

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 19, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

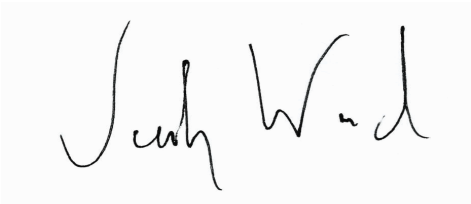
Wellington, CO 80549

RE: Noble - Hansen BCO-64N67W 1NESE

Work Order #2405479

Enclosed are the results of analyses for samples received by Summit Scientific on 05/31/24 13:13. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Jacob Wood". The signature is written in a cursive, flowing style.

Jacob Wood For Paul Shrewsbury

President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE

Project Number: UWRWE-A2137-ABN

Project Manager: Paul Henchan

Reported:
06/19/24 15:39

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
(PWV) Backfill	2405479-01	Soil	05/31/24 00:00	05/31/24 13:13

Summit Scientific

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

Lab ID

Page 1 of 1

2405479

				Send Data To:				Send Invoice To:											
Client: Fremont Env				Project Manager: Paul Henahan				Company: Noble											
Address:				E-Mail: Paulh@fremontenv.com				Project Name/Location:											
City/State/Zip:				Jeffg@fremontenv.com Ethenb@fremontenv.com				AFE#:											
Phone:				Project Name: Hansen BC O-64N67W 1NESE				PO/Billing Codes: UWRUE-A2137-ABN											
Sampler Name: JG				Project Number:				Contact:											
				Preservative		Matrix		Analysis Requested				Special Instructions							
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTX+N	TMBS(915)	DRD, DRD, BRO	PAHs(915)	EC-PH, SAR, BOD5	Metals(915)	
1	(PWV) Backfill	5/31/24		2			X			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:		Received by:		Date/Time:		TAT Business Days		Field DO		Notes:							
5/31/24		13:13		J. H. U. d		5/31/24 13:13		Same Day		X									
Relinquished by:		Date/Time:		Received by:		Date/Time:		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: 20.4				Corrected Temperature				IR gun #: 2				HNO3 lot #:							

S₂

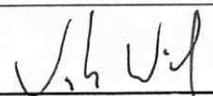
Sample Receipt Checklist

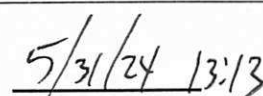
S2 Work Order# 2405479

Client: Noble Farm L Client Project ID: Han Son BC 0-64 N67W 1 NESEShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐
☒ ☐ ☐ ☐ ☐
Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 20.4 Thermometer # 2

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

Additional Comments (if any):

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

 Custodian Printed Name


 Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

(PWV) Backfill
2405479-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHE0985	05/31/24	05/31/24	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: **05/31/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0448	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	97.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHE0986	05/31/24	05/31/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **05/31/24 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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PAH by EPA Method 8270D SIM

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0011	06/03/24	06/03/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00554	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.00754	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00533	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00657	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: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0277	83.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0288	86.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0023	06/03/24	06/05/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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(PWV) Backfill
2405479-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	2.94	0.200	mg/kg dry	1	BHF0030	06/03/24	06/05/24	EPA 6020B
Barium	37.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.81	0.400	"	"	"	"	"	"
Lead	4.17	0.200	"	"	"	"	"	"
Nickel	3.55	0.400	"	"	"	"	"	"
Silver	0.0338	0.0200	"	"	"	"	"	"
Zinc	13.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0017	06/03/24	06/03/24	EPA 7196A	

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

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	88.5	0.0500	mg/L dry	1	BHE0980	05/31/24	06/04/24	EPA 6020B	
Magnesium	5.48	0.0500	"	"	"	"	06/05/24	"	
Sodium	8.64	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.241	0.00100	units	1	BHF0109	06/05/24	06/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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06/19/24 15:39

(PWV) Backfill
2405479-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.5			%	1	BHF0015	06/03/24	06/03/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.141	0.0100		mmhos/cm	1	BHE0984	05/31/24	06/04/24	EPA 120.1	

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06/19/24 15:39

(PWV) Backfill
2405479-01 (Soil)

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

Date Sampled: **05/31/24 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.74			pH Units	1	BHF0315	05/31/24	06/12/24	EPA 9045D	

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Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHE0985 - EPA 5030 Soil MS

Blank (BHE0985-BLK1)

Prepared: 05/31/24 Analyzed: 06/01/24

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	"							
Surrogate: 1,2-Dichloroethane-d4	0.0401		"	0.0400		100	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0393		"	0.0400		98.2	50-150			

LCS (BHE0985-BS1)

Prepared: 05/31/24 Analyzed: 06/01/24

Benzene	0.0865	0.0020	mg/kg	0.100		86.5	70-130			
Toluene	0.0990	0.0050	"	0.100		99.0	70-130			
Ethylbenzene	0.0972	0.0050	"	0.100		97.2	70-130			
m,p-Xylene	0.193	0.010	"	0.200		96.4	70-130			
o-Xylene	0.0945	0.0050	"	0.100		94.5	70-130			
1,2,4-Trimethylbenzene	0.0902	0.0050	"	0.100		90.2	70-130			
1,3,5-Trimethylbenzene	0.0907	0.0050	"	0.100		90.7	70-130			
Naphthalene	0.0775	0.0038	"	0.100		77.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.7	50-150			
Surrogate: Toluene-d8	0.0410		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	50-150			

Matrix Spike (BHE0985-MS1)

Source: 2405479-01

Prepared: 05/31/24 Analyzed: 06/01/24

Benzene	0.0840	0.0020	mg/kg	0.100	ND	84.0	70-130			
Toluene	0.0988	0.0050	"	0.100	ND	98.8	70-130			
Ethylbenzene	0.0899	0.0050	"	0.100	ND	89.9	70-130			
m,p-Xylene	0.177	0.010	"	0.200	ND	88.6	70-130			
o-Xylene	0.0847	0.0050	"	0.100	ND	84.7	70-130			
1,2,4-Trimethylbenzene	0.0718	0.0050	"	0.100	ND	71.8	70-130			
1,3,5-Trimethylbenzene	0.0753	0.0050	"	0.100	ND	75.3	70-130			
Naphthalene	0.0621	0.0038	"	0.100	ND	62.1	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0346		"	0.0400		86.6	50-150			
Surrogate: Toluene-d8	0.0420		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.1	50-150			

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Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHE0985 - EPA 5030 Soil MS

Matrix Spike Dup (BHE0985-MSD1)		Source: 2405479-01			Prepared: 05/31/24 Analyzed: 06/01/24					
Benzene	0.0950	0.0020	mg/kg	0.100	ND	95.0	70-130	12.3	30	
Toluene	0.115	0.0050	"	0.100	ND	115	70-130	15.3	30	
Ethylbenzene	0.0982	0.0050	"	0.100	ND	98.2	70-130	8.80	30	
m,p-Xylene	0.196	0.010	"	0.200	ND	98.1	70-130	10.1	30	
o-Xylene	0.0934	0.0050	"	0.100	ND	93.4	70-130	9.81	30	
1,2,4-Trimethylbenzene	0.0840	0.0050	"	0.100	ND	84.0	70-130	15.6	30	
1,3,5-Trimethylbenzene	0.0851	0.0050	"	0.100	ND	85.1	70-130	12.2	30	
Naphthalene	0.0669	0.0038	"	0.100	ND	66.9	70-130	7.35	30	QM-07
Surrogate: 1,2-Dichloroethane-d4		0.0400	"	0.0400		100	50-150			
Surrogate: Toluene-d8		0.0428	"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene		0.0405	"	0.0400		101	50-150			

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Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHE0986 - EPA 3550A

Blank (BHE0986-BLK1)

Prepared & Analyzed: 05/31/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.6		"	12.5	101		30-150			

LCS (BHE0986-BS1)

Prepared & Analyzed: 05/31/24

C10-C28 (DRO)	405	50	mg/kg	500	81.0		70-130			
Surrogate: o-Terphenyl	12.1		"	12.5	96.6		30-150			

Matrix Spike (BHE0986-MS1)

Source: 2405479-01

Prepared & Analyzed: 05/31/24

C10-C28 (DRO)	408	50	mg/kg	500	30.3	75.5	70-130			
Surrogate: o-Terphenyl	11.1		"	12.5	88.6		30-150			

Matrix Spike Dup (BHE0986-MSD1)

Source: 2405479-01

Prepared & Analyzed: 05/31/24

C10-C28 (DRO)	415	50	mg/kg	500	30.3	76.9	70-130	1.63	20	
Surrogate: o-Terphenyl	10.7		"	12.5	85.7		30-150			

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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 BHF0011 - EPA 5030 Soil MS

Blank (BHF0011-BLK1)

Prepared & Analyzed: 06/03/24

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	0.0333		"	0.0333		100	40-150			
Surrogate: Fluoranthene-d10	0.0372		"	0.0333		112	40-150			

LCS (BHF0011-BS1)

Prepared & Analyzed: 06/03/24

Acenaphthene	0.0247	0.00500	mg/kg	0.0333	74.1	31-137
Anthracene	0.0259	0.00500	"	0.0333	77.7	30-120
Benzo (a) anthracene	0.0254	0.00500	"	0.0333	76.3	30-120
Benzo (a) pyrene	0.0252	0.00500	"	0.0333	75.6	30-120
Benzo (b) fluoranthene	0.0246	0.00500	"	0.0333	73.7	30-120
Benzo (k) fluoranthene	0.0235	0.00500	"	0.0333	70.6	30-120
Chrysene	0.0263	0.00500	"	0.0333	78.9	30-120
Dibenz (a,h) anthracene	0.0237	0.00500	"	0.0333	71.0	30-120
Fluoranthene	0.0253	0.00500	"	0.0333	76.0	30-120
Fluorene	0.0249	0.00500	"	0.0333	74.6	30-120
Indeno (1,2,3-cd) pyrene	0.0300	0.00500	"	0.0333	90.1	30-120
Pyrene	0.0315	0.00500	"	0.0333	94.6	35-142
1-Methylnaphthalene	0.0249	0.00500	"	0.0333	74.8	35-142
2-Methylnaphthalene	0.0248	0.00500	"	0.0333	74.5	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0255		"	0.0333	76.4	40-150
Surrogate: Fluoranthene-d10	0.0267		"	0.0333	80.2	40-150

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHF0011 - EPA 5030 Soil MS

Matrix Spike (BHF0011-MS1)

Source: 2405479-01

Prepared & Analyzed: 06/03/24

Acenaphthene	0.0227	0.00500	mg/kg	0.0333	ND	68.1	31-137		
Anthracene	0.0238	0.00500	"	0.0333	ND	71.5	30-120		
Benzo (a) anthracene	0.0231	0.00500	"	0.0333	ND	69.2	30-120		
Benzo (a) pyrene	0.0235	0.00500	"	0.0333	0.00554	54.0	30-120		
Benzo (b) fluoranthene	0.0237	0.00500	"	0.0333	0.00754	48.5	30-120		
Benzo (k) fluoranthene	0.0227	0.00500	"	0.0333	0.00533	52.1	30-120		
Chrysene	0.0234	0.00500	"	0.0333	ND	70.3	30-120		
Dibenz (a,h) anthracene	0.0276	0.00500	"	0.0333	ND	82.7	30-120		
Fluoranthene	0.0217	0.00500	"	0.0333	0.00657	45.3	30-120		
Fluorene	0.0226	0.00500	"	0.0333	ND	67.9	30-120		
Indeno (1,2,3-cd) pyrene	0.0193	0.00500	"	0.0333	ND	58.0	30-120		
Pyrene	0.0425	0.00500	"	0.0333	ND	128	35-142		
1-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.5	15-130		
2-Methylnaphthalene	0.0227	0.00500	"	0.0333	ND	68.1	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0235		"	0.0333		70.5	40-150		
Surrogate: Fluoranthene-d10	0.0233		"	0.0333		69.8	40-150		

Matrix Spike Dup (BHF0011-MSD1)

Source: 2405479-01

Prepared & Analyzed: 06/03/24

Acenaphthene	0.0225	0.00500	mg/kg	0.0333	ND	67.4	31-137	1.11	30	
Anthracene	0.0229	0.00500	"	0.0333	ND	68.7	30-120	4.01	30	
Benzo (a) anthracene	0.0240	0.00500	"	0.0333	ND	71.9	30-120	3.78	30	
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	0.00554	49.2	30-120	6.97	30	
Benzo (b) fluoranthene	0.0213	0.00500	"	0.0333	0.00754	41.4	30-120	10.5	30	
Benzo (k) fluoranthene	0.0215	0.00500	"	0.0333	0.00533	48.4	30-120	5.58	30	
Chrysene	0.0232	0.00500	"	0.0333	ND	69.6	30-120	0.971	30	
Dibenz (a,h) anthracene	0.0231	0.00500	"	0.0333	ND	69.2	30-120	17.8	30	
Fluoranthene	0.0220	0.00500	"	0.0333	0.00657	46.3	30-120	1.53	30	
Fluorene	0.0235	0.00500	"	0.0333	ND	70.5	30-120	3.74	30	
Indeno (1,2,3-cd) pyrene	0.0159	0.00500	"	0.0333	ND	47.6	30-120	19.7	30	
Pyrene	0.0257	0.00500	"	0.0333	ND	77.2	35-142	49.2	30	QR-02
1-Methylnaphthalene	0.0225	0.00500	"	0.0333	ND	67.6	15-130	0.148	50	
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.8	15-130	0.973	50	
Surrogate: 2-Methylnaphthalene-d10	0.0232		"	0.0333		69.5	40-150			
Surrogate: Fluoranthene-d10	0.0234		"	0.0333		70.2	40-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHF0023 - EPA 3050B

Blank (BHF0023-BLK1)

Prepared: 06/03/24 Analyzed: 06/05/24

Boron ND 2.00 mg/L

LCS (BHF0023-BS1)

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 5.01 2.00 mg/L 5.00 100 80-120

Duplicate (BHF0023-DUP1)

Source: 2405479-01

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 0.105 2.00 mg/L 0.133 23.7 20 QR-01

Matrix Spike (BHF0023-MS1)

Source: 2405479-01

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 5.15 2.00 mg/L 5.01 0.133 100 75-125

Matrix Spike Dup (BHF0023-MSD1)

Source: 2405479-01

Prepared: 06/03/24 Analyzed: 06/05/24

Boron 5.57 2.00 mg/L 5.01 0.133 109 75-125 7.87 25

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHF0030 - EPA 3050B

Blank (BHF0030-BLK1)

Prepared: 06/03/24 Analyzed: 06/05/24

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 (BHF0030-BS1)

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	38.8	0.200	mg/kg wet	39.1	99.3	80-120
Barium	39.0	0.400	"	39.1	99.8	80-120
Cadmium	1.95	0.200	"	1.95	100	80-120
Copper	40.6	0.400	"	39.1	104	80-120
Lead	19.4	0.200	"	19.5	99.6	80-120
Nickel	40.5	0.400	"	39.1	104	80-120
Silver	1.94	0.0200	"	1.95	99.2	80-120
Zinc	40.3	0.400	"	39.1	103	80-120
Selenium	4.29	0.260	"	3.91	110	80-120

Duplicate (BHF0030-DUP1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	2.00	0.200	mg/kg dry	1.88	6.22	20
Barium	31.8	0.400	"	31.2	1.70	20
Cadmium	0.0860	0.200	"	0.0925	7.22	20
Copper	1.73	0.400	"	1.88	8.13	20
Lead	3.39	0.200	"	4.82	34.8	20
Nickel	1.89	0.400	"	1.83	2.79	20
Silver	0.00960	0.0200	"	0.0103	7.20	20
Zinc	8.72	0.400	"	8.65	0.772	20
Selenium	ND	0.260	"	ND		20

QR-04

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHF0030 - EPA 3050B

Matrix Spike (BHF0030-MS1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	39.8	0.200	mg/kg dry	40.3	1.88	94.1	75-125
Barium	67.9	0.400	"	40.3	31.2	90.9	75-125
Cadmium	2.07	0.200	"	2.02	0.0925	98.3	75-125
Copper	33.0	0.400	"	40.3	1.88	77.2	75-125
Lead	22.8	0.200	"	20.2	4.82	89.2	75-125
Nickel	33.5	0.400	"	40.3	1.83	78.4	75-125
Silver	1.93	0.0200	"	2.02	0.0103	95.4	75-125
Zinc	40.7	0.400	"	40.3	8.65	79.4	75-125
Selenium	4.07	0.260	"	4.03	ND	101	75-125

Matrix Spike Dup (BHF0030-MSD1)

Source: 2405476-01

Prepared: 06/03/24 Analyzed: 06/05/24

Arsenic	40.1	0.200	mg/kg dry	39.1	1.88	97.7	75-125	0.668	25
Barium	66.0	0.400	"	39.1	31.2	88.8	75-125	2.82	25
Cadmium	2.02	0.200	"	1.96	0.0925	98.4	75-125	2.78	25
Copper	32.8	0.400	"	39.1	1.88	79.1	75-125	0.510	25
Lead	22.7	0.200	"	19.6	4.82	91.3	75-125	0.516	25
Nickel	33.9	0.400	"	39.1	1.83	82.0	75-125	1.27	25
Silver	1.87	0.0200	"	1.96	0.0103	94.9	75-125	3.62	25
Zinc	40.6	0.400	"	39.1	8.65	81.6	75-125	0.257	25
Selenium	4.01	0.260	"	3.91	ND	103	75-125	1.55	25

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHF0017 - 3060A Mod

Blank (BHF0017-BLK1)

Prepared & Analyzed: 06/03/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHF0017-BS1)

Prepared & Analyzed: 06/03/24

Chromium, Hexavalent 25.7 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHF0017-DUP1)

Source: 2405423-01

Prepared & Analyzed: 06/03/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHF0017-MS1)

Source: 2405423-01

Prepared & Analyzed: 06/03/24

Chromium, Hexavalent 28.6 0.30 mg/kg dry 29.3 ND 97.8 75-125

Matrix Spike Dup (BHF0017-MSD1)

Source: 2405423-01

Prepared & Analyzed: 06/03/24

Chromium, Hexavalent 27.1 0.30 mg/kg dry 27.9 ND 97.4 75-125 5.38 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHE0980 - General Preparation

Blank (BHE0980-BLK1)

Prepared: 05/31/24 Analyzed: 06/04/24

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

LCS (BHE0980-BS1)

Prepared: 05/31/24 Analyzed: 06/04/24

Calcium	5.44	0.0500	mg/L wet	5.00	109	70-130
Magnesium	5.18	0.0500	"	5.00	104	70-130
Sodium	5.19	0.0500	"	5.00	104	70-130

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE

Project Number: UWRWE-A2137-ABN

Project Manager: Paul Henchan

Reported:

06/19/24 15:39

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

Summit Scientific

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

Batch BHF0015 - General Preparation

Duplicate (BHF0015-DUP1)		Source: 2405423-09			Prepared & Analyzed: 06/03/24					
% Solids	87.2		%		88.1			1.07	20	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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 BHE0984 - General Preparation

Blank (BHE0984-BLK1)

Prepared: 05/31/24 Analyzed: 06/04/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHE0984-BS1)

Prepared: 05/31/24 Analyzed: 06/04/24

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

Duplicate (BHE0984-DUP1)

Source: 2405421-01

Prepared: 05/31/24 Analyzed: 06/04/24

Specific Conductance (EC) 0.0906 0.0100 mmhos/cm 0.0913 0.748 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE
Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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

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

Batch BHE0983 - General Preparation

LCS (BHE0983-BS1)

Prepared: 05/31/24 Analyzed: 06/04/24

pH	9.13		pH Units	9.18		99.5	95-105		
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Duplicate (BHE0983-DUP1)

Source: 2405421-01

Prepared: 05/31/24 Analyzed: 06/04/24

pH	8.99		pH Units		9.09			1.11	20
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Batch BHF0315 - General Preparation

LCS (BHF0315-BS1)

Prepared & Analyzed: 06/12/24

pH	9.16		pH Units	9.18		99.8	95-105		
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Duplicate (BHF0315-DUP1)

Source: 2405479-01RE1

Prepared & Analyzed: 06/12/24

pH	8.71		pH Units		8.74			0.344	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Hansen BCO-64N67W 1NESE

Project Number: UWRWE-A2137-ABN
Project Manager: Paul Henchan

Reported:
06/19/24 15:39

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-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 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.
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