

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
KNAUB 64N65W 9SWSW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-021

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl- Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4- Trimethyl- Benzene (mg/kg)	1,3,5- Trimethyl- Benzene (mg/kg)	Naphthalene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
AST 3'	01/29/2024	3'	<0.0020	<0.0050	<0.0050	<0.010	0.0052	<0.0050	<0.0038	<0.50	<50	<50
PWV FLOOR 3'	01/29/2024	3'	<0.0020	<0.0050	<0.0050	0.012	<0.0050	0.0078	<0.0038	2.0	<50	<50
SEP DL 3'	01/29/2024	3'	<0.0020	<0.0050	<0.0050	1.5	22	20	<0.0038	710	700	<50

Bold faced values exceed the ECMC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

Green highlighted cells indicate soil removed via excavation

* Indicates laboratory minimum detection limit in excess of SSL

** Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA - Not analyzed

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
KNAUB 64N65W 9SWSW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-021

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
AST 3'	01/29/2024	3'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
PWV FLOOR 3'	01/29/2024	3'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0128	0.0334
SEP DL 3'	01/29/2024	3'	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0054	<0.00500	<0.00500	<0.00500	0.951	1.71

Bold faced values exceed the ECMC Table 915-1 concentrations
Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)
* Indicates laboratory minimum detection limit in excess of SSL
NA - Not analyzed
Green highlighted cells indicate soil removed via excavation

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
NOBLE ENERGY INC.
KNAUB 64N65W 9SWSW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-021

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
Max. Background Concentration (or Concentration Range)			-	-	-	-
AST 3'	01/29/2024	3'	6.67	0.112	0.361	<2.00
PWV FLOOR 3'	01/29/2024	3'	8.81	0.275	0.183	<2.00
SEP DL 3'	01/29/2024	3'	7.79	0.519	0.463	<2.00

Bold faced, yellow highlighted values exceed the ECMC Table 915-1 concentrations

Green highlighted cells indicate soil removed via excavation

Orange highlighted cells exceed of the maximum background concentration, or concentration range

Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

NA - Not analyzed

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
NOBLE ENERGY INC.
KNAUB 64N65W 9SWSW, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C024-021

Sample ID	Sample Date	Depth (ft)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
125% Max. Background Concentration			-	-	-	-	-	-	-	-	-	-
AST 3'	01/29/2024	3'	0.794	69.3	<0.200	<0.30	2.20	5.38	3.10	<0.260	0.0287	9.32
PWV FLOOR 3'	01/29/2024	3'	0.751	55.7	<0.200	<0.30	2.45	5.85	1.65	<0.260	0.0436	10.4
SEP DL 3'	01/29/2024	3'	0.654	40.8	<0.200	<0.30	1.69	3.62	1.62	<0.260	<0.0200	7.11

Bold faced values exceed the ECMC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

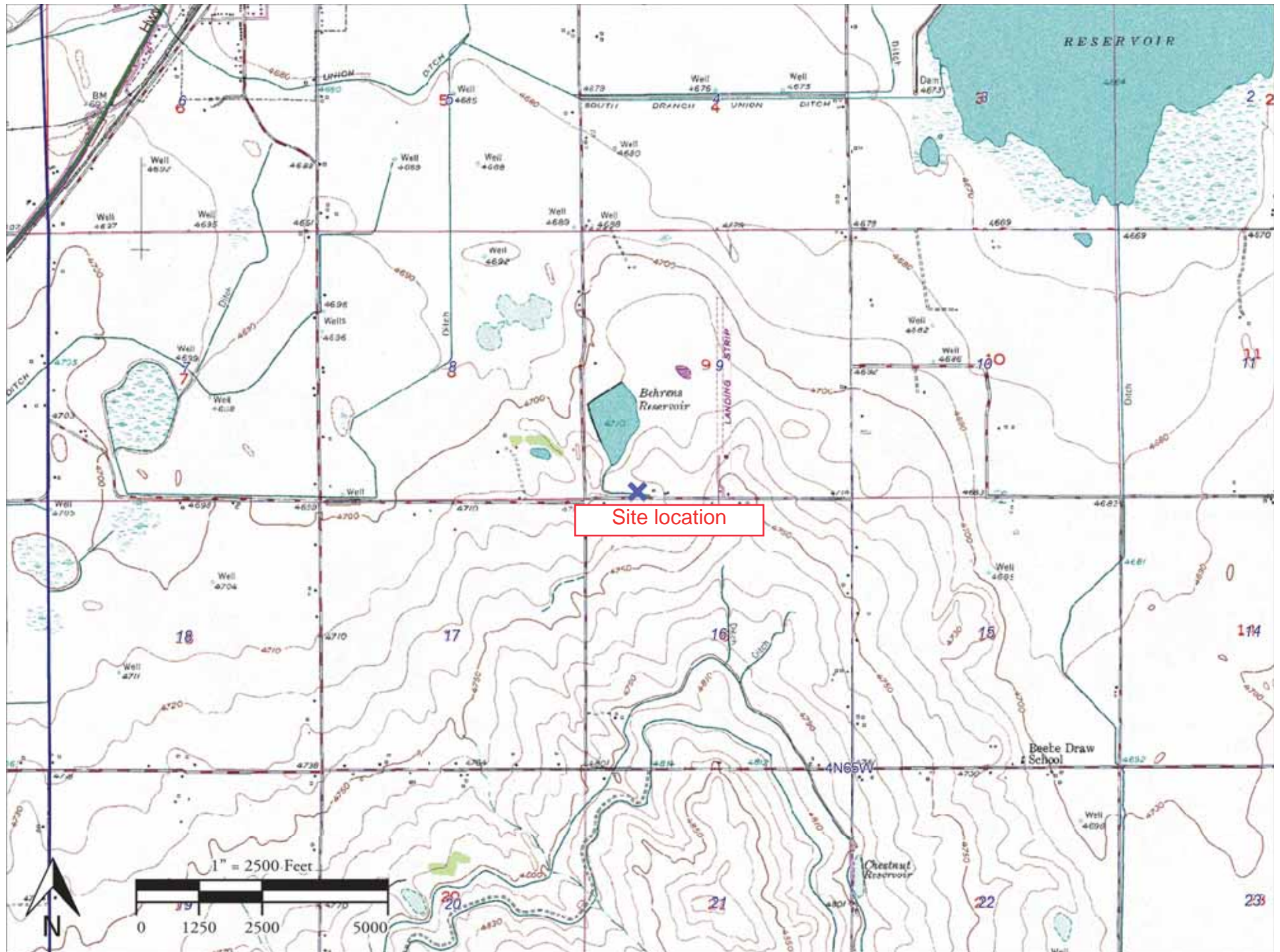
Orange highlighted cells exceed 125% of the maximum background concentration

* Indicates laboratory minimum detection limit in excess of SSL

Green highlighted cells indicate soil removed via excavation

NA - Not analyzed

Knaub 64N65W 9SWSW



Knaub 64N65W 9SWSW

API #/Facility #: 328257

Legal Description: SWSW Sec. 9, T4N, R65W

Latitude/Longitude: 40.3200328, -104.6737184 and 40.3201721, -104.6738254

Remediation # 30788

Fremont No. C024-021

Proposed
Excavation Extents
(not to scale)

Proposed
Background
Sample Location
(x5)

SEP DL 3'

PWV FLOOR 3'



Description:

#1- Knaub 64N65W 9SWSW Tank battery- PWV FLOOR 3' - Grey staining and strong HC odor

Photo Log



Description:

#2- Knaub 64N65W 9SWSW Tank battery- SEP DL 3'- Black/Grey staining and strong HC odor

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 12, 2024

Paul Henchan

Fremont Environmental

PO Box 1289

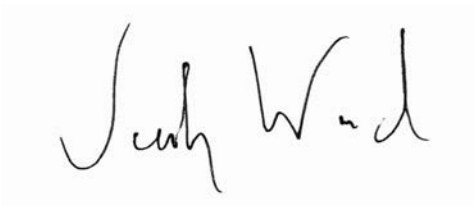
Wellington, CO 80549

RE: Noble - Knaub 64N65W 9SWSW

Work Order #2401555

Enclosed are the results of analyses for samples received by Summit Scientific on 01/30/24 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 "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 - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
AST 3'	2401555-01	Soil	01/29/24 12:00	01/30/24 16:30
SEP DL 3'	2401555-02	Soil	01/29/24 12:05	01/30/24 16:30
PWV FLOOR 3'	2401555-03	Soil	01/29/24 09:50	01/30/24 16:30

Summit Scientific

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

Lab ID	Page 1 of 1
2401555	

Client: Fremont Environmental		Send Data To:		Send Invoice To:																
Address:		Project Manager: Paul Henehan		Company: Noble																
City/State/Zip:		E-Mail: Fremont Distribution List		Project Name/Location:																
Phone: 303-261-6246		Project Name: Knaub 64N65W 9SWSW		AFE#:																
Sampler Name: Stanley Gilbert		Project Number:		PO/Billing Codes: UWRWE-A3469-ABN																
				Contact: Mike Montoya																
		Preservative		Matrix																
				Analysis Requested																
				Special Instructions																
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX, TMBs, Naph.	TPH	PAH (915)	EC, SAR, Ph, Boron	Metals (915)	TDS, Chloride, Sulfate	HOLD	
1	AST 3'	11/29/24	12:00	2			X			X			X	X	X	X	X			
2	SEP DL 3'	11/29/24	12:05	2			X			X			X	X	X	X	X			
3	PW FLOOR 3'	11/30/24	9:50	2			X			X			X	X	X	X	X			
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				
Relinquished by: [Signature]		Date/Time: 1/30/24 15:50		Received by: Summit North		Date/Time: 1/30/24 15:50		TAT Business Days		Field DO		Notes:								
Relinquished by: 52		Date/Time: 1/30/24 10:30		Received by: [Signature]		Date/Time: 1/30/24 10:30		Same Day		Field EC										
								1 Day		Field ORP										
								2 Days		Field pH										
								3 Days		Field Temp.										
Relinquished by:		Date/Time:		Received by:		Date/Time:		Standard		Field Turb.										
Temperature Upon Receipt: 8.3		Corrected Temperature: 8		IR gun #:		HNO3 lot #:														

S₂

Sample Receipt Checklist

S2 Work Order# 2401555Client: Fremont Client Project ID: Knaub WNWGSW 9SWSWShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: _____

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 8.3Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>on ice</u>
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input 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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<u>no time stamps</u>
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.AS
Custodian Printed Name1/30/24
Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

AST 3'
2401555-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHB0078	02/02/24	02/06/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.0052	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0449	112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0367	91.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHB0075	02/02/24	02/06/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	5.94	47.5 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

AST 3'
2401555-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0067	02/02/24	02/03/24	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: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0192	57.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0238	02/07/24	02/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

AST 3'
2401555-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.794	0.200	mg/kg dry	1	BHB0140	02/05/24	02/08/24	EPA 6020B
Barium	69.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.20	0.400	"	"	"	"	"	"
Lead	5.38	0.200	"	"	"	"	"	"
Nickel	3.10	0.400	"	"	"	"	"	"
Silver	0.0287	0.0200	"	"	"	"	"	"
Zinc	9.32	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0032	02/01/24	02/01/24	EPA 7196A	

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

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	75.1	0.0500	mg/L dry	1	BHA1091	01/31/24	02/02/24	EPA 6020B	
Magnesium	6.00	0.0500	"	"	"	"	"	"	
Sodium	12.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.361	0.00100	units	1	BHB0185	02/06/24	02/06/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
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Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

AST 3'
2401555-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.3		%	1	BHB0154	02/06/24	02/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.112	0.0100	mmhos/cm	1	BHB0011	02/01/24	02/01/24	EPA 120.1	

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

Date Sampled: **01/29/24 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.67		pH Units	1	BHB0009	02/01/24	02/01/24	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

SEP DL 3'
2401555-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0078	02/02/24	02/06/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	1.5	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	22	0.50	"	100	"	"	02/06/24	"	
1,3,5-Trimethylbenzene	20	0.50	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	1	"	"	02/06/24	"	
Gasoline Range Hydrocarbons	710	50	"	100	"	"	02/06/24	"	

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0474	119 %	50-150		"	"	02/06/24	"	
<i>Surrogate: Toluene-d8</i>	0.0465	116 %	50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0488	122 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	700	50	mg/kg	1	BHB0075	02/02/24	02/06/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: o-Terphenyl</i>	6.10	48.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

SEP DL 3'
2401555-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHB0067	02/02/24	02/03/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.00540	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	0.951	0.00500	"	"	"	"	"	"	E
2-Methylnaphthalene	1.71	0.00500	"	"	"	"	"	"	E

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0160	48.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHB0238	02/07/24	02/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/29/24 12:05**

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

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

SEP DL 3'
2401555-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.654	0.200	mg/kg dry	1	BHB0140	02/05/24	02/08/24	EPA 6020B
Barium	40.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.69	0.400	"	"	"	"	"	"
Lead	3.62	0.200	"	"	"	"	"	"
Nickel	1.62	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	7.11	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0032	02/01/24	02/01/24	EPA 7196A	

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

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	42.6	0.0500	mg/L dry	1	BHA1091	01/31/24	02/02/24	EPA 6020B	
Magnesium	5.51	0.0500	"	"	"	"	"	"	
Sodium	12.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.463	0.00100	units	1	BHB0185	02/06/24	02/06/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

SEP DL 3'
2401555-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	88.5			%	1	BHB0154	02/06/24	02/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.519	0.0100		mmhos/cm	1	BHB0011	02/01/24	02/01/24	EPA 120.1	

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

Date Sampled: **01/29/24 12:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.79			pH Units	1	BHB0009	02/01/24	02/01/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

PWV FLOOR 3'
2401555-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHB0078	02/02/24	02/06/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.012	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.0078	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	2.0	0.50	"	"	"	"	"	"	

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0407	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHB0075	02/02/24	02/06/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.23	65.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

PWV FLOOR 3'
2401555-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHB0067	02/02/24	02/03/24	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	0.0128	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0334	0.00500	"	"	"	"	"	"	

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0134	40.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHB0238	02/07/24	02/08/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

PWV FLOOR 3'
2401555-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.751	0.200	mg/kg dry	1	BHB0140	02/05/24	02/08/24	EPA 6020B
Barium	55.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.45	0.400	"	"	"	"	"	"
Lead	5.85	0.200	"	"	"	"	"	"
Nickel	1.65	0.400	"	"	"	"	"	"
Silver	0.0436	0.0200	"	"	"	"	"	"
Zinc	10.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHB0032	02/01/24	02/01/24	EPA 7196A	

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

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	155	0.0500	mg/L dry	1	BHA1091	01/31/24	02/02/24	EPA 6020B	
Magnesium	19.3	0.0500	"	"	"	"	"	"	
Sodium	9.08	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.183	0.00100	units	1	BHB0185	02/06/24	02/06/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

PWV FLOOR 3'
2401555-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.1		%	1	BHB0154	02/06/24	02/06/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.275	0.0100	mmhos/cm	1	BHB0011	02/01/24	02/01/24	EPA 120.1	

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

Date Sampled: **01/29/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.81		pH Units	1	BHB0009	02/01/24	02/01/24	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0078 - EPA 5030 Soil MS

Blank (BHB0078-BLK1)

Prepared: 02/02/24 Analyzed: 02/05/24

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	0.0461		"	0.0400		115	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	50-150			

LCS (BHB0078-BS1)

Prepared: 02/02/24 Analyzed: 02/05/24

Benzene	0.100	0.0020	mg/kg	0.100		100	70-130			
Toluene	0.115	0.0050	"	0.100		115	70-130			
Ethylbenzene	0.121	0.0050	"	0.100		121	70-130			
m,p-Xylene	0.246	0.010	"	0.200		123	70-130			
o-Xylene	0.122	0.0050	"	0.100		122	70-130			
1,2,4-Trimethylbenzene	0.119	0.0050	"	0.100		119	70-130			
1,3,5-Trimethylbenzene	0.118	0.0050	"	0.100		118	70-130			
Naphthalene	0.121	0.0038	"	0.100		121	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0422		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0362		"	0.0400		90.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0388		"	0.0400		97.0	50-150			

Matrix Spike (BHB0078-MS1)

Source: 2401549-01

Prepared: 02/02/24 Analyzed: 02/05/24

Benzene	0.0868	0.0020	mg/kg	0.100	ND	86.8	70-130			
Toluene	0.0994	0.0050	"	0.100	ND	99.4	70-130			
Ethylbenzene	0.0945	0.0050	"	0.100	ND	94.5	70-130			
m,p-Xylene	0.194	0.010	"	0.200	ND	97.0	70-130			
o-Xylene	0.0935	0.0050	"	0.100	ND	93.5	70-130			
1,2,4-Trimethylbenzene	0.0849	0.0050	"	0.100	ND	84.9	70-130			
1,3,5-Trimethylbenzene	0.0843	0.0050	"	0.100	ND	84.3	70-130			
Naphthalene	0.0734	0.0038	"	0.100	ND	73.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0442		"	0.0400		111	50-150			
Surrogate: Toluene-d8	0.0386		"	0.0400		96.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	50-150			

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Fremont Environmental
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Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0078 - EPA 5030 Soil MS

Matrix Spike Dup (BHB0078-MSD1)		Source: 2401549-01			Prepared: 02/02/24 Analyzed: 02/05/24					
Benzene	0.0826	0.0020	mg/kg	0.100	ND	82.6	70-130	4.99	30	
Toluene	0.0931	0.0050	"	0.100	ND	93.1	70-130	6.55	30	
Ethylbenzene	0.0911	0.0050	"	0.100	ND	91.1	70-130	3.62	30	
m,p-Xylene	0.185	0.010	"	0.200	ND	92.6	70-130	4.59	30	
o-Xylene	0.0925	0.0050	"	0.100	ND	92.5	70-130	1.10	30	
1,2,4-Trimethylbenzene	0.0787	0.0050	"	0.100	ND	78.7	70-130	7.59	30	
1,3,5-Trimethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130	6.81	30	
Naphthalene	0.0646	0.0038	"	0.100	ND	64.6	70-130	12.7	30	QM-07
Surrogate: 1,2-Dichloroethane-d4		0.0519	"	0.0400		130	50-150			
Surrogate: Toluene-d8		0.0372	"	0.0400		93.1	50-150			
Surrogate: 4-Bromofluorobenzene		0.0407	"	0.0400		102	50-150			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0075 - EPA 3550A

Blank (BHB0075-BLK1)

Prepared: 02/02/24 Analyzed: 02/05/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	10.4		"	12.5		83.3	30-150			

LCS (BHB0075-BS1)

Prepared: 02/02/24 Analyzed: 02/05/24

C10-C28 (DRO)	427	50	mg/kg	500		85.3	70-130			
Surrogate: o-Terphenyl	9.04		"	12.5		72.3	30-150			

Matrix Spike (BHB0075-MS1)

Source: 2401549-01

Prepared: 02/02/24 Analyzed: 02/05/24

C10-C28 (DRO)	433	50	mg/kg	500	16.6	83.4	70-130			
Surrogate: o-Terphenyl	9.80		"	12.5		78.4	30-150			

Matrix Spike Dup (BHB0075-MSD1)

Source: 2401549-01

Prepared: 02/02/24 Analyzed: 02/05/24

C10-C28 (DRO)	419	50	mg/kg	500	16.6	80.5	70-130	3.32	20	
Surrogate: o-Terphenyl	9.59		"	12.5		76.7	30-150			

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0067 - EPA 5030 Soil MS

Blank (BHB0067-BLK1)

Prepared & Analyzed: 02/02/24

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	0.0331		"	0.0333		99.4		40-150			
Surrogate: Fluoranthene-d10	0.0315		"	0.0333		94.5		40-150			

LCS (BHB0067-BS1)

Prepared & Analyzed: 02/02/24

Acenaphthene	0.0343	0.00500	mg/kg	0.0333		103		31-137			
Anthracene	0.0322	0.00500	"	0.0333		96.5		30-120			
Benzo (a) anthracene	0.0306	0.00500	"	0.0333		91.9		30-120			
Benzo (a) pyrene	0.0320	0.00500	"	0.0333		95.9		30-120			
Benzo (b) fluoranthene	0.0303	0.00500	"	0.0333		90.8		30-120			
Benzo (k) fluoranthene	0.0271	0.00500	"	0.0333		81.4		30-120			
Chrysene	0.0320	0.00500	"	0.0333		95.9		30-120			
Dibenz (a,h) anthracene	0.0281	0.00500	"	0.0333		84.3		30-120			
Fluoranthene	0.0310	0.00500	"	0.0333		92.9		30-120			
Fluorene	0.0378	0.00500	"	0.0333		113		30-120			
Indeno (1,2,3-cd) pyrene	0.0355	0.00500	"	0.0333		106		30-120			
Pyrene	0.0274	0.00500	"	0.0333		82.3		35-142			
1-Methylnaphthalene	0.0351	0.00500	"	0.0333		105		35-142			
2-Methylnaphthalene	0.0350	0.00500	"	0.0333		105		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0329		"	0.0333		98.7		40-150			
Surrogate: Fluoranthene-d10	0.0308		"	0.0333		92.3		40-150			

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0067 - EPA 5030 Soil MS

Matrix Spike (BHB0067-MS1)

Source: 2401543-11

Prepared & Analyzed: 02/02/24

Acenaphthene	0.0239	0.00500	mg/kg	0.0333	ND	71.7	31-137		
Anthracene	0.0185	0.00500	"	0.0333	ND	55.6	30-120		
Benzo (a) anthracene	0.0160	0.00500	"	0.0333	ND	48.0	30-120		
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.8	30-120		
Benzo (b) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.3	30-120		
Benzo (k) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.1	30-120		
Chrysene	0.0165	0.00500	"	0.0333	ND	49.4	30-120		
Dibenz (a,h) anthracene	0.0255	0.00500	"	0.0333	ND	76.6	30-120		
Fluoranthene	0.0184	0.00500	"	0.0333	ND	55.3	30-120		
Fluorene	0.0226	0.00500	"	0.0333	ND	67.9	30-120		
Indeno (1,2,3-cd) pyrene	0.0278	0.00500	"	0.0333	ND	83.3	30-120		
Pyrene	0.0221	0.00500	"	0.0333	ND	66.3	35-142		
1-Methylnaphthalene	0.0206	0.00500	"	0.0333	ND	61.9	15-130		
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.6	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0201		"	0.0333		60.2	40-150		
Surrogate: Fluoranthene-d10	0.0188		"	0.0333		56.3	40-150		

Matrix Spike Dup (BHB0067-MSD1)

Source: 2401543-11

Prepared & Analyzed: 02/02/24

Acenaphthene	0.0200	0.00500	mg/kg	0.0333	ND	60.1	31-137	17.6	30
Anthracene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	4.06	30
Benzo (a) anthracene	0.0191	0.00500	"	0.0333	ND	57.4	30-120	17.8	30
Benzo (a) pyrene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	7.30	30
Benzo (b) fluoranthene	0.0189	0.00500	"	0.0333	ND	56.8	30-120	16.0	30
Benzo (k) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	12.7	30
Chrysene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	12.3	30
Dibenz (a,h) anthracene	0.0209	0.00500	"	0.0333	ND	62.7	30-120	19.9	30
Fluoranthene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	5.94	30
Fluorene	0.0190	0.00500	"	0.0333	ND	57.0	30-120	17.5	30
Indeno (1,2,3-cd) pyrene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	21.1	30
Pyrene	0.0209	0.00500	"	0.0333	ND	62.8	35-142	5.43	30
1-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	60.0	15-130	3.02	50
2-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.7	15-130	11.3	50
Surrogate: 2-Methylnaphthalene-d10	0.0189		"	0.0333		56.6	40-150		
Surrogate: Fluoranthene-d10	0.0197		"	0.0333		59.0	40-150		

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0238 - EPA 3050B

Blank (BHB0238-BLK1)

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

Boron ND 2.00 mg/L

LCS (BHB0238-BS1)

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

Boron 5.04 2.00 mg/L 5.00 101 80-120

Duplicate (BHB0238-DUP1)

Source: 2401555-01

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

Boron 0.149 2.00 mg/L 0.134 10.9 20

Matrix Spike (BHB0238-MS1)

Source: 2401555-01

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

Boron 5.02 2.00 mg/L 5.00 0.134 97.7 75-125

Matrix Spike Dup (BHB0238-MSD1)

Source: 2401555-01

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

Boron 4.98 2.00 mg/L 5.00 0.134 96.8 75-125 0.869 25

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0140 - EPA 3050B

Blank (BHB0140-BLK1)

Prepared: 02/05/24 Analyzed: 02/08/24

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 (BHB0140-BS1)

Prepared: 02/05/24 Analyzed: 02/08/24

Arsenic	43.1	0.200	mg/kg wet	40.0	108	80-120
Barium	36.9	0.400	"	40.0	92.3	80-120
Cadmium	1.90	0.200	"	2.00	95.0	80-120
Copper	42.5	0.400	"	40.0	106	80-120
Lead	18.9	0.200	"	20.0	94.4	80-120
Nickel	42.1	0.400	"	40.0	105	80-120
Silver	1.95	0.0200	"	2.00	97.7	80-120
Zinc	42.5	0.400	"	40.0	106	80-120
Selenium	4.74	0.260	"	4.00	118	80-120

Duplicate (BHB0140-DUP1)

Source: 2401535-01

Prepared: 02/05/24 Analyzed: 02/08/24

Arsenic	0.802	0.200	mg/kg dry	0.743	7.69	20	QR-04
Barium	112	0.400	"	69.7	46.7	20	
Cadmium	0.173	0.200	"	0.162	6.45	20	
Copper	2.74	0.400	"	2.34	15.7	20	
Lead	5.36	0.200	"	4.79	11.3	20	
Nickel	1.84	0.400	"	1.71	6.87	20	
Silver	0.0189	0.0200	"	0.0162	15.4	20	
Zinc	7.16	0.400	"	6.98	2.51	20	
Selenium	ND	0.260	"	ND		20	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0140 - EPA 3050B

Matrix Spike (BHB0140-MS1)		Source: 2401535-01			Prepared: 02/05/24 Analyzed: 02/08/24					
Arsenic	16.6	0.200	mg/kg dry	45.0	0.743	35.1	75-125			QM-07
Barium	206	0.400	"	45.0	69.7	304	75-125			QM-07
Cadmium	2.22	0.200	"	2.25	0.162	91.3	75-125			
Copper	19.8	0.400	"	45.0	2.34	38.8	75-125			QM-07
Lead	24.1	0.200	"	22.5	4.79	85.8	75-125			
Nickel	17.8	0.400	"	45.0	1.71	35.6	75-125			QM-07
Silver	2.05	0.0200	"	2.25	0.0162	90.5	75-125			
Zinc	23.9	0.400	"	45.0	6.98	37.6	75-125			QM-07
Selenium	5.07	0.260	"	4.50	ND	113	75-125			

Matrix Spike Dup (BHB0140-MSD1)		Source: 2401535-01			Prepared: 02/05/24 Analyzed: 02/08/24					
Arsenic	16.6	0.200	mg/kg dry	45.0	0.743	35.2	75-125	0.288	25	QM-07
Barium	227	0.400	"	45.0	69.7	350	75-125	9.58	25	QM-07
Cadmium	2.43	0.200	"	2.25	0.162	101	75-125	9.38	25	
Copper	19.9	0.400	"	45.0	2.34	38.9	75-125	0.381	25	QM-07
Lead	26.5	0.200	"	22.5	4.79	96.4	75-125	9.50	25	
Nickel	17.7	0.400	"	45.0	1.71	35.6	75-125	0.172	25	QM-07
Silver	2.24	0.0200	"	2.25	0.0162	99.0	75-125	8.82	25	
Zinc	24.2	0.400	"	45.0	6.98	38.3	75-125	1.27	25	QM-07
Selenium	5.00	0.260	"	4.50	ND	111	75-125	1.30	25	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0032 - 3060A Mod

Blank (BHB0032-BLK1)

Prepared & Analyzed: 02/01/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHB0032-BS1)

Prepared & Analyzed: 02/01/24

Chromium, Hexavalent 24.5 0.30 mg/kg wet 25.0 98.0 80-120

Duplicate (BHB0032-DUP1)

Source: 2401533-01

Prepared & Analyzed: 02/01/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHB0032-MS1)

Source: 2401533-01

Prepared & Analyzed: 02/01/24

Chromium, Hexavalent 23.3 0.30 mg/kg dry 25.9 ND 89.8 75-125

Matrix Spike Dup (BHB0032-MSD1)

Source: 2401533-01

Prepared & Analyzed: 02/01/24

Chromium, Hexavalent 23.5 0.30 mg/kg dry 25.9 ND 90.8 75-125 1.11 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHA1091 - General Preparation

Blank (BHA1091-BLK1)

Prepared: 01/31/24 Analyzed: 02/02/24

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

LCS (BHA1091-BS1)

Prepared: 01/31/24 Analyzed: 02/02/24

Calcium	5.49	0.0500	mg/L wet	5.00	110	70-130
Magnesium	5.02	0.0500	"	5.00	100	70-130
Sodium	5.09	0.0500	"	5.00	102	70-130

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW

Project Number: UWRWE-A3469-ABN

Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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

Summit Scientific

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

Batch BHB0154 - General Preparation

Duplicate (BHB0154-DUP1)			Source: 2401533-01			Prepared & Analyzed: 02/06/24				
% Solids	96.5		%			96.4		0.114		20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW
Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0011 - General Preparation

Blank (BHB0011-BLK1)

Prepared & Analyzed: 02/01/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHB0011-BS1)

Prepared & Analyzed: 02/01/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHB0011-DUP1)

Source: 2401549-01

Prepared & Analyzed: 02/01/24

Specific Conductance (EC) 0.124 0.0100 mmhos/cm 0.125 0.966 20

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW

Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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 BHB0009 - General Preparation

LCS (BHB0009-BS1)

Prepared & Analyzed: 02/01/24

pH	9.12	pH Units	9.18	99.3	95-105
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Duplicate (BHB0009-DUP1)

Source: 2401545-01

Prepared & Analyzed: 02/01/24

pH	7.87	pH Units	7.90	0.380	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: Noble - Knaub 64N65W 9SWSW

Project Number: UWRWE-A3469-ABN
Project Manager: Paul Henchan

Reported:
02/12/24 10:33

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.
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.
E	The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
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