time: 3/21/24 500	Received by: S2 - North Office	Date/Time: 3/21/24 1500	TAT Business Days	Field DO	Notes:
Relinquished by: S2	Date/Time: 3/21/24 1030	Received by: <i>[Signature]</i>	Date/Time: 3/21/24 1030	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 19.1	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2403333Client: FramontClient Project ID: Noble-Lower Latham G01-32DShipped 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)

19.1

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on COC</u>
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , 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? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>no sample time</u>
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<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)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> 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):				

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

Custodian Printed Name

3/21/24  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D

Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**FL01 3FT**  
**2403333-01 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHC0938	03/25/24	03/26/24	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: **03/19/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0365	91.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHC0935	03/25/24	03/27/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	5.57	44.6 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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05/22/24 10:21

**FL01 3FT**  
**2403333-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHC0872	03/22/24	03/23/24	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: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0269	80.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0179	53.6 %	40-150		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHC0868	03/22/24	05/13/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**FL01 3FT**  
**2403333-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	3.20	0.200	mg/kg dry	1	BHC0861	03/22/24	04/20/24	EPA 6020B
Barium	876	0.400	"	"	"	"	"	"
Cadmium	1.86	0.200	"	"	"	"	"	"
Copper	10.1	0.400	"	"	"	"	"	"
Lead	8.06	0.200	"	"	"	"	"	"
Nickel	4.94	0.400	"	"	"	"	"	"
Silver	0.0480	0.0200	"	"	"	"	"	"
Zinc	41.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0853	03/22/24	03/29/24	EPA 7196A	

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

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	53.2	0.0500	mg/L dry	1	BHD0150	04/04/24	05/21/24	EPA 6020B	
Magnesium	6.57	0.0500	"	"	"	"	"	"	
Sodium	0.887	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0305	0.00100	units	1	BHE0676	05/22/24	05/22/24	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**FL01 3FT**  
**2403333-01 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

% Solids	90.0	%	1	BHC0849	03/22/24	03/26/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.396	0.0100	mmhos/cm	1	BHD0152	04/04/24	04/08/24	EPA 120.1	

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

Date Sampled: **03/19/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.03		pH Units	1	BHD0151	04/04/24	04/08/24	EPA 9045D	

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Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

## 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 BHC0938 - EPA 5030 Soil MS

##### Blank (BHC0938-BLK1)

Prepared: 03/25/24 Analyzed: 03/26/24

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	0.0375		"	0.0400		93.7	50-150			
Surrogate: Toluene-d8	0.0412		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.4	50-150			

##### LCS (BHC0938-BS1)

Prepared: 03/25/24 Analyzed: 03/26/24

Benzene	0.111	0.0020	mg/kg	0.100		111	70-130			
Toluene	0.105	0.0050	"	0.100		105	70-130			
Ethylbenzene	0.0914	0.0050	"	0.100		91.4	70-130			
m,p-Xylene	0.186	0.010	"	0.200		93.0	70-130			
o-Xylene	0.0898	0.0050	"	0.100		89.8	70-130			
1,2,4-Trimethylbenzene	0.0850	0.0050	"	0.100		85.0	70-130			
1,3,5-Trimethylbenzene	0.0865	0.0050	"	0.100		86.5	70-130			
Naphthalene	0.0765	0.0038	"	0.100		76.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0400		93.1	50-150			
Surrogate: Toluene-d8	0.0407		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	50-150			

##### Matrix Spike (BHC0938-MS1)

Source: 2403327-01

Prepared: 03/25/24 Analyzed: 03/26/24

Benzene	0.0989	0.0020	mg/kg	0.100	ND	98.9	70-130			
Toluene	0.0947	0.0050	"	0.100	ND	94.7	70-130			
Ethylbenzene	0.0852	0.0050	"	0.100	ND	85.2	70-130			
m,p-Xylene	0.171	0.010	"	0.200	ND	85.6	70-130			
o-Xylene	0.0828	0.0050	"	0.100	ND	82.8	70-130			
1,2,4-Trimethylbenzene	0.0778	0.0050	"	0.100	ND	77.8	70-130			
1,3,5-Trimethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130			
Naphthalene	0.0630	0.0038	"	0.100	ND	63.0	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0377		"	0.0400		94.3	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0405		"	0.0400		101	50-150			

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Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHC0938 - EPA 5030 Soil MS**

Matrix Spike Dup (BHC0938-MSD1)	Source: 2403327-01			Prepared: 03/25/24 Analyzed: 03/26/24						
Benzene	0.0991	0.0020	mg/kg	0.100	ND	99.1	70-130	0.182	30	
Toluene	0.0941	0.0050	"	0.100	ND	94.1	70-130	0.699	30	
Ethylbenzene	0.0853	0.0050	"	0.100	ND	85.3	70-130	0.0352	30	
m,p-Xylene	0.171	0.010	"	0.200	ND	85.3	70-130	0.386	30	
o-Xylene	0.0831	0.0050	"	0.100	ND	83.1	70-130	0.434	30	
1,2,4-Trimethylbenzene	0.0761	0.0050	"	0.100	ND	76.1	70-130	2.22	30	
1,3,5-Trimethylbenzene	0.0794	0.0050	"	0.100	ND	79.4	70-130	0.796	30	
Naphthalene	0.0606	0.0038	"	0.100	ND	60.6	70-130	3.88	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0369		"	0.0400		92.2	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0396		"	0.0400		99.0	50-150			

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Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHC0935 - EPA 3550A**

**Blank (BHC0935-BLK1)**

Prepared: 03/25/24 Analyzed: 03/27/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	6.15		"	12.5		49.2	30-150			

**LCS (BHC0935-BS1)**

Prepared: 03/25/24 Analyzed: 03/27/24

C10-C28 (DRO)	484	50	mg/kg	500		96.9	70-130			
Surrogate: o-Terphenyl	5.21		"	12.5		41.7	30-150			

**Matrix Spike (BHC0935-MS1)**

Source: 2403327-01

Prepared: 03/25/24 Analyzed: 03/27/24

C10-C28 (DRO)	387	50	mg/kg	500	22.7	72.9	70-130			
Surrogate: o-Terphenyl	4.16		"	12.5		33.3	30-150			

**Matrix Spike Dup (BHC0935-MSD1)**

Source: 2403327-01

Prepared: 03/25/24 Analyzed: 03/27/24

C10-C28 (DRO)	397	50	mg/kg	500	22.7	74.8	70-130	2.45	20	
Surrogate: o-Terphenyl	4.20		"	12.5		33.6	30-150			

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Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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

**Batch BHC0872 - EPA 5030 Soil MS**

**Blank (BHC0872-BLK1)**

Prepared & Analyzed: 03/22/24

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	0.0381	"	0.0333	114	40-150
Surrogate: Fluoranthene-d10	0.0467	"	0.0333	140	40-150

**LCS (BHC0872-BS1)**

Prepared & Analyzed: 03/22/24

Acenaphthene	0.0252	0.00500	mg/kg	0.0333	75.7	31-137
Anthracene	0.0321	0.00500	"	0.0333	96.4	30-120
Benzo (a) anthracene	0.0207	0.00500	"	0.0333	62.2	30-120
Benzo (a) pyrene	0.0271	0.00500	"	0.0333	81.2	30-120
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	62.7	30-120
Benzo (k) fluoranthene	0.0284	0.00500	"	0.0333	85.3	30-120
Chrysene	0.0290	0.00500	"	0.0333	86.9	30-120
Dibenz (a,h) anthracene	0.0239	0.00500	"	0.0333	71.7	30-120
Fluoranthene	0.0280	0.00500	"	0.0333	83.9	30-120
Fluorene	0.0288	0.00500	"	0.0333	86.5	30-120
Indeno (1,2,3-cd) pyrene	0.0199	0.00500	"	0.0333	59.6	30-120
Pyrene	0.0299	0.00500	"	0.0333	89.8	35-142
1-Methylnaphthalene	0.0267	0.00500	"	0.0333	80.0	35-142
2-Methylnaphthalene	0.0224	0.00500	"	0.0333	67.2	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0280	"	0.0333	84.1	40-150
Surrogate: Fluoranthene-d10	0.0293	"	0.0333	88.0	40-150

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

### PAH by EPA Method 8270D SIM - Quality Control

#### Summit Scientific

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

#### Batch BHC0872 - EPA 5030 Soil MS

##### Matrix Spike (BHC0872-MS1)

Source: 2403288-01

Prepared & Analyzed: 03/22/24

Acenaphthene	0.0161	0.00500	mg/kg	0.0333	ND	48.2	31-137		
Anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120		
Benzo (a) anthracene	0.0228	0.00500	"	0.0333	ND	68.4	30-120		
Benzo (a) pyrene	0.0178	0.00500	"	0.0333	ND	53.3	30-120		
Benzo (b) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.3	30-120		
Benzo (k) fluoranthene	0.0159	0.00500	"	0.0333	ND	47.8	30-120		
Chrysene	0.0177	0.00500	"	0.0333	ND	53.1	30-120		
Dibenz (a,h) anthracene	0.0195	0.00500	"	0.0333	ND	58.4	30-120		
Fluoranthene	0.0153	0.00500	"	0.0333	ND	45.9	30-120		
Fluorene	0.0192	0.00500	"	0.0333	ND	57.6	30-120		
Indeno (1,2,3-cd) pyrene	0.0185	0.00500	"	0.0333	ND	55.4	30-120		
Pyrene	0.0164	0.00500	"	0.0333	ND	49.3	35-142		
1-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.8	15-130		
2-Methylnaphthalene	0.0164	0.00500	"	0.0333	ND	49.1	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0166		"	0.0333		49.9	40-150		
Surrogate: Fluoranthene-d10	0.0141		"	0.0333		42.2	40-150		

##### Matrix Spike Dup (BHC0872-MSD1)

Source: 2403288-01

Prepared & Analyzed: 03/22/24

Acenaphthene	0.0151	0.00500	mg/kg	0.0333	ND	45.3	31-137	6.20	30
Anthracene	0.0175	0.00500	"	0.0333	ND	52.5	30-120	6.78	30
Benzo (a) anthracene	0.0184	0.00500	"	0.0333	ND	55.1	30-120	21.5	30
Benzo (a) pyrene	0.0140	0.00500	"	0.0333	ND	42.0	30-120	23.6	30
Benzo (b) fluoranthene	0.0137	0.00500	"	0.0333	ND	41.1	30-120	16.0	30
Benzo (k) fluoranthene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	18.8	30
Chrysene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	1.60	30
Dibenz (a,h) anthracene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	16.8	30
Fluoranthene	0.0165	0.00500	"	0.0333	ND	49.4	30-120	7.44	30
Fluorene	0.0198	0.00500	"	0.0333	ND	59.4	30-120	3.02	30
Indeno (1,2,3-cd) pyrene	0.0169	0.00500	"	0.0333	ND	50.8	30-120	8.59	30
Pyrene	0.0182	0.00500	"	0.0333	ND	54.7	35-142	10.4	30
1-Methylnaphthalene	0.0223	0.00500	"	0.0333	ND	66.9	15-130	35.4	50
2-Methylnaphthalene	0.0151	0.00500	"	0.0333	ND	45.2	15-130	8.22	50
Surrogate: 2-Methylnaphthalene-d10	0.0152		"	0.0333		45.7	40-150		
Surrogate: Fluoranthene-d10	0.0153		"	0.0333		45.9	40-150		

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

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

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

**Batch BHC0868 - EPA 3050B**

**Blank (BHC0868-BLK1)**

Prepared: 03/22/24 Analyzed: 05/13/24

Boron ND 2.00 mg/L

**LCS (BHC0868-BS1)**

Prepared: 03/22/24 Analyzed: 05/13/24

Boron 5.19 2.00 mg/L 5.00 104 80-120

**Duplicate (BHC0868-DUP1)**

**Source: 2403326-01**

Prepared: 03/22/24 Analyzed: 05/13/24

Boron 0.214 2.00 mg/L 0.294 31.9 20 QR-01

**Matrix Spike (BHC0868-MS1)**

**Source: 2403326-01**

Prepared: 03/22/24 Analyzed: 05/13/24

Boron 5.59 2.00 mg/L 5.00 0.294 106 75-125

**Matrix Spike Dup (BHC0868-MSD1)**

**Source: 2403326-01**

Prepared: 03/22/24 Analyzed: 05/13/24

Boron 5.80 2.00 mg/L 5.00 0.294 110 75-125 3.79 25

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHC0861 - EPA 3050B**

**Blank (BHC0861-BLK1)**

Prepared: 03/22/24 Analyzed: 04/20/24

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 (BHC0861-BS1)**

Prepared: 03/22/24 Analyzed: 04/20/24

Arsenic	43.0	0.200	mg/kg wet	40.0	108	80-120
Barium	39.2	0.400	"	40.0	97.9	80-120
Cadmium	1.88	0.200	"	2.00	94.0	80-120
Copper	42.4	0.400	"	40.0	106	80-120
Lead	19.3	0.200	"	20.0	96.3	80-120
Nickel	40.7	0.400	"	40.0	102	80-120
Silver	1.92	0.0200	"	2.00	95.9	80-120
Zinc	41.9	0.400	"	40.0	105	80-120
Selenium	4.33	0.260	"	4.00	108	80-120

**Duplicate (BHC0861-DUP1)**

Source: 2403326-01

Prepared: 03/22/24 Analyzed: 04/20/24

Arsenic	2.62	0.200	mg/kg dry	2.81	6.92	20	QR-04
Barium	135	0.400	"	183	30.4	20	
Cadmium	0.259	0.200	"	0.269	3.79	20	
Copper	4.28	0.400	"	4.77	10.7	20	
Lead	7.27	0.200	"	7.48	2.92	20	
Nickel	3.69	0.400	"	3.95	6.79	20	
Silver	0.0264	0.0200	"	0.0283	6.67	20	
Zinc	15.9	0.400	"	16.8	5.54	20	
Selenium	ND	0.260	"	ND		20	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D

Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHC0861 - EPA 3050B**

Matrix Spike (BHC0861-MS1)		Source: 2403326-01			Prepared: 03/22/24 Analyzed: 04/20/24					
Arsenic	50.3	0.200	mg/kg dry	45.6	2.81	104	75-125			
Barium	198	0.400	"	45.6	183	32.6	75-125			QM-07
Cadmium	2.30	0.200	"	2.28	0.269	89.3	75-125			
Copper	35.8	0.400	"	45.6	4.77	68.2	75-125			QM-05
Lead	26.9	0.200	"	22.8	7.48	85.2	75-125			
Nickel	33.9	0.400	"	45.6	3.95	65.8	75-125			QM-05
Silver	2.10	0.0200	"	2.28	0.0283	90.7	75-125			
Zinc	45.8	0.400	"	45.6	16.8	63.6	75-125			QM-05
Selenium	4.16	0.260	"	4.56	ND	91.4	75-125			

Matrix Spike Dup (BHC0861-MSD1)		Source: 2403326-01			Prepared: 03/22/24 Analyzed: 04/20/24					
Arsenic	50.1	0.200	mg/kg dry	45.6	2.81	104	75-125	0.374	25	
Barium	199	0.400	"	45.6	183	35.9	75-125	0.746	25	QM-07
Cadmium	2.34	0.200	"	2.28	0.269	90.9	75-125	1.63	25	
Copper	35.3	0.400	"	45.6	4.77	66.9	75-125	1.61	25	QM-05
Lead	27.0	0.200	"	22.8	7.48	85.7	75-125	0.438	25	
Nickel	33.5	0.400	"	45.6	3.95	64.8	75-125	1.27	25	QM-05
Silver	2.11	0.0200	"	2.28	0.0283	91.4	75-125	0.758	25	
Zinc	44.8	0.400	"	45.6	16.8	61.4	75-125	2.19	25	QM-05
Selenium	4.24	0.260	"	4.56	ND	93.0	75-125	1.78	25	

Post Spike (BHC0861-PS1)		Source: 2403326-01			Prepared: 03/22/24 Analyzed: 04/20/24					
Arsenic	111		ug/l	100	6.16	105	75-125			
Barium	497		"	100	402	95.9	75-125			
Cadmium	4.98		"	5.00	0.591	87.7	75-125			
Copper	69.8		"	100	10.5	59.3	75-125			QM-01
Lead	59.1		"	50.0	16.4	85.4	75-125			
Nickel	65.7		"	100	8.67	57.0	75-125			QM-01
Silver	4.43		"	5.00	0.0620	87.4	75-125			
Zinc	94.9		"	100	36.9	58.0	75-125			QM-01
Selenium	9.60		"	10.0	0.323	92.8	75-125			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHC0853 - 3060A Mod**

**Blank (BHC0853-BLK1)**

Prepared: 03/22/24 Analyzed: 03/29/24

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BHC0853-BS1)**

Prepared: 03/22/24 Analyzed: 03/29/24

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.2 80-120

**Duplicate (BHC0853-DUP1)**

**Source: 2403331-01**

Prepared: 03/22/24 Analyzed: 03/29/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BHC0853-MS1)**

**Source: 2403331-01**

Prepared: 03/22/24 Analyzed: 03/29/24

Chromium, Hexavalent 27.6 0.30 mg/kg dry 27.0 ND 102 75-125

**Matrix Spike Dup (BHC0853-MSD1)**

**Source: 2403331-01**

Prepared: 03/22/24 Analyzed: 03/29/24

Chromium, Hexavalent 27.6 0.30 mg/kg dry 27.0 ND 102 75-125 0.00 20

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHD0150 - General Preparation**

**Blank (BHD0150-BLK1)**

Prepared: 04/04/24 Analyzed: 05/21/24

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

**LCS (BHD0150-BS1)**

Prepared: 04/04/24 Analyzed: 05/21/24

Calcium	5.67	0.0500	mg/L wet	5.00	113	70-130
Magnesium	4.91	0.0500	"	5.00	98.3	70-130
Sodium	4.82	0.0500	"	5.00	96.4	70-130

Summit Scientific

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Fremont Environmental	Project: Noble - Lower Latham G01-32D	
PO Box 1289	Project Number: UWRWE-A2461-ABN	Reported:
Wellington CO, 80549	Project Manager: Paul Henchan	05/22/24 10:21

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

Summit Scientific

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

Batch BHC0849 - General Preparation

Duplicate (BHC0849-DUP1)	Source: 2403322-01		Prepared: 03/22/24 Analyzed: 03/26/24		
% Solids	89.6	%	83.4	7.12	20

Summit Scientific

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*Atalio Bessin*



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D  
Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

**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 BHD0152 - General Preparation**

**Blank (BHD0152-BLK1)**

Prepared: 04/04/24 Analyzed: 04/08/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHD0152-BS1)**

Prepared: 04/04/24 Analyzed: 04/08/24

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BHD0152-DUP1)**

**Source: 2403326-01**

Prepared: 04/04/24 Analyzed: 04/08/24

Specific Conductance (EC) 0.353 0.0100 mmhos/cm 0.363 2.91 20

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D

Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

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

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

**Batch BHD0151 - General Preparation**

**LCS (BHD0151-BS1)**

Prepared: 04/04/24 Analyzed: 04/08/24

pH	9.08	pH Units	9.18	98.9	95-105
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**Duplicate (BHD0151-DUP1)**

**Source: 2403326-01**

Prepared: 04/04/24 Analyzed: 04/08/24

pH	8.50	pH Units	8.72	2.56	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Lower Latham G01-32D

Project Number: UWRWE-A2461-ABN  
Project Manager: Paul Henchan

**Reported:**  
05/22/24 10:21

### 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