

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 02, 2024

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549  
RE: Noble - Jepsen Excavation  
Work Order #2409472

Enclosed are the results of analyses for samples received by Summit Scientific on 09/30/24 17:00. 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 "W".

Jacob Wood For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
Project Manager: Paul Henchan

**Reported:**  
10/02/24 16:23

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV B-9FT	2409472-01	Soil	09/30/24 15:30	09/30/24 17:00

Summit Scientific

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

Lab ID	Page 1 of 1
2409472	

		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Fremont Environmental	Project Manager: Paul Henehan		Company: Noble
Address:	E-Mail: Fremont Distribution List		Project Name/Location:
City/State/Zip:			AFE#:
Phone: 303-261-6246	Project Name: Jepsen Excavation		PO/Billing Codes:
Sampler Name: Stanley Gilbert	Project Number: C023-220		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	HOLD
1	pluv B-9F+	9/30/24	15:30	2			X			X				X	X	X	X	X		
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by:	Date/Time: 9/30/24 16:26	Received by:	Date/Time: 9/30/24 17:00	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time: 9/30/24 17:00	Received by:	Date/Time: 9/30/24 17:00	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 8.1	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2409472

Client: Fremont Client Project ID: Jepsen excavation

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

-

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? <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"/>	on ice
If custody seals are present, are they intact? <sup>(1)</sup>	<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"/>	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 <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"/>	
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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	no sample time
For volatiles in water – is there headspace present? <b>If yes, contact client and note in narrative.</b>	<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.

Control Form #: SRC-001

AS  
Custodian Printed Name

9/30/24  
Date/Time



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
Project Manager: Paul Henchan

**Reported:**  
10/02/24 16:23

**PWV B-9FT**  
**2409472-01 (Soil)**

Summit Scientific

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

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BH11134	09/30/24	09/30/24	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: **09/30/24 15:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0422	106 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0373	93.2 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BH11136	09/30/24	09/30/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	12.0	96.3 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**PWV B-9FT**  
**2409472-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0031	10/01/24	10/02/24	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: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0197	59.1 %	40-150		"	"	"	"	

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

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0012	10/01/24	10/02/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**2409472-01 (Soil)**

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**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.08	0.200	mg/kg dry	1	BHJ0009	10/01/24	10/01/24	EPA 6020B
Barium	39.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.75	0.400	"	"	"	"	"	"
Lead	2.88	0.200	"	"	"	"	"	"
Nickel	2.17	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	8.69	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0037	10/01/24	10/01/24	EPA 7196A	

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

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	92.2	0.0500	mg/L dry	1	BH11138	09/30/24	10/02/24	EPA 6020B	
Magnesium	7.88	0.0500	"	"	"	"	"	"	
Sodium	38.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.263	0.00100	units	1	BHJ0079	10/02/24	10/02/24	Calculation	

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

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**2409472-01 (Soil)**

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

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.8		%	1	BHJ0007	10/01/24	10/01/24	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.346	0.0100	mmhos/cm	1	BH11139	09/30/24	10/02/24	EPA 120.1	

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

Date Sampled: **09/30/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.48		pH Units	1	BH11140	09/30/24	10/02/24	EPA 9045D	

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### 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 BHI1134 - EPA 5030 Soil MS

##### Blank (BHI1134-BLK1)

Prepared: 09/30/24 Analyzed: 10/01/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0442</i>		<i>"</i>	<i>0.0400</i>		<i>111</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.5</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.5</i>	<i>50-150</i>			

##### LCS (BHI1134-BS1)

Prepared: 09/30/24 Analyzed: 10/01/24

Benzene	0.106	0.0020	mg/kg	0.100		106	70-130			
Toluene	0.106	0.0050	"	0.100		106	70-130			
Ethylbenzene	0.105	0.0050	"	0.100		105	70-130			
m,p-Xylene	0.205	0.010	"	0.200		102	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130			
1,3,5-Trimethylbenzene	0.100	0.0050	"	0.100		100	70-130			
Naphthalene	0.0803	0.0038	"	0.100		80.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0427</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0382</i>		<i>"</i>	<i>0.0400</i>		<i>95.4</i>	<i>50-150</i>			

##### Matrix Spike (BHI1134-MS1)

Source: 2409462-01

Prepared: 09/30/24 Analyzed: 10/01/24

Benzene	0.103	0.0020	mg/kg	0.100	ND	103	70-130			
Toluene	0.0999	0.0050	"	0.100	ND	99.9	70-130			
Ethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
m,p-Xylene	0.202	0.010	"	0.200	ND	101	70-130			
o-Xylene	0.0979	0.0050	"	0.100	ND	97.9	70-130			
1,2,4-Trimethylbenzene	0.0976	0.0050	"	0.100	ND	97.6	70-130			
1,3,5-Trimethylbenzene	0.0983	0.0050	"	0.100	ND	98.3	70-130			
Naphthalene	0.0690	0.0038	"	0.100	ND	69.0	70-130			QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0414</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0394</i>		<i>"</i>	<i>0.0400</i>		<i>98.4</i>	<i>50-150</i>			

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Project: Noble - Jepsen Excavation

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**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 BHI1134 - EPA 5030 Soil MS**

Matrix Spike Dup (BHI1134-MSD1)	Source: 2409462-01			Prepared: 09/30/24 Analyzed: 10/01/24						
Benzene	0.0898	0.0020	mg/kg	0.100	ND	89.8	70-130	13.9	30	
Toluene	0.0871	0.0050	"	0.100	ND	87.1	70-130	13.7	30	
Ethylbenzene	0.0967	0.0050	"	0.100	ND	96.7	70-130	6.31	30	
m,p-Xylene	0.186	0.010	"	0.200	ND	93.2	70-130	8.06	30	
o-Xylene	0.0907	0.0050	"	0.100	ND	90.7	70-130	7.57	30	
1,2,4-Trimethylbenzene	0.0902	0.0050	"	0.100	ND	90.2	70-130	7.89	30	
1,3,5-Trimethylbenzene	0.0920	0.0050	"	0.100	ND	92.0	70-130	6.66	30	
Naphthalene	0.0676	0.0038	"	0.100	ND	67.6	70-130	2.06	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0372		"	0.0400		93.0	50-150			

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**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 BHI1136 - EPA 3550A**

**Blank (BHI1136-BLK1)**

Prepared: 09/30/24 Analyzed: 10/01/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.0		"	12.5		104		30-150			

**LCS (BHI1136-BS1)**

Prepared: 09/30/24 Analyzed: 10/01/24

C10-C28 (DRO)	553	50	mg/kg	500		111		70-130			
Surrogate: <i>o</i> -Terphenyl	13.0		"	12.5		104		30-150			

**Matrix Spike (BHI1136-MS1)**

Source: 2409462-01

Prepared: 09/30/24 Analyzed: 10/01/24

C10-C28 (DRO)	539	50	mg/kg	500	ND	108		70-130			
Surrogate: <i>o</i> -Terphenyl	12.3		"	12.5		98.2		30-150			

**Matrix Spike Dup (BHI1136-MSD1)**

Source: 2409462-01

Prepared: 09/30/24 Analyzed: 10/01/24

C10-C28 (DRO)	616	50	mg/kg	500	ND	123		70-130	13.5	20	
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		106		30-150			

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**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 BHJ0031 - EPA 5030 Soil MS**

**Blank (BHJ0031-BLK1)**

Prepared & Analyzed: 10/01/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0184</i>		"	<i>0.0333</i>		<i>55.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0277</i>		"	<i>0.0333</i>		<i>83.1</i>	<i>40-150</i>			

**LCS (BHJ0031-BS1)**

Prepared & Analyzed: 10/01/24

Acenaphthene	0.0248	0.00500	mg/kg	0.0333		74.3	31-137			
Anthracene	0.0245	0.00500	"	0.0333		73.6	30-120			
Benzo (a) anthracene	0.0244	0.00500	"	0.0333		73.1	30-120			
Benzo (a) pyrene	0.0225	0.00500	"	0.0333		67.5	30-120			
Benzo (b) fluoranthene	0.0238	0.00500	"	0.0333		71.5	30-120			
Benzo (k) fluoranthene	0.0250	0.00500	"	0.0333		74.9	30-120			
Chrysene	0.0248	0.00500	"	0.0333		74.5	30-120			
Dibenz (a,h) anthracene	0.0195	0.00500	"	0.0333		58.4	30-120			
Fluoranthene	0.0243	0.00500	"	0.0333		72.9	30-120			
Fluorene	0.0203	0.00500	"	0.0333		60.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0270	0.00500	"	0.0333		81.0	30-120			
Pyrene	0.0273	0.00500	"	0.0333		81.9	35-142			
1-Methylnaphthalene	0.0260	0.00500	"	0.0333		78.1	35-142			
2-Methylnaphthalene	0.0205	0.00500	"	0.0333		61.5	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0227</i>		"	<i>0.0333</i>		<i>68.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0248</i>		"	<i>0.0333</i>		<i>74.4</i>	<i>40-150</i>			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
Project Manager: Paul Henchan

**Reported:**  
10/02/24 16:23

**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 BHJ0031 - EPA 5030 Soil MS**

<b>Matrix Spike (BHJ0031-MS1)</b>	<b>Source: 2409459-21</b>			<b>Prepared &amp; Analyzed: 10/01/24</b>						
Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.8	31-137			
Anthracene	0.0228	0.00500	"	0.0333	ND	68.3	30-120			
Benzo (a) anthracene	0.0223	0.00500	"	0.0333	ND	67.0	30-120			
Benzo (a) pyrene	0.0199	0.00500	"	0.0333	ND	59.7	30-120			
Benzo (b) fluoranthene	0.0196	0.00500	"	0.0333	ND	58.8	30-120			
Benzo (k) fluoranthene	0.0203	0.00500	"	0.0333	ND	60.9	30-120			
Chrysene	0.0219	0.00500	"	0.0333	ND	65.6	30-120			
Dibenz (a,h) anthracene	0.0229	0.00500	"	0.0333	ND	68.6	30-120			
Fluoranthene	0.0226	0.00500	"	0.0333	ND	67.8	30-120			
Fluorene	0.0199	0.00500	"	0.0333	ND	59.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0310	0.00500	"	0.0333	ND	93.0	30-120			
Pyrene	0.0245	0.00500	"	0.0333	ND	73.4	35-142			
1-Methylnaphthalene	0.0226	0.00500	"	0.0333	ND	67.7	15-130			
2-Methylnaphthalene	0.0183	0.00500	"	0.0333	ND	54.9	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0186</i>		<i>"</i>	<i>0.0333</i>		<i>55.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0230</i>		<i>"</i>	<i>0.0333</i>		<i>69.0</i>	<i>40-150</i>			

<b>Matrix Spike Dup (BHJ0031-MSD1)</b>	<b>Source: 2409459-21</b>			<b>Prepared &amp; Analyzed: 10/01/24</b>						
Acenaphthene	0.0221	0.00500	mg/kg	0.0333	ND	66.4	31-137	3.49	30	
Anthracene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	10.7	30	
Benzo (a) anthracene	0.0210	0.00500	"	0.0333	ND	63.1	30-120	5.94	30	
Benzo (a) pyrene	0.0191	0.00500	"	0.0333	ND	57.2	30-120	4.40	30	
Benzo (b) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.6	30-120	2.17	30	
Benzo (k) fluoranthene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	0.947	30	
Chrysene	0.0218	0.00500	"	0.0333	ND	65.5	30-120	0.181	30	
Dibenz (a,h) anthracene	0.0209	0.00500	"	0.0333	ND	62.8	30-120	8.86	30	
Fluoranthene	0.0197	0.00500	"	0.0333	ND	59.1	30-120	13.8	30	
Fluorene	0.0169	0.00500	"	0.0333	ND	50.8	30-120	16.1	30	
Indeno (1,2,3-cd) pyrene	0.0289	0.00500	"	0.0333	ND	86.7	30-120	6.94	30	
Pyrene	0.0268	0.00500	"	0.0333	ND	80.4	35-142	9.14	30	
1-Methylnaphthalene	0.0237	0.00500	"	0.0333	ND	71.1	15-130	4.90	50	
2-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.9	15-130	15.7	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0203</i>		<i>"</i>	<i>0.0333</i>		<i>61.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0198</i>		<i>"</i>	<i>0.0333</i>		<i>59.4</i>	<i>40-150</i>			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

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

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

**Batch BHJ0012 - EPA 3050B**

**Blank (BHJ0012-BLK1)**

Prepared: 10/01/24 Analyzed: 10/02/24

Boron ND 2.00 mg/L

**LCS (BHJ0012-BS1)**

Prepared: 10/01/24 Analyzed: 10/02/24

Boron 4.87 2.00 mg/L 5.00 97.4 80-120

**Duplicate (BHJ0012-DUP1)**

**Source: 2409462-01**

Prepared: 10/01/24 Analyzed: 10/02/24

Boron 0.115 2.00 mg/L 0.227 65.5 20 QR-01

**Matrix Spike (BHJ0012-MS1)**

**Source: 2409462-01**

Prepared: 10/01/24 Analyzed: 10/02/24

Boron 4.91 2.00 mg/L 5.01 0.227 93.6 75-125

**Matrix Spike Dup (BHJ0012-MSD1)**

**Source: 2409462-01**

Prepared: 10/01/24 Analyzed: 10/02/24

Boron 5.15 2.00 mg/L 5.01 0.227 98.3 75-125 4.74 25

Summit Scientific

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
Project Manager: Paul Henchan

**Reported:**  
10/02/24 16:23

**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 BHJ0009 - EPA 3050B**

**Blank (BHJ0009-BLK1)**

Prepared & Analyzed: 10/01/24

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 (BHJ0009-BS1)**

Prepared & Analyzed: 10/01/24

Arsenic	35.0	0.200	mg/kg wet	36.8	95.3	80-120
Barium	35.0	0.400	"	36.8	95.2	80-120
Cadmium	1.71	0.200	"	1.84	93.2	80-120
Copper	35.7	0.400	"	36.8	97.0	80-120
Lead	17.2	0.200	"	18.4	93.7	80-120
Nickel	35.3	0.400	"	36.8	96.1	80-120
Silver	1.73	0.0200	"	1.84	94.1	80-120
Zinc	36.0	0.400	"	36.8	97.8	80-120
Selenium	3.62	0.260	"	3.68	98.4	80-120

**Duplicate (BHJ0009-DUP1)**

Source: 2409462-01

Prepared & Analyzed: 10/01/24

Arsenic	1.81	0.200	mg/kg dry	2.86	45.0	20	QR-01
Barium	17.6	0.400	"	14.1	22.4	20	QR-02
Cadmium	0.0442	0.200	"	0.0701	45.3	20	QR-01
Copper	0.883	0.400	"	1.46	49.5	20	QR-01
Lead	2.04	0.200	"	3.12	42.0	20	QR-02
Nickel	0.892	0.400	"	1.80	67.2	20	QR-01
Silver	ND	0.0200	"	0.00315	200	20	QR-01
Zinc	4.39	0.400	"	7.14	47.7	20	QR-02
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

**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 BHJ0009 - EPA 3050B**

**Matrix Spike (BHJ0009-MS1)**

Source: 2409462-01

Prepared & Analyzed: 10/01/24

Arsenic	42.0	0.200	mg/kg dry	43.5	2.86	90.0	75-125			
Barium	59.3	0.400	"	43.5	14.1	104	75-125			
Cadmium	2.24	0.200	"	2.18	0.0701	99.6	75-125			
Copper	38.0	0.400	"	43.5	1.46	83.9	75-125			
Lead	23.6	0.200	"	21.8	3.12	94.1	75-125			
Nickel	37.6	0.400	"	43.5	1.80	82.2	75-125			
Silver	2.17	0.0200	"	2.18	0.00315	99.6	75-125			
Zinc	41.0	0.400	"	43.5	7.14	77.7	75-125			
Selenium	3.76	0.260	"	4.35	ND	86.2	75-125			

**Matrix Spike Dup (BHJ0009-MSD1)**

Source: 2409462-01

Prepared & Analyzed: 10/01/24

Arsenic	40.6	0.200	mg/kg dry	44.2	2.86	85.4	75-125	3.41	25	
Barium	52.0	0.400	"	44.2	14.1	85.9	75-125	13.1	25	
Cadmium	1.95	0.200	"	2.21	0.0701	85.1	75-125	13.7	25	
Copper	36.3	0.400	"	44.2	1.46	78.8	75-125	4.51	25	
Lead	21.6	0.200	"	22.1	3.12	83.4	75-125	9.07	25	
Nickel	36.4	0.400	"	44.2	1.80	78.2	75-125	3.20	25	
Silver	1.93	0.0200	"	2.21	0.00315	87.2	75-125	11.7	25	
Zinc	39.8	0.400	"	44.2	7.14	73.8	75-125	2.93	25	QM-05
Selenium	3.64	0.260	"	4.42	ND	82.3	75-125	3.14	25	

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 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

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

**Batch BHJ0037 - 3060A Mod**

**Blank (BHJ0037-BLK1)**

Prepared & Analyzed: 10/01/24

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BHJ0037-BS1)**

Prepared & Analyzed: 10/01/24

Chromium, Hexavalent      26.2      0.30    mg/kg wet      25.0      105      80-120

**Duplicate (BHJ0037-DUP1)**

**Source: 2409462-01**

Prepared & Analyzed: 10/01/24

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BHJ0037-MS1)**

**Source: 2409462-01**

Prepared & Analyzed: 10/01/24

Chromium, Hexavalent      32.2      0.30    mg/kg dry      28.1      ND      115      75-125

**Matrix Spike Dup (BHJ0037-MSD1)**

**Source: 2409462-01**

Prepared & Analyzed: 10/01/24

Chromium, Hexavalent      32.2      0.30    mg/kg dry      28.1      ND      115      75-125      0.174      20

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

**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 BHI1138 - General Preparation**

**Blank (BHI1138-BLK1)**

Prepared: 09/30/24 Analyzed: 10/01/24

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

**LCS (BHI1138-BS1)**

Prepared: 09/30/24 Analyzed: 10/01/24

Calcium	5.08	0.0500	mg/L wet	5.00	102	70-130				
Magnesium	4.73	0.0500	"	5.00	94.7	70-130				
Sodium	4.77	0.0500	"	5.00	95.4	70-130				

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

**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 BHJ0007 - General Preparation**


**Duplicate (BHJ0007-DUP2)**

**Source: 2409458-14**

Prepared & Analyzed: 10/01/24

% Solids	86.8		%		86.8			0.00171	20	
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Summit Scientific



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Fremont Environmental  
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 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

**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			%REC	Limits	RPD	Limit	

**Batch BHI1139 - General Preparation**

**Blank (BHI1139-BLK1)**

Prepared: 09/30/24 Analyzed: 10/02/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHI1139-BS1)**

Prepared: 09/30/24 Analyzed: 10/02/24

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

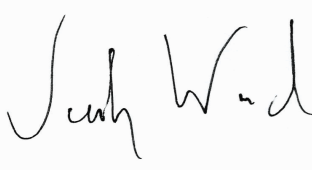
**Duplicate (BHI1139-DUP1)**

Source: 2409424-01

Prepared: 09/30/24 Analyzed: 10/02/24

Specific Conductance (EC) 0.170 0.0100 mmhos/cm 0.168 0.592 20

Summit Scientific



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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
 Project Manager: Paul Henchan

**Reported:**  
 10/02/24 16:23

**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 BHI1140 - General Preparation**

**LCS (BHI1140-BS1)**

Prepared: 09/30/24 Analyzed: 10/02/24

pH	9.22	pH Units	9.18	100	95-105
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**Duplicate (BHI1140-DUP1)**

Source: 2409424-01

Prepared: 09/30/24 Analyzed: 10/02/24

pH	8.58	pH Units	8.65	0.813	20
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Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Jepsen Excavation

Project Number: CO23-220  
Project Manager: Paul Henchan

**Reported:**  
10/02/24 16:23

### Notes and Definitions

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference