

TABLE 1  
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
KEHN USX AA01-16, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-299

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**		
FL01 3'	11/20/2023	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
FL05 3'	11/20/2023	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<b>0.0182</b>	<0.0038	<0.50	<50	<50
FL06 3'	11/20/2023	3'	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.00500	<0.0038	<0.50	<50	<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.  
KEHN USX AA01-16, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-299

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
FL01 3'	11/20/2023	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
FL05 3'	11/20/2023	3'	0.0117	0.365	<b>0.367</b>	0.0220	<b>0.322</b>	0.0121	0.328	<0.00500	0.0918	0.0158	0.0100	0.0740	<0.00500	<0.00500
FL06 3'	11/20/2023	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

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.**  
**KEHN USX AA01-16, WELD COUNTY, COLORADO**  
**FREMONT PROJECT NO. C023-299**

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			8.72	-	-	-
FL01 3'	11/20/2023	3'	8.40	0.228	0.411	<2.00
FL05 3'	11/20/2023	3'	8.50	0.252	0.466	<2.00
FL06 3'	11/20/2023	3'	9.02	0.0796	0.0109	<2.00
BKG 3'	11/20/2023	3'	7.14	0.0686	0.0186	<2.00
BKG01 3'	11/10/2023	3	8.72	0.67	0.095	<2.00
BKG02 3'	11/10/2023	3	8.65	0.135	0.0338	<2.00
BKG03 3'	11/10/2023	3	8.71	0.205	0.397	<2.00
BKG04 3'	11/10/2023	3	8.62	0.14	0.0504	<2.00
BKG05 3'	11/10/2023	3	8.59	0.144	0.0359	<2.00

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

Green highlighted cells indicate soil removed via excavation

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

Orange highlighted cells exceed the maximum background concentration

NA - Not analyzed

TABLE 4  
SUMMARY OF METALS IN SOIL CHEMISTRY DATA  
NOBLE ENERGY INC.  
KEHN USX AA01-16, WELD COUNTY, COLORADO  
FREMONT PROJECT NO. C023-299

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			5.6	428.8	-	-	-	-	-	0.325	-	-
FL01 3'	11/20/2023	3	1.08	80.6	0.270	<0.30	3.88	13.3	2.61	<b>0.443</b>	0.0354	13.6
FL05 3'	11/20/2023	3	0.685	96.0	<0.200	<0.30	1.50	4.77	1.75	<0.260	0.0231	6.67
FL06 3'	11/20/2023	3	0.992	57.7	<0.200	<0.30	1.04	3.58	1.22	<0.260	<0.0200	4.67
BKG 3'	11/20/2023	3	<b>0.913</b>	26.6	<0.200	<0.30	1.47	3.39	1.43	<0.260	<0.0200	5.93
BKG01 3'	11/10/2023	3	<b>2</b>	59	<0.200	<0.30	2.59	4.13	2.9	<0.260	<0.0200	11
BKG02 3'	11/10/2023	3	<b>1.46</b>	37.9	<0.200	<0.30	2.35	3.92	2.32	<0.260	<0.0200	10.4
BKG03 3'	11/10/2023	3	<b>4.46</b>	<b>343</b>	0.34	<0.30	10.8	<b>20.5</b>	7.36	<0.260	0.10	24.4
BKG04 3'	11/10/2023	3	<b>1.71</b>	44.8	<0.200	<0.30	2.51	4.52	2.6	<0.260	<0.0200	11.2
BKG05 3'	11/10/2023	3	<b>1.68</b>	45.9	<0.200	<0.30	2.63	5.23	2.54	<0.260	<0.0200	11.8

Bold faced values exceed the ECMC Table 915-1 concentrations

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

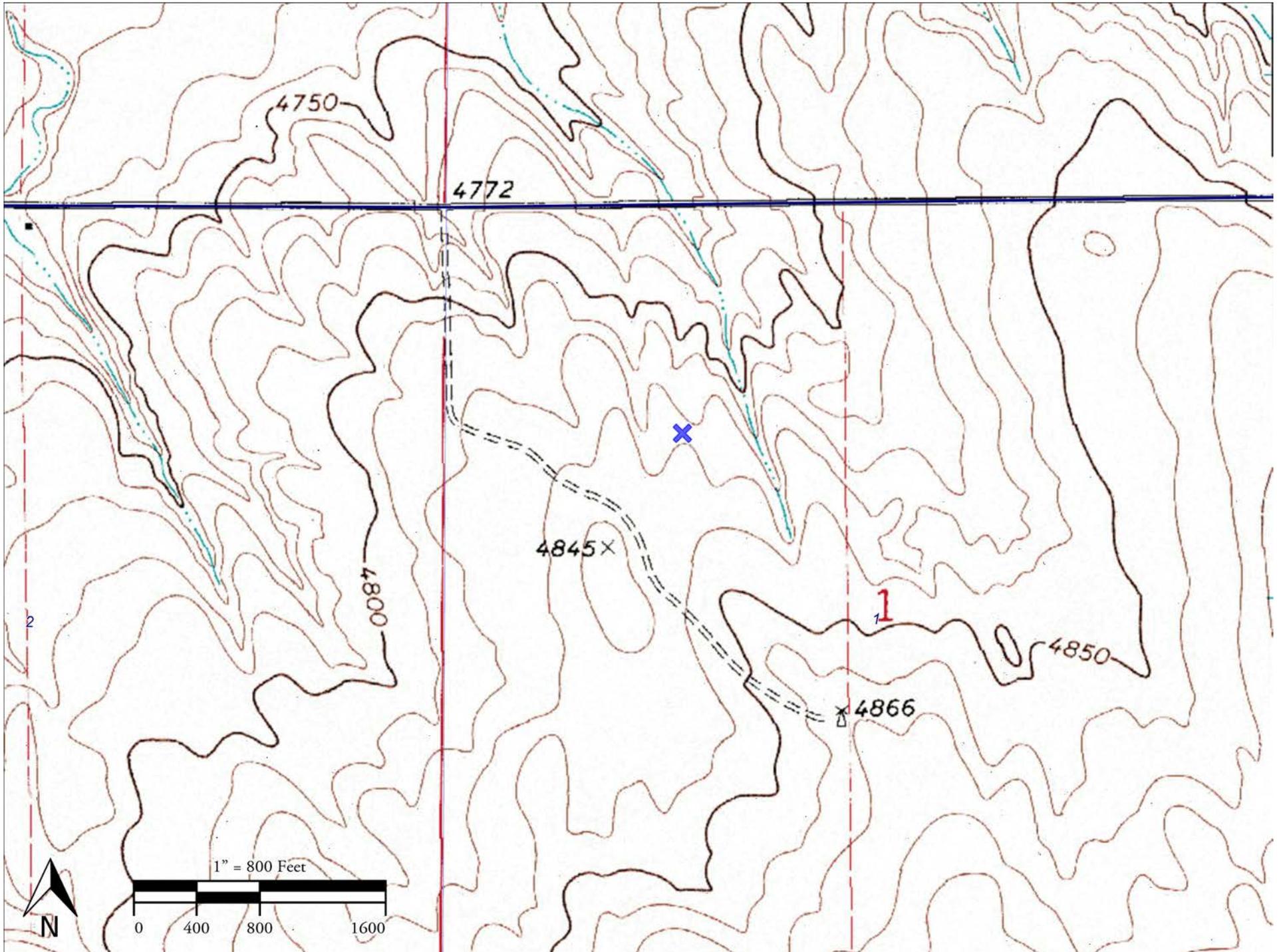
\* Indicates laboratory minimum detection limit in excess of SSL

Green highlighted cells indicate soil removed via excavation

Orange highlighted cells exceed the 125% of the maximum background concentration

NA - Not analyzed

Noble - Kehn USX AA06-16



# Kehn USX AA06-16

API #: 05- 123-27198, Remediation # 30992  
SESE Sec. 1, T6N, R63W  
40.5187833, -104.3889304  
Fremont No. C023-299

**Legend**

- Background Sample Locations
- Impacted Soil Location



Proposed  
Excavation Extent  
(not to scale):  
10'x10'x5'deep

FL05@4'

BKG02

BKG03

BKG04

BKG01

BKG05

BKG



600 ft

**Photo Log**



**Description:**

Kehn USX AA01-06 FL01 bellhole, no staining or odor

**Photo Log**



**Description:**

Kehn USX AA01-06 FL02 bellhole prior to flowline removal, no staining or odor

**Photo Log**



**Description:**

Kehn USX AA01-06 FL03 bellhole, no staining or odor

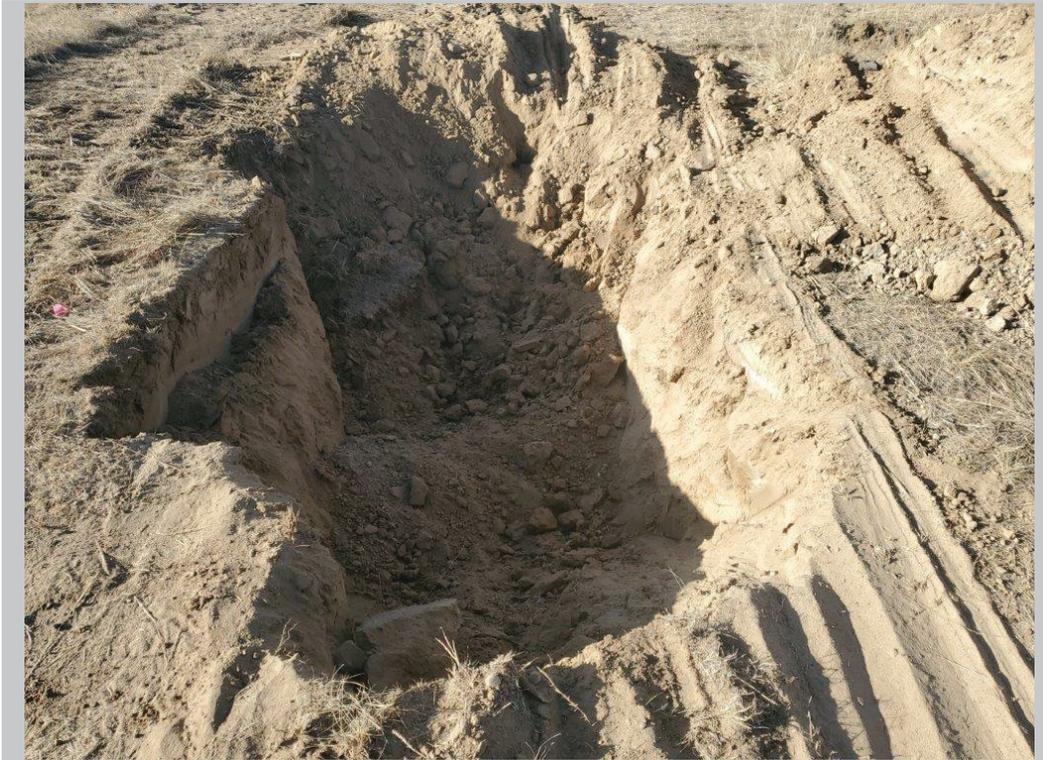
**Photo Log**



**Description:**

Kehn USX AA01-06 FL04 bellhole, no staining or odor

**Photo Log**



**Description:**

Kehn USX AA01-06 FL05 bellhole, no staining or odor

**Photo Log**



**Description:**

Kehn USX AA01-06 FL06 bellhole, no staining or odor

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 08, 2024

Paul Henchan  
Fremont Environmental  
PO Box 1289  
Wellington, CO 80549

RE: Noble - Kehn USX AA-01-16

Work Order #2311430

Enclosed are the results of analyses for samples received by Summit Scientific on 11/20/23 16:30. 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 a long, sweeping underline.

Jacob Wood For Paul Shrewsbury  
President



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01 3'	2311430-01	Soil	11/20/23 14:00	11/20/23 16:30
FL05 3'	2311430-02	Soil	11/20/23 13:55	11/20/23 16:30
FL06 3'	2311430-03	Soil	11/20/23 13:50	11/20/23 16:30
BKG 3'	2311430-04	Soil	11/20/23 13:40	11/20/23 16:30

Summit Scientific

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

Lab ID 2311430 Page 1 of 1

<b>Send Data To:</b>		<b>Send Invoice To:</b>	
Client: Fremont Environmental	Project Manager: Paul Henehan	Company: <u>Noble</u>	
Address:	E-Mail: Fremont Distribution List	Project Name/Location:	
City/State/Zip:		AFE#:	
Phone: 303-261-6246	Project Name: <u>Kehn USX AAOI-16</u>	PO/Billing Codes: <u>UNRWE-4344-ABN</u>	
Sampler Name: Stanley Gilbert	Project Number:	Contact: <u>Mike Montoya</u>	

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)	
1	FLO1 3'	11/20/23	14:00	2			X			X			X	X	X	X		
2	FLO5 3'	I	13:55	1			X			X			X	X	X	X		
3	FLO6 3'	I	13:50	1			X			X			X	X	X	X		
4	BH6 3'	I	13:40	1			X			X			X	X	X	X		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by: <u>[Signature]</u>	Date/Time: <u>11/20/23 16:10</u>	Received by: <u>Summit North</u>	Date/Time: <u>11/20/23 16:10</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>52</u>	Date/Time: <u>11/20/23 16:50</u>	Received by: <u>[Signature]</u>	Date/Time: <u>11/20/23 16:20</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>11.9</u>	Corrected Temperature: <u>9</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order# 2311430

Client: Fremont

Client Project ID: Kehn USX AA01-16

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> 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"/>	
If custody seals are present, are they intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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 time stamps
For volatiles in water - is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? <sup>(1)</sup> Note the type of preservative in the comments column - HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

AS

Custodian Printed Name

11/20/23  
Date/Time

2023



Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL01 3'**  
**2311430-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGK0910	11/22/23	11/23/23	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: **11/20/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0379	94.7 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0534	134 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0412	103 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGK0911	11/22/23	11/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.6	93.2 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

Summit Scientific

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL01 3'**  
**2311430-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGK0926	11/27/23	11/27/23	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: **11/20/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0150	44.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0188	56.4 %	40-150		"	"	"	"	

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

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGK1060	11/29/23	11/30/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/20/23 14:00**

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

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL01 3'**  
**2311430-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.08	0.200	mg/kg dry	1	BGL0025	12/01/23	12/05/23	EPA 6020B
Barium	80.6	0.400	"	"	"	"	"	"
Cadmium	0.270	0.200	"	"	"	"	"	"
Copper	3.88	0.400	"	"	"	"	"	"
Lead	13.3	0.200	"	"	"	"	"	"
Nickel	2.61	0.400	"	"	"	"	"	"
Silver	0.0354	0.0200	"	"	"	"	"	"
Zinc	13.6	0.400	"	"	"	"	"	"
Selenium	0.443	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/20/23 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0982	11/27/23	11/27/23	EPA 7196A	

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

Date Sampled: 11/20/23 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.6	0.0500	mg/L dry	1	BGL0169	12/05/23	12/08/23	EPA 6020B	
Magnesium	8.97	0.0500	"	"	"	"	"	"	
Sodium	11.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/20/23 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.411	0.00100	units	1	BGL0312	12/08/23	12/08/23	Calculation	

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

Date Sampled: 11/20/23 14:00

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 - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**FL01 3'**  
**2311430-01 (Soil)**

**Summit Scientific**

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

% Solids	87.0	%	1	BGK1033	11/28/23	11/28/23	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Specific Conductance (EC)	0.228	0.0100	mmhos/cm	1	BGL0194	12/06/23	12/06/23	EPA 120.1	

Summit Scientific



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 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**FL01 3'**  
**2311430-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 14:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>pH</b>	<b>8.40</b>		pH Units	1	BGL0837	12/06/23	12/21/23	EPA 9045D	

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL05 3'**  
**2311430-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGK0910	11/22/23	11/23/23	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: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.5 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0536	134 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0405	101 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGK0911	11/22/23	11/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	14.2	114 %		30-150		"	"	"	"	

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

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL05 3'**  
**2311430-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BGK1060	11/29/23	11/30/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Arsenic</b>	<b>0.685</b>	0.200		mg/kg dry	1	BGL0025	12/01/23	12/05/23	EPA 6020B	
<b>Barium</b>	<b>96.0</b>	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
<b>Copper</b>	<b>1.50</b>	0.400		"	"	"	"	"	"	
<b>Lead</b>	<b>4.77</b>	0.200		"	"	"	"	"	"	
<b>Nickel</b>	<b>1.75</b>	0.400		"	"	"	"	"	"	
<b>Silver</b>	<b>0.0231</b>	0.0200		"	"	"	"	"	"	
<b>Zinc</b>	<b>6.67</b>	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGK0982	11/27/23	11/27/23	EPA 7196A	

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

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Calcium</b>	<b>38.9</b>	0.0500		mg/L dry	1	BGL0169	12/05/23	12/08/23	EPA 6020B	
<b>Magnesium</b>	<b>6.35</b>	0.0500		"	"	"	"	"	"	
<b>Sodium</b>	<b>11.9</b>	0.0500		"	"	"	"	"	"	

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**FL05 3'**  
**2311430-02 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.466	0.00100	units	1	BGL0312	12/08/23	12/08/23	Calculation	

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

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.7		%	1	BGK1033	11/28/23	11/28/23	Calculation	

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

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.252	0.0100	mmhos/cm	1	BGL0194	12/06/23	12/06/23	EPA 120.1	

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL05 3'**  
**2311430-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0117	0.00500	mg/kg	1	BGL0750	12/20/23	12/21/23	EPA 8270D SIM	I-04
Anthracene	0.0365	0.00500	"	"	"	"	"	"	I-04
Benzo (a) anthracene	0.0367	0.00500	"	"	"	"	"	"	I-04
Benzo (a) pyrene	0.0220	0.00500	"	"	"	"	"	"	I-04
Benzo (b) fluoranthene	0.0322	0.00500	"	"	"	"	"	"	I-04
Benzo (k) fluoranthene	0.0121	0.00500	"	"	"	"	"	"	I-04
Chrysene	0.0328	0.00500	"	"	"	"	"	"	I-04
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	I-04
Fluoranthene	0.0918	0.00500	"	"	"	"	"	"	I-04
Fluorene	0.0158	0.00500	"	"	"	"	"	"	I-04
Indeno (1,2,3-cd) pyrene	0.0100	0.00500	"	"	"	"	"	"	I-04
Pyrene	0.0740	0.00500	"	"	"	"	"	"	I-04
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	I-04
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	I-04

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0159	47.7 %	40-150		"	"	"	"	I-04
Surrogate: Fluoranthene-d10	0.0198	59.5 %	40-150		"	"	"	"	I-04

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

Date Sampled: **11/20/23 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>pH</b>	<b>8.50</b>		pH Units	1	BGL0837	12/06/23	12/21/23	EPA 9045D	

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Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL06 3'**  
**2311430-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BGK0910	11/22/23	11/23/23	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: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0326	81.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0532	133 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0389	97.2 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BGK0911	11/22/23	11/24/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	15.3	122 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL06 3'**  
**2311430-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGK0926	11/27/23	11/28/23	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: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0136	40.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.2 %	40-150		"	"	"	"	

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

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGK1060	11/29/23	11/30/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**FL06 3'**  
**2311430-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.992	0.200	mg/kg dry	1	BGL0025	12/01/23	12/05/23	EPA 6020B	
Barium	57.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.04	0.400	"	"	"	"	"	"	
Lead	3.58	0.200	"	"	"	"	"	"	
Nickel	1.22	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.67	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/20/23 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0982	11/27/23	11/27/23	EPA 7196A	

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

Date Sampled: 11/20/23 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	111	0.0500	mg/L dry	1	BGL0169	12/05/23	12/08/23	EPA 6020B	
Magnesium	5.88	0.0500	"	"	"	"	"	"	
Sodium	0.436	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/20/23 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0109	0.00100	units	1	BGL0312	12/08/23	12/08/23	Calculation	

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

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**FL06 3'**  
**2311430-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.2			%	1	BGK1033	11/28/23	11/28/23	Calculation	

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

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0796	0.0100		mmhos/cm	1	BGL0194	12/06/23	12/06/23	EPA 120.1	

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Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**FL06 3'**  
**2311430-03 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 13:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>pH</b>	<b>9.02</b>		pH Units	1	BGL0837	12/06/23	12/21/23	EPA 9045D	

Summit Scientific



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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**BKG 3'**  
**2311430-04 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BGK1060	11/29/23	11/30/23	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Arsenic</b>	<b>0.913</b>	0.200	mg/kg dry	1	BGL0025	12/01/23	12/05/23	EPA 6020B	
<b>Barium</b>	<b>26.6</b>	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
<b>Copper</b>	<b>1.47</b>	0.400	"	"	"	"	"	"	
<b>Lead</b>	<b>3.39</b>	0.200	"	"	"	"	"	"	
<b>Nickel</b>	<b>1.43</b>	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
<b>Zinc</b>	<b>5.93</b>	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0982	11/27/23	11/27/23	EPA 7196A	

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

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
<b>Calcium</b>	<b>26.1</b>	0.0500	mg/L dry	1	BGL0169	12/05/23	12/08/23	EPA 6020B	
<b>Magnesium</b>	<b>6.16</b>	0.0500	"	"	"	"	"	"	
<b>Sodium</b>	<b>0.406</b>	0.0500	"	"	"	"	"	"	

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Project: Noble - Kehn USX AA-01-16  
Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**BKG 3'**  
**2311430-04 (Soil)**

**Summit Scientific**

**Calculated Analysis**

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0186	0.00100	units	1	BGL0312	12/08/23	12/08/23	Calculation	

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

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.2		%	1	BGK1033	11/28/23	11/28/23	Calculation	

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

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0686	0.0100	mmhos/cm	1	BGL0194	12/06/23	12/06/23	EPA 120.1	

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

Date Sampled: **11/20/23 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.14		pH Units	1	BGL0193	12/06/23	12/06/23	EPA 9045D	

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

### 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 BGK0910 - EPA 5030 Soil MS

##### Blank (BGK0910-BLK1)

Prepared: 11/22/23 Analyzed: 11/23/23

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>0.0380</i>		<i>"</i>	<i>0.0400</i>		<i>95.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0425</i>		<i>"</i>	<i>0.0400</i>		<i>106</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0400</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			

##### LCS (BGK0910-BS1)

Prepared: 11/22/23 Analyzed: 11/23/23

Benzene	0.0975	0.0020	mg/kg	0.100		97.5	70-130			
Toluene	0.0922	0.0050	"	0.100		92.2	70-130			
Ethylbenzene	0.0912	0.0050	"	0.100		91.2	70-130			
m,p-Xylene	0.180	0.010	"	0.200		89.9	70-130			
o-Xylene	0.0875	0.0050	"	0.100		87.5	70-130			
1,2,4-Trimethylbenzene	0.0814	0.0050	"	0.100		81.4	70-130			
1,3,5-Trimethylbenzene	0.0902	0.0050	"	0.100		90.2	70-130			
Naphthalene	0.0803	0.0038	"	0.100		80.3	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0377</i>		<i>"</i>	<i>0.0400</i>		<i>94.3</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0412</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0412</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			

##### Matrix Spike (BGK0910-MS1)

Source: 2311430-01

Prepared: 11/22/23 Analyzed: 11/23/23

Benzene	0.0841	0.0020	mg/kg	0.100	ND	84.1	70-130			
Toluene	0.0525	0.0050	"	0.100	ND	52.5	70-130			QM-05
Ethylbenzene	0.0516	0.0050	"	0.100	ND	51.6	70-130			QM-05
m,p-Xylene	0.0936	0.010	"	0.200	ND	46.8	70-130			QM-05
o-Xylene	0.0414	0.0050	"	0.100	ND	41.4	70-130			QM-05
1,2,4-Trimethylbenzene	0.0342	0.0050	"	0.100	ND	34.2	70-130			QM-05
1,3,5-Trimethylbenzene	0.0462	0.0050	"	0.100	ND	46.2	70-130			QM-05
Naphthalene	0.0156	0.0038	"	0.100	ND	15.6	70-130			QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0386</i>		<i>"</i>	<i>0.0400</i>		<i>96.5</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0406</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0393</i>		<i>"</i>	<i>0.0400</i>		<i>98.2</i>	<i>50-150</i>			

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Fremont Environmental  
 PO Box 1289  
 Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**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 BGK0910 - EPA 5030 Soil MS**

<b>Matrix Spike Dup (BGK0910-MSD1)</b>	<b>Source: 2311430-01</b>			<b>Prepared: 11/22/23 Analyzed: 11/23/23</b>						
Benzene	0.0892	0.0020	mg/kg	0.100	ND	89.2	70-130	5.92	30	
Toluene	0.0531	0.0050	"	0.100	ND	53.1	70-130	1.19	30	QM-05
Ethylbenzene	0.0514	0.0050	"	0.100	ND	51.4	70-130	0.350	30	QM-05
m,p-Xylene	0.0914	0.010	"	0.200	ND	45.7	70-130	2.30	30	QM-05
o-Xylene	0.0395	0.0050	"	0.100	ND	39.5	70-130	4.60	30	QM-05
1,2,4-Trimethylbenzene	0.0320	0.0050	"	0.100	ND	32.0	70-130	6.71	30	QM-05
1,3,5-Trimethylbenzene	0.0455	0.0050	"	0.100	ND	45.5	70-130	1.37	30	QM-05
Naphthalene	0.0133	0.0038	"	0.100	ND	13.3	70-130	16.2	30	QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0384</i>		<i>"</i>	<i>0.0400</i>		<i>95.9</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

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

**Batch BGK0911 - EPA 3550A**

**Blank (BGK0911-BLK1)**

Prepared: 11/22/23 Analyzed: 11/24/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		102		30-150		

**LCS (BGK0911-BS1)**

Prepared: 11/22/23 Analyzed: 11/24/23

C10-C28 (DRO)	611	50	mg/kg	500		122		70-130		
Surrogate: <i>o</i> -Terphenyl	17.5		"	12.5		140		30-150		

**Matrix Spike (BGK0911-MS1)**

Source: 2311410-01

Prepared: 11/22/23 Analyzed: 11/24/23

C10-C28 (DRO)	616	50	mg/kg	500	17.7	120		70-130		
Surrogate: <i>o</i> -Terphenyl	13.8		"	12.5		110		30-150		

**Matrix Spike Dup (BGK0911-MSD1)**

Source: 2311410-01

Prepared: 11/22/23 Analyzed: 11/24/23

C10-C28 (DRO)	617	50	mg/kg	500	17.7	120		70-130	0.255	20
Surrogate: <i>o</i> -Terphenyl	13.9		"	12.5		111		30-150		

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PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**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 BGK0926 - EPA 5030 Soil MS**

**Blank (BGK0926-BLK1)**

Prepared & Analyzed: 11/27/23

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>0.0353</i>		<i>"</i>	<i>0.0333</i>		<i>106</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0365</i>		<i>"</i>	<i>0.0333</i>		<i>110</i>		<i>40-150</i>		

**LCS (BGK0926-BS1)**

Prepared & Analyzed: 11/27/23

Acenaphthene	0.0303	0.00500	mg/kg	0.0333	91.0	31-137
Anthracene	0.0293	0.00500	"	0.0333	88.0	30-120
Benzo (a) anthracene	0.0321	0.00500	"	0.0333	96.2	30-120
Benzo (a) pyrene	0.0274	0.00500	"	0.0333	82.2	30-120
Benzo (b) fluoranthene	0.0298	0.00500	"	0.0333	89.5	30-120
Benzo (k) fluoranthene	0.0305	0.00500	"	0.0333	91.6	30-120
Chrysene	0.0302	0.00500	"	0.0333	90.5	30-120
Dibenz (a,h) anthracene	0.0308	0.00500	"	0.0333	92.3	30-120
Fluoranthene	0.0252	0.00500	"	0.0333	75.5	30-120
Fluorene	0.0308	0.00500	"	0.0333	92.3	30-120
Indeno (1,2,3-cd) pyrene	0.0258	0.00500	"	0.0333	77.4	30-120
Pyrene	0.0200	0.00500	"	0.0333	60.1	35-142
1-Methylnaphthalene	0.0297	0.00500	"	0.0333	89.2	35-142
2-Methylnaphthalene	0.0259	0.00500	"	0.0333	77.6	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0312</i>		<i>"</i>	<i>0.0333</i>	<i>93.7</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0308</i>		<i>"</i>	<i>0.0333</i>	<i>92.5</i>	<i>40-150</i>

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**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 BGK0926 - EPA 5030 Soil MS**

**Matrix Spike (BGK0926-MS1)**

Source: 2311425-04

Prepared & Analyzed: 11/27/23

Acenaphthene	0.0208	0.00500	mg/kg	0.0333	ND	62.5	31-137			
Anthracene	0.0210	0.00500	"	0.0333	ND	63.1	30-120			
Benzo (a) anthracene	0.0232	0.00500	"	0.0333	ND	69.5	30-120			
Benzo (a) pyrene	0.0186	0.00500	"	0.0333	ND	55.7	30-120			
Benzo (b) fluoranthene	0.0219	0.00500	"	0.0333	ND	65.8	30-120			
Benzo (k) fluoranthene	0.0225	0.00500	"	0.0333	ND	67.6	30-120			
Chrysene	0.0224	0.00500	"	0.0333	ND	67.1	30-120			
Dibenz (a,h) anthracene	0.0214	0.00500	"	0.0333	ND	64.3	30-120			
Fluoranthene	0.0167	0.00500	"	0.0333	ND	50.1	30-120			
Fluorene	0.0213	0.00500	"	0.0333	ND	63.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0171	0.00500	"	0.0333	ND	51.2	30-120			
Pyrene	0.0125	0.00500	"	0.0333	ND	37.4	35-142			
1-Methylnaphthalene	0.0176	0.00500	"	0.0333	ND	52.7	15-130			
2-Methylnaphthalene	0.0340	0.00500	"	0.0333	ND	102	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0200		"	0.0333		60.1	40-150			
Surrogate: Fluoranthene-d10	0.0218		"	0.0333		65.4	40-150			

**Matrix Spike Dup (BGK0926-MSD1)**

Source: 2311425-04

Prepared & Analyzed: 11/27/23

Acenaphthene	0.0211	0.00500	mg/kg	0.0333	ND	63.2	31-137	1.19	30	
Anthracene	0.0142	0.00500	"	0.0333	ND	42.6	30-120	38.9	30	QR-02
Benzo (a) anthracene	0.0137	0.00500	"	0.0333	ND	41.2	30-120	51.1	30	QR-02
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	53.9	30-120	3.35	30	
Benzo (b) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	40.5	30	QR-02
Benzo (k) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.4	30-120	45.9	30	QR-02
Chrysene	0.0151	0.00500	"	0.0333	ND	45.2	30-120	39.1	30	QR-02
Dibenz (a,h) anthracene	0.0142	0.00500	"	0.0333	ND	42.6	30-120	40.7	30	QR-02
Fluoranthene	0.0180	0.00500	"	0.0333	ND	54.1	30-120	7.79	30	
Fluorene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	22.5	30	
Indeno (1,2,3-cd) pyrene	0.0172	0.00500	"	0.0333	ND	51.5	30-120	0.723	30	
Pyrene	0.0171	0.00500	"	0.0333	ND	51.4	35-142	31.5	30	QR-02
1-Methylnaphthalene	0.0142	0.00500	"	0.0333	ND	42.5	15-130	21.4	50	
2-Methylnaphthalene	0.0140	0.00500	"	0.0333	ND	42.1	15-130	83.1	50	QR-02
Surrogate: 2-Methylnaphthalene-d10	0.0153		"	0.0333		45.9	40-150			
Surrogate: Fluoranthene-d10	0.0153		"	0.0333		46.0	40-150			

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Fremont Environmental  
PO Box 1289  
Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16  
Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**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 BGL0750 - EPA 5030 Soil MS**

**Blank (BGL0750-BLK1)**

Prepared: 12/20/23 Analyzed: 12/21/23

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>0.0145</i>		"	<i>0.0333</i>		<i>43.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0324</i>		"	<i>0.0333</i>		<i>97.2</i>	<i>40-150</i>			

**LCS (BGL0750-BS1)**

Prepared: 12/20/23 Analyzed: 12/21/23

Acenaphthene	0.0261	0.00500	mg/kg	0.0333		78.3	31-137			
Anthracene	0.0267	0.00500	"	0.0333		80.2	30-120			
Benzo (a) anthracene	0.0251	0.00500	"	0.0333		75.2	30-120			
Benzo (a) pyrene	0.0219	0.00500	"	0.0333		65.7	30-120			
Benzo (b) fluoranthene	0.0250	0.00500	"	0.0333		75.0	30-120			
Benzo (k) fluoranthene	0.0268	0.00500	"	0.0333		80.3	30-120			
Chrysene	0.0281	0.00500	"	0.0333		84.4	30-120			
Dibenz (a,h) anthracene	0.0192	0.00500	"	0.0333		57.6	30-120			
Fluoranthene	0.0275	0.00500	"	0.0333		82.4	30-120			
Fluorene	0.0248	0.00500	"	0.0333		74.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0180	0.00500	"	0.0333		54.1	30-120			
Pyrene	0.0290	0.00500	"	0.0333		87.1	35-142			
1-Methylnaphthalene	0.0242	0.00500	"	0.0333		72.7	35-142			
2-Methylnaphthalene	0.0243	0.00500	"	0.0333		72.8	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0230</i>		"	<i>0.0333</i>		<i>68.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0283</i>		"	<i>0.0333</i>		<i>84.9</i>	<i>40-150</i>			

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

**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 BGL0750 - EPA 5030 Soil MS**

<b>Matrix Spike (BGL0750-MS1)</b>	<b>Source: 2312262-01</b>			Prepared: 12/20/23 Analyzed: 12/21/23					
Acenaphthene	0.0204	0.00500	mg/kg	0.0333	ND	61.2	31-137		
Anthracene	0.0220	0.00500	"	0.0333	ND	66.0	30-120		
Benzo (a) anthracene	0.0239	0.00500	"	0.0333	ND	71.7	30-120		
Benzo (a) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120		
Benzo (b) fluoranthene	0.0247	0.00500	"	0.0333	ND	74.2	30-120		
Benzo (k) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.5	30-120		
Chrysene	0.0225	0.00500	"	0.0333	ND	67.6	30-120		
Dibenz (a,h) anthracene	0.0172	0.00500	"	0.0333	ND	51.5	30-120		
Fluoranthene	0.0238	0.00500	"	0.0333	0.00873	45.2	30-120		
Fluorene	0.0210	0.00500	"	0.0333	ND	62.9	30-120		
Indeno (1,2,3-cd) pyrene	0.0177	0.00500	"	0.0333	ND	53.2	30-120		
Pyrene	0.0270	0.00500	"	0.0333	0.00736	59.1	35-142		
1-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.7	15-130		
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.0	15-130		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0195</i>		<i>"</i>	<i>0.0333</i>		<i>58.4</i>	<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0227</i>		<i>"</i>	<i>0.0333</i>		<i>68.2</i>	<i>40-150</i>		

<b>Matrix Spike Dup (BGL0750-MSD1)</b>	<b>Source: 2312262-01</b>			Prepared: 12/20/23 Analyzed: 12/21/23					
Acenaphthene	0.0189	0.00500	mg/kg	0.0333	ND	56.8	31-137	7.46	30
Anthracene	0.0204	0.00500	"	0.0333	ND	61.1	30-120	7.65	30
Benzo (a) anthracene	0.0222	0.00500	"	0.0333	ND	66.6	30-120	7.33	30
Benzo (a) pyrene	0.0201	0.00500	"	0.0333	ND	60.2	30-120	8.99	30
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.3	30-120	6.83	30
Benzo (k) fluoranthene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	10.7	30
Chrysene	0.0192	0.00500	"	0.0333	ND	57.5	30-120	16.1	30
Dibenz (a,h) anthracene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	12.2	30
Fluoranthene	0.0244	0.00500	"	0.0333	0.00873	47.0	30-120	2.56	30
Fluorene	0.0195	0.00500	"	0.0333	ND	58.4	30-120	7.47	30
Indeno (1,2,3-cd) pyrene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	9.58	30
Pyrene	0.0265	0.00500	"	0.0333	0.00736	57.6	35-142	1.83	30
1-Methylnaphthalene	0.0163	0.00500	"	0.0333	ND	48.9	15-130	18.2	50
2-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.6	15-130	10.8	50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0161</i>		<i>"</i>	<i>0.0333</i>		<i>48.4</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 - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

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

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

**Batch BGK1060 - EPA 3050B**

**Blank (BGK1060-BLK1)**

Prepared & Analyzed: 11/29/23

Boron ND 2.00 mg/L

**LCS (BGK1060-BS1)**

Prepared: 11/29/23 Analyzed: 11/30/23

Boron 4.11 2.00 mg/L 5.00 82.2 80-120

**Duplicate (BGK1060-DUP1)**

Source: 2311430-01

Prepared: 11/29/23 Analyzed: 11/30/23

Boron 0.160 2.00 mg/L 0.188 16.1 20

**Matrix Spike (BGK1060-MS1)**

Source: 2311430-01

Prepared: 11/29/23 Analyzed: 11/30/23

Boron 4.27 2.00 mg/L 5.00 0.188 81.7 75-125

**Matrix Spike Dup (BGK1060-MSD1)**

Source: 2311430-01

Prepared: 11/29/23 Analyzed: 11/30/23

Boron 4.62 2.00 mg/L 5.00 0.188 88.7 75-125 7.85 25

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**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 BGL0025 - EPA 3050B**

**Blank (BGL0025-BLK1)**

Prepared: 12/01/23 Analyzed: 12/05/23

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 (BGL0025-BS1)**

Prepared: 12/01/23 Analyzed: 12/05/23

Arsenic	48.0	0.200	mg/kg wet	40.0	120	80-120
Barium	41.8	0.400	"	40.0	104	80-120
Cadmium	2.13	0.200	"	2.00	107	80-120
Copper	40.6	0.400	"	40.0	102	80-120
Lead	20.4	0.200	"	20.0	102	80-120
Nickel	40.4	0.400	"	40.0	101	80-120
Silver	2.37	0.0200	"	2.00	118	80-120
Zinc	42.1	0.400	"	40.0	105	80-120
Selenium	4.26	0.260	"	4.00	107	80-120

**Duplicate (BGL0025-DUP1)**

Source: 2311421-01

Prepared: 12/01/23 Analyzed: 12/05/23

Arsenic	1.46	0.200	mg/kg dry	1.45	0.507	20
Barium	113	0.400	"	102	9.92	20
Cadmium	0.735	0.200	"	0.728	0.873	20
Copper	7.84	0.400	"	8.13	3.55	20
Lead	30.9	0.200	"	27.2	12.8	20
Nickel	2.45	0.400	"	2.47	0.820	20
Silver	0.311	0.0200	"	0.330	5.67	20
Zinc	25.8	0.400	"	27.4	5.97	20
Selenium	0.346	0.260	"	0.176	65.0	20

QR-01

Summit Scientific

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 Wellington CO, 80549

Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**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 BGL0025 - EPA 3050B**

<b>Matrix Spike (BGL0025-MS1)</b>	<b>Source: 2311421-01</b>			Prepared: 12/01/23		Analyzed: 12/05/23					
Arsenic	20.7	0.200	mg/kg dry	49.1	1.45	39.2	75-125				QM-07
Barium	158	0.400	"	49.1	102	114	75-125				
Cadmium	3.28	0.200	"	2.46	0.728	104	75-125				
Copper	28.4	0.400	"	49.1	8.13	41.2	75-125				QM-07
Lead	50.4	0.200	"	24.6	27.2	94.3	75-125				
Nickel	23.2	0.400	"	49.1	2.47	42.1	75-125				QM-07
Silver	2.88	0.0200	"	2.46	0.330	104	75-125				
Zinc	49.5	0.400	"	49.1	27.4	44.9	75-125				QM-07
Selenium	7.67	0.260	"	4.91	0.176	153	75-125				QM-07

<b>Matrix Spike Dup (BGL0025-MSD1)</b>	<b>Source: 2311421-01</b>			Prepared: 12/01/23		Analyzed: 12/05/23					
Arsenic	20.7	0.200	mg/kg dry	49.1	1.45	39.2	75-125	0.00710	25		QM-07
Barium	157	0.400	"	49.1	102	113	75-125	0.613	25		
Cadmium	3.24	0.200	"	2.46	0.728	102	75-125	1.29	25		
Copper	28.4	0.400	"	49.1	8.13	41.3	75-125	0.0796	25		QM-07
Lead	50.0	0.200	"	24.6	27.2	92.9	75-125	0.712	25		
Nickel	23.1	0.400	"	49.1	2.47	42.1	75-125	0.142	25		QM-07
Silver	2.85	0.0200	"	2.46	0.330	102	75-125	1.18	25		
Zinc	49.0	0.400	"	49.1	27.4	43.8	75-125	1.06	25		QM-07
Selenium	9.33	0.260	"	4.91	0.176	186	75-125	19.6	25		QM-07

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Project: Noble - Kehn USX AA-01-16  
 Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**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 BGK0982 - 3060A Mod**

**Blank (BGK0982-BLK1)**

Prepared & Analyzed: 11/27/23

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BGK0982-BS1)**

Prepared & Analyzed: 11/27/23

Chromium, Hexavalent      23.6      0.30    mg/kg wet      25.0      94.4      80-120

**Duplicate (BGK0982-DUP1)**

**Source: 2311410-01**

Prepared & Analyzed: 11/27/23

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BGK0982-MS1)**

**Source: 2311410-01**

Prepared & Analyzed: 11/27/23

Chromium, Hexavalent      26.2      0.30    mg/kg dry      28.3      ND      92.8      75-125

**Matrix Spike Dup (BGK0982-MSD1)**

**Source: 2311410-01**

Prepared & Analyzed: 11/27/23

Chromium, Hexavalent      26.2      0.30    mg/kg dry      28.3      ND      92.6      75-125      0.216      20

Summit Scientific

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**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 BGL0169 - General Preparation**

**Blank (BGL0169-BLK1)**

Prepared: 12/05/23 Analyzed: 12/07/23

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

**LCS (BGL0169-BS1)**

Prepared: 12/05/23 Analyzed: 12/07/23

Calcium	5.86	0.0500	mg/L wet	5.00		117	70-130			
Magnesium	5.64	0.0500	"	5.00		113	70-130			
Sodium	5.62	0.0500	"	5.00		112	70-130			

Summit Scientific

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

**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 BGK1033 - General Preparation**

**Duplicate (BGK1033-DUP1)**

**Source: 2311429-11**

**Prepared & Analyzed: 11/28/23**

% Solids	92.8		%		92.9			0.0728	20	
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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

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

**Summit Scientific**

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

**Batch BGL0194 - General Preparation**

**Blank (BGL0194-BLK1)**

Prepared & Analyzed: 12/06/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BGL0194-BS1)**

Prepared & Analyzed: 12/06/23

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

**Duplicate (BGL0194-DUP1)**

Source: 2311427-01

Prepared & Analyzed: 12/06/23

Specific Conductance (EC) 0.369 0.0100 mmhos/cm 0.369 0.00 20

Summit Scientific

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
 Project Manager: Paul Henchan

**Reported:**  
 01/08/24 09:50

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

**Summit Scientific**

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

**Batch BGL0193 - General Preparation**

<b>LCS (BGL0193-BS1)</b>										
					Prepared & Analyzed: 12/06/23					
pH	9.09		pH Units	9.18	99.0	95-105				
<b>Duplicate (BGL0193-DUP1)</b>										
					Source: 2311427-01 Prepared & Analyzed: 12/06/23					
pH	8.17		pH Units	8.17	0.00	20				

**Batch BGL0837 - General Preparation**

<b>LCS (BGL0837-BS1)</b>										
					Prepared & Analyzed: 12/21/23					
pH	9.16		pH Units	9.18	99.8	95-105				
<b>Duplicate (BGL0837-DUP1)</b>										
					Source: 2310541-04 Prepared & Analyzed: 12/21/23					
pH	9.10		pH Units	9.13	0.329	20				

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Project: Noble - Kehn USX AA-01-16

Project Number: UWRWE-A3444-ABN  
Project Manager: Paul Henchan

**Reported:**  
01/08/24 09:50

### 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 less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- I-04 Sample was analyzed out of recommended holding time per clients request.
- 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