

REMEDIAL EXCAVATION REPORT

KISSLER K21-32D FLOWLINE

ECMC SPILL TRACKING # 484535

ECMC REMEDIATION # 25474



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLE

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - KISSLER K21-32D

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2	500			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500			0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01-A@5'	04/24/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.025	<0.50	<50	<50	0.196	0.305	0.399	0.218	0.319	0.0841	0.260	<0.00500	0.542	0.217	0.197	0.516	0.0175	0.0383
FL01-B@3'	04/24/23	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
FS01@6'	01/03/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS01@5'	01/03/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS02@5'	01/03/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.0057	<0.50	<50	<50	0.0588	0.0839	0.0958	0.0624	0.0958	0.0320	0.0931	0.00549	0.269	0.0632	0.0779	0.212	<0.00500	0.00980
SS03@5'	01/03/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS04@5'	01/03/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	
SS05@5'	03/18/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<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	

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
FL01-A@5'	04/24/23	7.53	1.70	0.774	0.355
FL01-B@3'	04/24/23	7.94	1.64	0.324	0.310
FS01@6'	01/03/24	8.31	1.03	0.210	<2.00
SS01@5'	01/03/24	8.30	0.594	0.125	<2.00
SS02@5'	01/03/24	7.88	1.71	0.593	<2.00
SS03@5'	01/03/24	7.86	2.77	0.435	<2.00
SS04@5'	01/03/24	9.20	0.862	0.179	<2.00
BKG01@5'	02/19/24	8.73	NA	NA	NA
BKG02@5'	02/19/24	8.97	NA	NA	NA
BKG03@5'	02/19/24	8.16	NA	NA	NA
BKG04@5'	02/19/24	8.05	NA	NA	NA
BKG05@5'	02/19/24	8.50	NA	NA	NA
SS05@5'	03/18/24	7.98	1.59	0.384	<2.00
Highest Background		8.97	-	-	-

Soil Sample ID	Date	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)
Residential SSL ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ²		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01-A@5'	04/24/23	0.377	32.1	<0.206	<0.30	1.07	3.34	0.997	<0.260	<0.0206	4.72
FS01@6'	01/03/24	0.432	38.4	<0.200	<0.30	1.11	3.33	1.08	<0.260	<0.0200	5.07
SS01@5'	01/03/24	0.640	38.9	<0.200	<0.30	0.907	3.58	1.05	<0.260	<0.0200	4.33
SS02@5'	01/03/24	0.783	65.9	<0.200	<0.30	2.21	9.36	1.46	<0.260	0.0681	9.06
SS03@5'	01/03/24	0.419	41.0	<0.200	<0.30	0.933	3.14	1.16	<0.260	<0.0200	4.66
SS04@5'	01/03/24	0.612	53.9	<0.200	<0.30	1.06	4.26	1.43	<0.260	0.0246	5.41
BKG01@5'	02/19/24	1.18	NA	NA	NA	NA	NA	NA	NA	NA	NA
BKG02@5'	02/19/24	1.45	NA	NA	NA	NA	NA	NA	NA	NA	NA
BKG03@5'	02/19/24	4.58	NA	NA	NA	NA	NA	NA	NA	NA	NA
BKG04@5'	02/19/24	3.44	NA	NA	NA	NA	NA	NA	NA	NA	NA
BKG05@5'	02/19/24	1.19	NA	NA	NA	NA	NA	NA	NA	NA	NA
SS05@5'	03/18/24	1.70	56.2	<0.200	<0.30	2.47	4.69	<0.400	<0.260	0.0269	12.7
Mean Background Concentration		2.37	-	-	-	-	-	-	-	-	-
Mean Background x1.25		2.96	-	-	-	-	-	-	-	-	-
Highest Background		4.58	-	-	-	-	-	-	-	-	-
Highest Background x1.25		5.73	-	-	-	-	-	-	-	-	-

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.

2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for

3. SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

ECMC = Energy and Carbon Management Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

mg/kg = Milligrams per kilogram

SAR = Sodium Adsorption Ratio

EC = Electrical Conductivity

mmhos/cm = Millmhos per centimeter

mg/L = Milligrams per liter

< = Analytical result is less than the indicated laboratory reporting limit

Highlighted results are equal to or exceed the ECMC Table 915-1 standard

1,2,4 - TMB = 1,2,4 Trimethylbenzene

1,3,5 - TMB = 1,3,5 Trimethylbenzene

Benz(a) = Benzo(a)anthracene

Benzo(b) = Benzo(b)fluoranthene

Benzo(k) = Benzo(k)fluoranthene

Benzo(a) = Benzo(a)pyrene

A,H = Dibenzo(a,h)anthracene

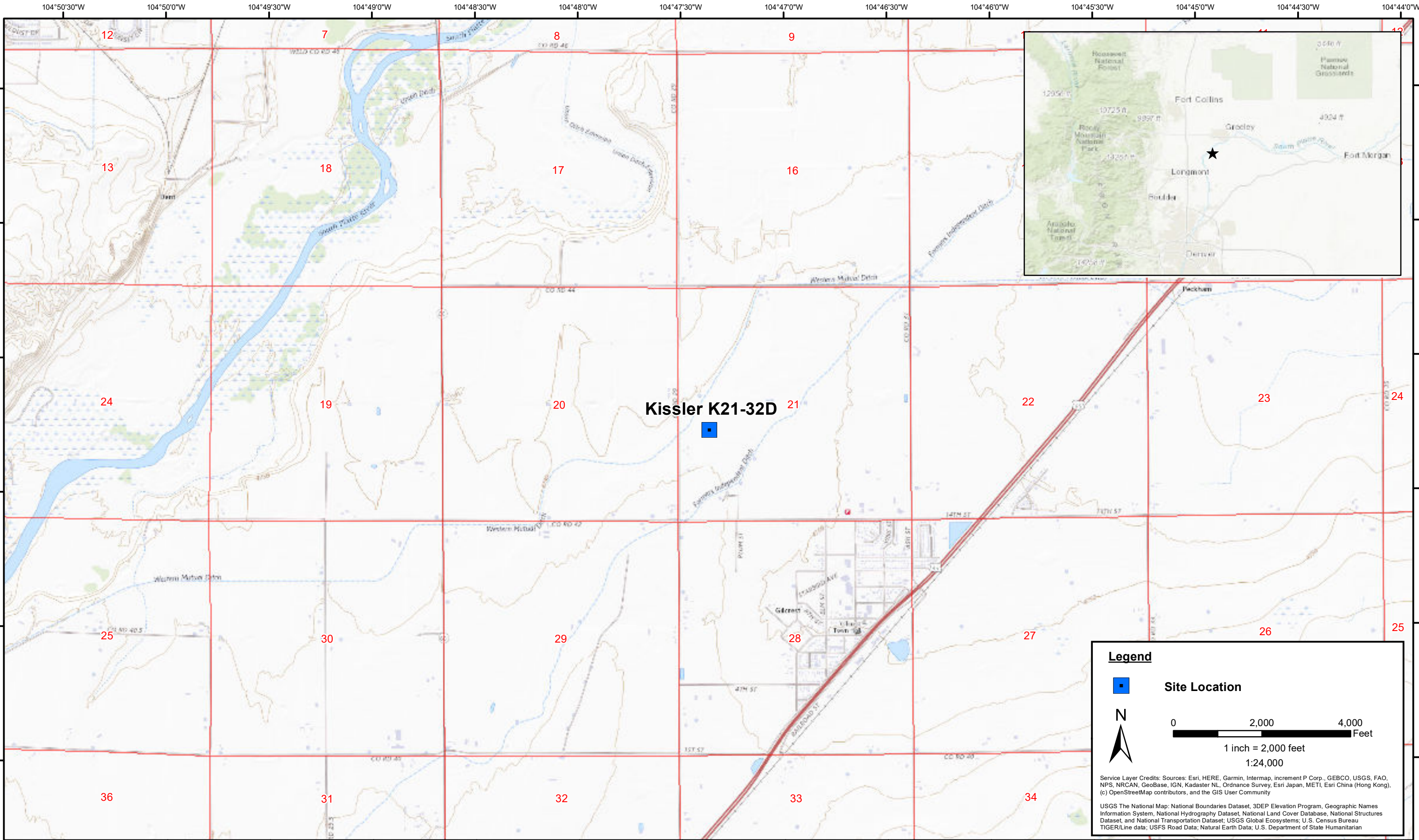
1,2,3-CD = Indeno(1,2,3-cd)pyrene

1-M = 1-methylnaphthalene

2-M = 2-methylnaphthalene

NA = Not Analyzed

FIGURES



DATE:	May 2023
DESIGNED BY:	J. Whritenour
DRAWN BY:	L. Reed

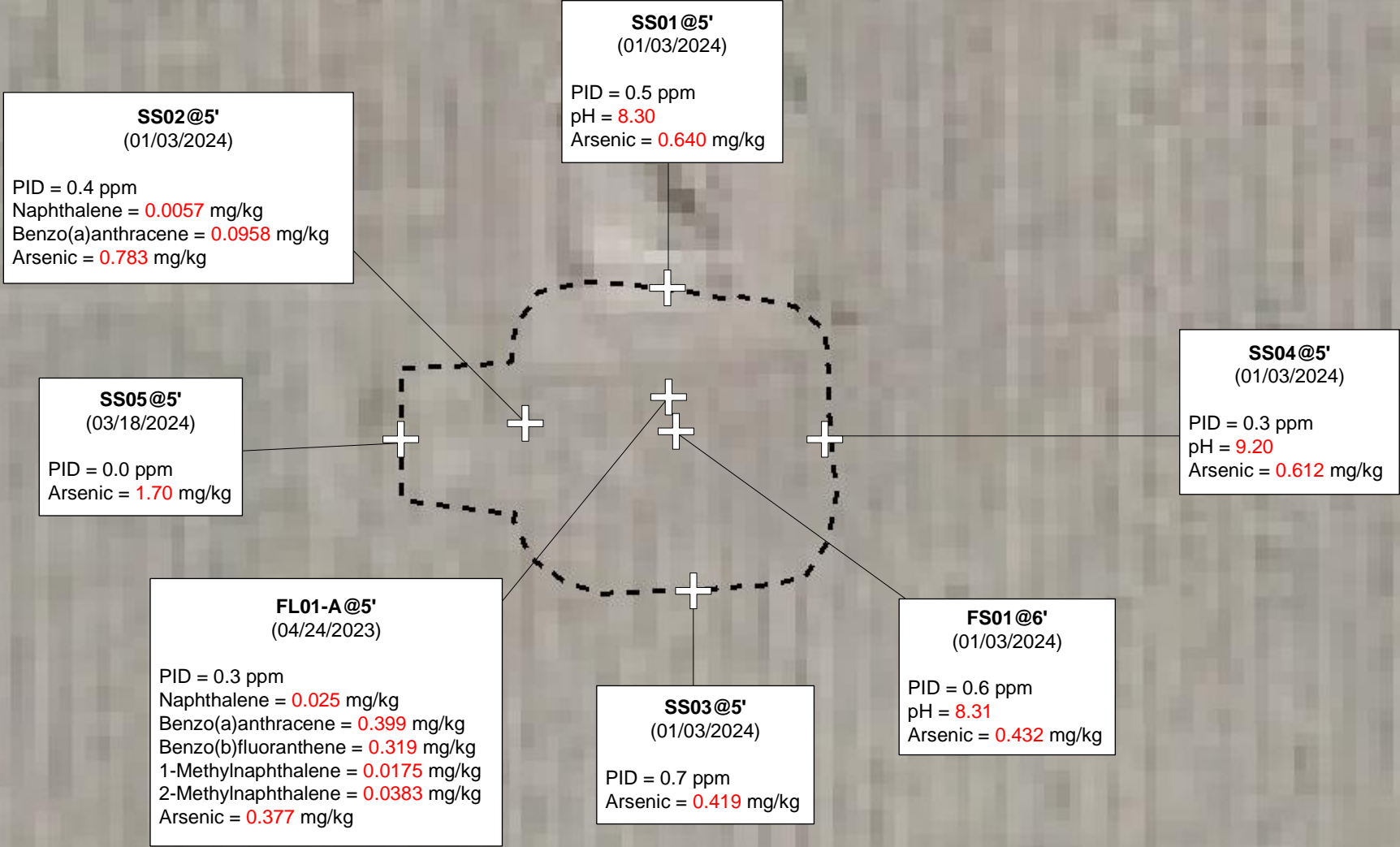


Tasman, Inc.
6855 W. 119th Ave
Broomfield, CO 80020

Noble Energy, Inc - DJ Basin
Kissler K21-32D
NWSW Sec. 21-T4N-R66W
Weld County, Colorado

Site Location Map

Figure
1



Legend

- Excavation Extent – (Collected via Trimble GPS)
- + Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Analytical results below laboratory detection limits or within compliance of ECMC Table 915-1 not shown.
- 4) Concentration in exceedance of ECMC table 915-1 soil standards indicated in **RED**.

GPS – Global Positioning System
mg/kg – Milligrams per kilogram
ppm – parts per million
PID – Photoionization Detector

0 ft. 10 ft. 20 ft.

Image Source: Google Earth; Google 2020



DATE: 04/29/2024

DESIGNED BY: JW

DRAWN BY: MP




Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Kissler K21-32D
NWSW, Section 21, Township 4 North, Range 66 West
Weld County, Colorado

Excavation Soil Analytical
Results Map
(04/24/2023, 01/03/2024
& 03/18/2024)

Figure 2



DATE: 03/26/2024	 TASMAN GEOSCIENCES	Tasman Geosciences, Inc. 6855 W 119 th Avenue Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Kissler K21-32D NWSW, Section 21, Township 4 North, Range 66 West Weld County, Colorado	Background Soil Analytical Results Map (02/19/2024)	Figure 3
DESIGNED BY: JW					
DRAWN BY: SK					

ATTACHMENT A
LABORATORY SOIL ANALYTICAL DATA REPORTS

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

January 23, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

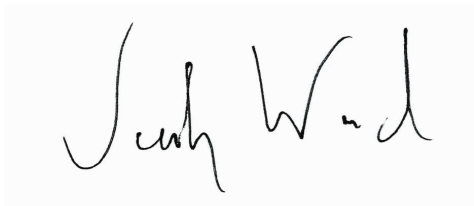
Broomfield, CO 80020

RE: Noble - Kissler K21-32D

Work Order #2401028

Enclosed are the results of analyses for samples received by Summit Scientific on 01/03/24 13:24. 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 Ben Shrewsbury

Laboratory Manager



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

ANALYTICAL REPORT FOR SAMPLES


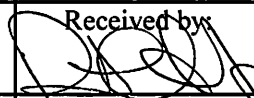
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS01@6'	2401028-01	Soil	01/03/24 12:30	01/03/24 13:24
SS01@5'	2401028-02	Soil	01/03/24 12:32	01/03/24 13:24
SS02@5'	2401028-03	Soil	01/03/24 12:34	01/03/24 13:24
SS03@5'	2401028-04	Soil	01/03/24 12:36	01/03/24 13:24
SS04@5'	2401028-05	Soil	01/03/24 12:38	01/03/24 13:24

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: Noble/Tasman	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: Kissler K21-32D	
Phone: 727-365-4136		Project Name: Kissler K21-32D		AFE#:	
Sampler Name: Elizabeth Brauer		Project Number:		PO/Billing Codes:	
				Contact: Dan Peterson	

					Preservative				Matrix		Analysis Requested										Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	Full 915 suite	
1	FS01 @ 6'	1/3/24	1230	2			X			X										X	SAR, EC, pH by saturated paste
2	SS01 @ 5'		1232																		
3	SS02 @ 5'		1234																		
4	SS03 @ 5'		1236																		
5	SS04 @ 5'		1238																		
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: 	Date/Time: 1/3/24 1340	Received by: Summit North	Date/Time: 1/3/24 1340	TAT Business Days	Field DO	Notes:
Relinquished by: 52	Date/Time: 1324	Received by: 	Date/Time: 1324	Same Day <input checked="" type="checkbox"/>	Field EC	
				1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
				3 Days <input type="checkbox"/>	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: 8.0		Corrected Temperature: 8		IR gun #:	HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2401028Client: Noble TismanClient Project ID: Kessler K21-32DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

8.6

Thermometer #

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"/>	on ICE
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				

Custodian Printed Name

Date/Time

AS

1/3/24

2024



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

FS01@6'
2401028-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHA0106	01/03/24	01/03/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0461	115 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0443	111 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHA0105	01/03/24	01/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.60	68.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

FS01@6'
2401028-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHA0115	01/04/24	01/05/24	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: **01/03/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0186	55.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0173	51.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHA0108	01/04/24	01/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

FS01@6'
2401028-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.432	0.200	mg/kg dry	1	BHA0112	01/04/24	01/09/24	EPA 6020B
Barium	38.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.11	0.400	"	"	"	"	"	"
Lead	3.33	0.200	"	"	"	"	"	"
Nickel	1.08	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	5.07	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHA0128	01/04/24	01/04/24	EPA 7196A	

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

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	80.9	0.0500	mg/L dry	1	BHA0104	01/03/24	01/05/24	EPA 6020B	
Magnesium	17.5	0.0500	"	"	"	"	"	"	
Sodium	39.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.03	0.00100	units	1	BHA0197	01/05/24	01/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

FS01@6'
2401028-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.1		%	1	BHA0107	01/04/24	01/04/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.210	0.0100	mmhos/cm	1	BHA0736	01/22/24	01/22/24	EPA 120.1	

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

Date Sampled: **01/03/24 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.31		pH Units	1	BHA0737	01/22/24	01/22/24	EPA 9045D	

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Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS01@5'
2401028-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHA0106	01/03/24	01/03/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0489	122 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0410	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0463	116 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHA0105	01/03/24	01/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.04	64.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS01@5'
2401028-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHA0115	01/04/24	01/05/24	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: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0166	49.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0140	42.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHA0108	01/04/24	01/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS01@5'
2401028-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.640	0.200	mg/kg dry	1	BHA0112	01/04/24	01/09/24	EPA 6020B
Barium	38.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.907	0.400	"	"	"	"	"	"
Lead	3.58	0.200	"	"	"	"	"	"
Nickel	1.05	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.33	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHA0128	01/04/24	01/04/24	EPA 7196A	

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

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	108	0.0500	mg/L dry	1	BHA0104	01/03/24	01/05/24	EPA 6020B	
Magnesium	19.3	0.0500	"	"	"	"	"	"	
Sodium	25.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.594	0.00100	units	1	BHA0197	01/05/24	01/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS01@5'
2401028-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.0		%	1	BHA0107	01/04/24	01/04/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.125	0.0100	mmhos/cm	1	BHA0736	01/22/24	01/22/24	EPA 120.1	

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

Date Sampled: **01/03/24 12:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.30		pH Units	1	BHA0737	01/22/24	01/22/24	EPA 9045D	

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS02@5'
2401028-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHA0106	01/03/24	01/03/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	0.0057	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0485	121 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0445	111 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHA0105	01/03/24	01/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.22	65.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS02@5'
2401028-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0588	0.00500	mg/kg	1	BHA0115	01/04/24	01/05/24	EPA 8270D SIM	
Anthracene	0.0839	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0958	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0624	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0958	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0320	0.00500	"	"	"	"	"	"	
Chrysene	0.0931	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	0.00549	0.00500	"	"	"	"	"	"	
Fluoranthene	0.269	0.00500	"	"	"	"	"	"	E
Fluorene	0.0632	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.0779	0.00500	"	"	"	"	"	"	
Pyrene	0.212	0.00500	"	"	"	"	"	"	E
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.00980	0.00500	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0143	42.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0245	73.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHA0108	01/04/24	01/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.783	0.200	mg/kg dry	1	BHA0112	01/04/24	01/09/24	EPA 6020B	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS02@5'
2401028-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Barium	65.9	0.400	mg/kg dry	1	BHA0112	01/04/24	01/09/24	EPA 6020B
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.21	0.400	"	"	"	"	"	"
Lead	9.36	0.200	"	"	"	"	"	"
Nickel	1.46	0.400	"	"	"	"	"	"
Silver	0.0681	0.0200	"	"	"	"	"	"
Zinc	9.06	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHA0128	01/04/24	01/04/24	EPA 7196A	

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

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	49.5	0.0500	mg/L dry	1	BHA0104	01/03/24	01/05/24	EPA 6020B	
Magnesium	11.8	0.0500	"	"	"	"	"	"	
Sodium	51.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.71	0.00100	units	1	BHA0197	01/05/24	01/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/03/24 12:34**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS02@5'
2401028-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.0	%	1	BHA0107	01/04/24	01/04/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.593	0.0100	mmhos/cm	1	BHA0736	01/22/24	01/22/24	EPA 120.1	

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

Date Sampled: **01/03/24 12:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.88		pH Units	1	BHA0737	01/22/24	01/22/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS03@5'
2401028-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHA0106	01/03/24	01/03/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0470	118 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0418	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0434	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHA0105	01/03/24	01/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.45	67.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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6855 W. 119th Ave.
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Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS03@5'
2401028-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHA0115	01/04/24	01/05/24	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: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0144	43.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0164	49.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHA0108	01/04/24	01/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS03@5'
2401028-04 (Soil)

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Total Metals by EPA 6020B

Arsenic	0.419	0.200	mg/kg dry	1	BHA0112	01/04/24	01/09/24	EPA 6020B
Barium	41.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	0.933	0.400	"	"	"	"	"	"
Lead	3.14	0.200	"	"	"	"	"	"
Nickel	1.16	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	4.66	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHA0128	01/04/24	01/04/24	EPA 7196A	

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

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.4	0.0500	mg/L dry	1	BHA0104	01/03/24	01/05/24	EPA 6020B	
Magnesium	9.45	0.0500	"	"	"	"	"	"	
Sodium	71.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.77	0.00100	units	1	BHA0197	01/05/24	01/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS03@5'
2401028-04 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.9		%	1	BHA0107	01/04/24	01/04/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.435	0.0100	mmhos/cm	1	BHA0736	01/22/24	01/22/24	EPA 120.1	

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

Date Sampled: **01/03/24 12:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.86		pH Units	1	BHA0737	01/22/24	01/22/24	EPA 9045D	

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Reported:
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SS04@5'
2401028-05 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHA0106	01/03/24	01/03/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0451	113 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0439	110 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHA0105	01/03/24	01/03/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/03/24 12:38**

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

PAH by EPA Method 8270D SIM

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Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS04@5'
2401028-05 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHA0115	01/04/24	01/05/24	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: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0190	57.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0156	46.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHA0108	01/04/24	01/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS04@5'
2401028-05 (Soil)

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Total Metals by EPA 6020B

Arsenic	0.612	0.200	mg/kg dry	1	BHA0112	01/04/24	01/09/24	EPA 6020B
Barium	53.9	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	1.06	0.400	"	"	"	"	"	"
Lead	4.26	0.200	"	"	"	"	"	"
Nickel	1.43	0.400	"	"	"	"	"	"
Silver	0.0246	0.0200	"	"	"	"	"	"
Zinc	5.41	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHA0128	01/04/24	01/04/24	EPA 7196A	

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

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	83.5	0.0500	mg/L dry	1	BHA0104	01/03/24	01/05/24	EPA 6020B	
Magnesium	15.5	0.0500	"	"	"	"	"	"	
Sodium	32.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.862	0.00100	units	1	BHA0197	01/05/24	01/05/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

SS04@5'
2401028-05 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BHA0107	01/04/24	01/04/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.179	0.0100	mmhos/cm	1	BHA0736	01/22/24	01/22/24	EPA 120.1	

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

Date Sampled: **01/03/24 12:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.20		pH Units	1	BHA0737	01/22/24	01/22/24	EPA 9045D	

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Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0106 - EPA 5030 Soil MS

Blank (BHA0106-BLK1)

Prepared: 01/03/24 Analyzed: 01/04/24

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	0.0524		"	0.0400		131	50-150			
Surrogate: Toluene-d8	0.0428		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0452		"	0.0400		113	50-150			

LCS (BHA0106-BS1)

Prepared: 01/03/24 Analyzed: 01/04/24

Benzene	0.0926	0.0020	mg/kg	0.100		92.6	70-130			
Toluene	0.127	0.0050	"	0.100		127	70-130			
Ethylbenzene	0.119	0.0050	"	0.100		119	70-130			
m,p-Xylene	0.249	0.010	"	0.200		125	70-130			
o-Xylene	0.124	0.0050	"	0.100		124	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.101	0.0050	"	0.100		101	70-130			
Naphthalene	0.0945	0.0038	"	0.100		94.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0512		"	0.0400		128	50-150			
Surrogate: Toluene-d8	0.0423		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0430		"	0.0400		107	50-150			

Matrix Spike (BHA0106-MS1)

Source: 2401028-01

Prepared: 01/03/24 Analyzed: 01/04/24

Benzene	0.0857	0.0020	mg/kg	0.100	ND	85.7	70-130			
Toluene	0.111	0.0050	"	0.100	ND	111	70-130			
Ethylbenzene	0.115	0.0050	"	0.100	ND	115	70-130			
m,p-Xylene	0.239	0.010	"	0.200	ND	119	70-130			
o-Xylene	0.115	0.0050	"	0.100	ND	115	70-130			
1,2,4-Trimethylbenzene	0.127	0.0050	"	0.100	ND	127	70-130			
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.100	ND	127	70-130			
Naphthalene	0.0879	0.0038	"	0.100	ND	87.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0450		"	0.0400		113	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0440		"	0.0400		110	50-150			

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Project: Noble - Kissler K21-32D
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Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0106 - EPA 5030 Soil MS

Matrix Spike Dup (BHA0106-MSD1)			Source: 2401028-01		Prepared: 01/03/24 Analyzed: 01/04/24					
Benzene	0.0914	0.0020	mg/kg	0.100	ND	91.4	70-130	6.40	30	
Toluene	0.124	0.0050	"	0.100	ND	124	70-130	11.2	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	1.67	30	
m,p-Xylene	0.245	0.010	"	0.200	ND	123	70-130	2.70	30	
o-Xylene	0.119	0.0050	"	0.100	ND	119	70-130	3.20	30	
1,2,4-Trimethylbenzene	0.124	0.0050	"	0.100	ND	124	70-130	2.73	30	
1,3,5-Trimethylbenzene	0.127	0.0050	"	0.100	ND	127	70-130	0.566	30	
Naphthalene	0.0883	0.0038	"	0.100	ND	88.3	70-130	0.443	30	
Surrogate: 1,2-Dichloroethane-d4	0.0491		"	0.0400		123	50-150			
Surrogate: Toluene-d8	0.0421		"	0.0400		105	50-150			
Surrogate: 4-Bromofluorobenzene	0.0447		"	0.0400		112	50-150			

Batch BHA0161 - EPA 5030 Soil MS

Blank (BHA0161-BLK1)			Prepared: 01/04/24 Analyzed: 01/05/24							
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	0.0308		"	0.0400		76.9	50-150			
Surrogate: Toluene-d8	0.0389		"	0.0400		97.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0462		"	0.0400		115	50-150			

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Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0161 - EPA 5030 Soil MS

LCS (BHA0161-BS1)

Prepared: 01/04/24 Analyzed: 01/05/24

Benzene	0.110	0.0020	mg/kg	0.100		110	70-130			
Toluene	0.0986	0.0050	"	0.100		98.6	70-130			
Ethylbenzene	0.0992	0.0050	"	0.100		99.2	70-130			
m,p-Xylene	0.190	0.010	"	0.200		95.1	70-130			
o-Xylene	0.0965	0.0050	"	0.100		96.5	70-130			
1,2,4-Trimethylbenzene	0.0974	0.0050	"	0.100		97.4	70-130			
1,3,5-Trimethylbenzene	0.0944	0.0050	"	0.100		94.4	70-130			
Naphthalene	0.0980	0.0038	"	0.100		98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0310		"	0.0400		77.4	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0459		"	0.0400		115	50-150			

Matrix Spike (BHA0161-MS1)

Source: 2401050-01

Prepared: 01/04/24 Analyzed: 01/05/24

Benzene	0.0602	0.0020	mg/kg	0.100	ND	60.2	70-130			QM-07
Toluene	0.0526	0.0050	"	0.100	ND	52.6	70-130			QM-07
Ethylbenzene	0.0469	0.0050	"	0.100	ND	46.9	70-130			QM-07
m,p-Xylene	0.0860	0.010	"	0.200	ND	43.0	70-130			QM-07
o-Xylene	0.0452	0.0050	"	0.100	ND	45.2	70-130			QM-07
1,2,4-Trimethylbenzene	0.0221	0.0050	"	0.100	ND	22.1	70-130			QM-07
1,3,5-Trimethylbenzene	0.0320	0.0050	"	0.100	ND	32.0	70-130			QM-07
Naphthalene	0.0138	0.0038	"	0.100	ND	13.8	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0632		"	0.0400		158	50-150			QM-07
Surrogate: Toluene-d8	0.0390		"	0.0400		97.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0471		"	0.0400		118	50-150			

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Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0105 - EPA 3550A

Blank (BHA0105-BLK1)

Prepared: 01/03/24 Analyzed: 01/04/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	10.4		"	12.5		83.0	30-150			

LCS (BHA0105-BS1)

Prepared: 01/03/24 Analyzed: 01/04/24

C10-C28 (DRO)	435	50	mg/kg	500		87.0	70-130			
Surrogate: o-Terphenyl	9.56		"	12.5		76.5	30-150			

Matrix Spike (BHA0105-MS1)

Source: 2401022-01

Prepared: 01/03/24 Analyzed: 01/04/24

C10-C28 (DRO)	1250	50	mg/kg	500	872	75.6	70-130			
Surrogate: o-Terphenyl	5.36		"	12.5		42.8	30-150			

Matrix Spike Dup (BHA0105-MSD1)

Source: 2401022-01

Prepared: 01/03/24 Analyzed: 01/04/24

C10-C28 (DRO)	1290	50	mg/kg	500	872	83.9	70-130	3.26	20	
Surrogate: o-Terphenyl	5.97		"	12.5		47.8	30-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0115 - EPA 5030 Soil MS

Blank (BHA0115-BLK1)

Prepared & Analyzed: 01/04/24

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	0.0343		"	0.0333		103	40-150			
Surrogate: Fluoranthene-d10	0.0273		"	0.0333		81.9	40-150			

LCS (BHA0115-BS1)

Prepared & Analyzed: 01/04/24

Acenaphthene	0.0309	0.00500	mg/kg	0.0333		92.7	31-137			
Anthracene	0.0310	0.00500	"	0.0333		93.0	30-120			
Benzo (a) anthracene	0.0280	0.00500	"	0.0333		83.9	30-120			
Benzo (a) pyrene	0.0302	0.00500	"	0.0333		90.6	30-120			
Benzo (b) fluoranthene	0.0294	0.00500	"	0.0333		88.2	30-120			
Benzo (k) fluoranthene	0.0297	0.00500	"	0.0333		89.0	30-120			
Chrysene	0.0276	0.00500	"	0.0333		82.7	30-120			
Dibenz (a,h) anthracene	0.0274	0.00500	"	0.0333		82.2	30-120			
Fluoranthene	0.0331	0.00500	"	0.0333		99.2	30-120			
Fluorene	0.0311	0.00500	"	0.0333		93.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0270	0.00500	"	0.0333		80.9	30-120			
Pyrene	0.0287	0.00500	"	0.0333		86.0	35-142			
1-Methylnaphthalene	0.0280	0.00500	"	0.0333		83.9	35-142			
2-Methylnaphthalene	0.0278	0.00500	"	0.0333		83.5	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0283		"	0.0333		84.8	40-150			
Surrogate: Fluoranthene-d10	0.0315		"	0.0333		94.6	40-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHA0115 - EPA 5030 Soil MS

Matrix Spike (BHA0115-MS1)			Source: 2401007-01		Prepared & Analyzed: 01/04/24					
Acenaphthene	0.0206	0.00500	mg/kg	0.0333	ND	61.9	31-137			
Anthracene	0.0210	0.00500	"	0.0333	ND	62.9	30-120			
Benzo (a) anthracene	0.0198	0.00500	"	0.0333	ND	59.4	30-120			
Benzo (a) pyrene	0.0212	0.00500	"	0.0333	ND	63.5	30-120			
Benzo (b) fluoranthene	0.0192	0.00500	"	0.0333	ND	57.5	30-120			
Benzo (k) fluoranthene	0.0191	0.00500	"	0.0333	ND	57.2	30-120			
Chrysene	0.0187	0.00500	"	0.0333	ND	56.0	30-120			
Dibenz (a,h) anthracene	0.0176	0.00500	"	0.0333	ND	52.7	30-120			
Fluoranthene	0.0231	0.00500	"	0.0333	0.0105	37.8	30-120			
Fluorene	0.0214	0.00500	"	0.0333	ND	64.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333	ND	49.1	30-120			
Pyrene	0.0205	0.00500	"	0.0333	0.00697	40.6	35-142			
1-Methylnaphthalene	0.0199	0.00500	"	0.0333	ND	59.7	15-130			
2-Methylnaphthalene	0.0198	0.00500	"	0.0333	ND	59.4	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0200		"	0.0333		59.9	40-150			
Surrogate: Fluoranthene-d10	0.0195		"	0.0333		58.6	40-150			

Matrix Spike Dup (BHA0115-MSD1)			Source: 2401007-01		Prepared & Analyzed: 01/04/24					
Acenaphthene	0.0204	0.00500	mg/kg	0.0333	ND	61.2	31-137	1.24	30	
Anthracene	0.0200	0.00500	"	0.0333	ND	60.0	30-120	4.67	30	
Benzo (a) anthracene	0.0190	0.00500	"	0.0333	ND	57.1	30-120	3.86	30	
Benzo (a) pyrene	0.0194	0.00500	"	0.0333	ND	58.1	30-120	8.81	30	
Benzo (b) fluoranthene	0.0180	0.00500	"	0.0333	ND	54.0	30-120	6.25	30	
Benzo (k) fluoranthene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	7.61	30	
Chrysene	0.0175	0.00500	"	0.0333	ND	52.4	30-120	6.60	30	
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	7.27	30	
Fluoranthene	0.0225	0.00500	"	0.0333	0.0105	35.9	30-120	2.71	30	
Fluorene	0.0214	0.00500	"	0.0333	ND	64.1	30-120	0.143	30	
Indeno (1,2,3-cd) pyrene	0.0166	0.00500	"	0.0333	ND	49.8	30-120	1.28	30	
Pyrene	0.0210	0.00500	"	0.0333	0.00697	42.1	35-142	2.35	30	
1-Methylnaphthalene	0.0184	0.00500	"	0.0333	ND	55.3	15-130	7.55	50	
2-Methylnaphthalene	0.0190	0.00500	"	0.0333	ND	56.9	15-130	4.42	50	
Surrogate: 2-Methylnaphthalene-d10	0.0190		"	0.0333		57.0	40-150			
Surrogate: Fluoranthene-d10	0.0189		"	0.0333		56.7	40-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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

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

Batch BHA0108 - EPA 3050B

Blank (BHA0108-BLK1)

Prepared: 01/04/24 Analyzed: 01/07/24

Boron ND 2.00 mg/L

LCS (BHA0108-BS1)

Prepared: 01/04/24 Analyzed: 01/07/24

Boron 5.89 2.00 mg/L 5.00 118 80-120

Duplicate (BHA0108-DUP1)

Source: 2312507-01

Prepared: 01/04/24 Analyzed: 01/07/24

Boron 0.0834 2.00 mg/L 0.107 24.9 20 QR-01

Matrix Spike (BHA0108-MS1)

Source: 2312507-01

Prepared: 01/04/24 Analyzed: 01/07/24

Boron 6.20 2.00 mg/L 5.00 0.107 122 75-125

Matrix Spike Dup (BHA0108-MSD1)

Source: 2312507-01

Prepared: 01/04/24 Analyzed: 01/07/24

Boron 6.23 2.00 mg/L 5.00 0.107 123 75-125 0.552 25

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0112 - EPA 3050B

Blank (BHA0112-BLK1)

Prepared: 01/04/24 Analyzed: 01/09/24

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 (BHA0112-BS1)

Prepared: 01/04/24 Analyzed: 01/09/24

Arsenic	39.7	0.200	mg/kg wet	40.0	99.3	80-120
Barium	38.6	0.400	"	40.0	96.5	80-120
Cadmium	1.93	0.200	"	2.00	96.3	80-120
Copper	41.5	0.400	"	40.0	104	80-120
Lead	19.5	0.200	"	20.0	97.6	80-120
Nickel	40.0	0.400	"	40.0	100	80-120
Silver	1.95	0.0200	"	2.00	97.4	80-120
Zinc	40.3	0.400	"	40.0	101	80-120
Selenium	4.65	0.260	"	4.00	116	80-120

Duplicate (BHA0112-DUP1)

Source: 2310539-01RE3

Prepared: 01/04/24 Analyzed: 01/09/24

Arsenic	1.47	0.200	mg/kg wet	1.38	6.06	20
Barium	116	0.400	"	103	11.9	20
Cadmium	0.131	0.200	"	0.128	2.47	20
Copper	2.25	0.400	"	2.14	5.15	20
Lead	6.00	0.200	"	5.59	7.10	20
Nickel	2.59	0.400	"	2.42	6.67	20
Silver	0.0272	0.0200	"	0.0268	1.48	20
Zinc	8.80	0.400	"	8.37	5.02	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0112 - EPA 3050B

Matrix Spike (BHA0112-MS1)		Source: 2310539-01RE3			Prepared: 01/04/24		Analyzed: 01/09/24				
Arsenic	11.8	0.200	mg/kg wet	40.0	1.38	26.1	75-125				QM-07
Barium	147	0.400	"	40.0	103	109	75-125				
Cadmium	2.03	0.200	"	2.00	0.128	95.0	75-125				
Copper	13.6	0.400	"	40.0	2.14	28.7	75-125				QM-07
Lead	23.0	0.200	"	20.0	5.59	86.8	75-125				
Nickel	13.9	0.400	"	40.0	2.42	28.6	75-125				QM-07
Silver	1.88	0.0200	"	2.00	0.0268	92.6	75-125				
Zinc	19.2	0.400	"	40.0	8.37	27.2	75-125				QM-07
Selenium	3.78	0.260	"	4.00	ND	94.4	75-125				

Matrix Spike Dup (BHA0112-MSD1)		Source: 2310539-01RE3			Prepared: 01/04/24		Analyzed: 01/09/24				
Arsenic	11.9	0.200	mg/kg wet	40.0	1.38	26.3	75-125	0.819	25		QM-07
Barium	145	0.400	"	40.0	103	106	75-125	0.865	25		
Cadmium	2.03	0.200	"	2.00	0.128	95.2	75-125	0.197	25		
Copper	13.6	0.400	"	40.0	2.14	28.7	75-125	0.103	25		QM-07
Lead	22.9	0.200	"	20.0	5.59	86.6	75-125	0.234	25		
Nickel	13.9	0.400	"	40.0	2.42	28.7	75-125	0.320	25		QM-07
Silver	1.87	0.0200	"	2.00	0.0268	92.1	75-125	0.576	25		
Zinc	19.3	0.400	"	40.0	8.37	27.3	75-125	0.282	25		QM-07
Selenium	3.79	0.260	"	4.00	ND	94.6	75-125	0.264	25		

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0128 - 3060A Mod

Blank (BHA0128-BLK1)

Prepared & Analyzed: 01/04/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHA0128-BS1)

Prepared & Analyzed: 01/04/24

Chromium, Hexavalent 25.6 0.30 mg/kg wet 25.0 102 80-120

Duplicate (BHA0128-DUP1)

Source: 2401008-01

Prepared & Analyzed: 01/04/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHA0128-MS1)

Source: 2401008-01

Prepared & Analyzed: 01/04/24

Chromium, Hexavalent 26.4 0.30 mg/kg dry 26.5 ND 99.6 75-125

Matrix Spike Dup (BHA0128-MSD1)

Source: 2401008-01

Prepared & Analyzed: 01/04/24

Chromium, Hexavalent 25.9 0.30 mg/kg dry 26.5 ND 97.4 75-125 2.23 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

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

Batch BHA0104 - General Preparation

Blank (BHA0104-BLK1)

Prepared: 01/03/24 Analyzed: 01/05/24

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

LCS (BHA0104-BS1)

Prepared: 01/03/24 Analyzed: 01/05/24

Calcium	6.25	0.0500	mg/L wet	5.00	125	70-130
Magnesium	5.41	0.0500	"	5.00	108	70-130
Sodium	5.20	0.0500	"	5.00	104	70-130

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:

01/23/24 08:46

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 BHA0107 - General Preparation

Duplicate (BHA0107-DUP1)		Source: 2312558-01			Prepared & Analyzed: 01/04/24						
% Solids	96.7		%		96.3			0.375		20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0736 - General Preparation

Blank (BHA0736-BLK1)

Prepared & Analyzed: 01/22/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHA0736-BS1)

Prepared & Analyzed: 01/22/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BHA0736-DUP1)

Source: 2312541-01

Prepared & Analyzed: 01/22/24

Specific Conductance (EC) 1.60 0.0100 mmhos/cm 1.59 0.503 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

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 BHA0737 - General Preparation

LCS (BHA0737-BS1)

Prepared & Analyzed: 01/22/24

pH	9.16	pH Units	9.18	99.8	95-105
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Duplicate (BHA0737-DUP1)

Source: 2312541-01

Prepared & Analyzed: 01/22/24

pH	8.01	pH Units	8.00	0.125	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:
01/23/24 08:46

Notes and Definitions

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.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

February 29, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Kissler K21-32D

Work Order #2402332

Enclosed are the results of analyses for samples received by Summit Scientific on 02/19/24 17:34. 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 Ben Shrewsbury

Laboratory Manager



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG01@5'	2402332-01	Soil	02/19/24 10:35	02/19/24 17:34
BKG02@5'	2402332-02	Soil	02/19/24 10:45	02/19/24 17:34
BKG03@5'	2402332-03	Soil	02/19/24 10:55	02/19/24 17:34
BKG04@5'	2402332-04	Soil	02/19/24 11:10	02/19/24 17:34
BKG05@5'	2402332-05	Soil	02/19/24 11:20	02/19/24 17:34

Summit Scientific

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Send Data To:		Send Invoice To:	
Client: Noble/Tasman		Company: <u>Chevron</u>	
Address: 6855 W. 119th Ave.		Project Name/Location:	
City/State/Zip: Broomfield/CO/ 80020		AFE#:	
Phone:		PO/Billing Codes:	
Project Name: <u>Kissler K21-32D</u>		Contact: Dan Peterson	
Project Number:			
Sampler Name: <u>Conor Lovell</u>			

					Preservative				Matrix			Analysis Requested										Special Instructions		
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN	1,2,4 & 1,3,5-TMBs	TDS, Cl, SO4	TPH	PAH	pH, EC, SAR	Metals	Boron	pH	Arsenic		
1	SS05 05' CL	2/19/24	1015	2			X		X	X			X	X		X	X	X	X	X	X			CL
2	BKG01 05'		1035																			X	X	
3	BKG02 05'		1045																					
4	BKG03 05'		1055																					
5	BKG04 05'		1110																					
6	BKG05 05'		1120																					
7																								
8																								
9																								
10																								
11																								
12																								
13																								
14																								
15																								

Relinquished by: <u>Conor Lovell</u>	Date/Time: <u>2/19/24 1340</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>2/19/24 1340</u>	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <u>Tasman Lock Box</u>	Date/Time: <u>2/19/24 1734</u>	Received by: <u>Relinquished</u>	Date/Time: <u>2/19/24 1734</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <u>11.2</u>	Corrected Temperature: <u>4</u>	IR gun #: <u>1</u>	HNO3 lot #: <u></u>			

S₂

Sample Receipt Checklist

S2 Work Order# 2402332Client: Nodelt Tasman Client Project ID: Kissler K21-32DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

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? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on site
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.AS
Custodian Printed Name2/19/24
Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

BKG01@5'
2402332-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **02/19/24 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.18	0.200		mg/kg dry	1	BHB0705	02/22/24	02/23/24	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/19/24 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.1			%	1	BHB0846	02/27/24	02/28/24	Calculation	

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

Date Sampled: **02/19/24 10:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.73			pH Units	1	BHB0682	02/21/24	02/21/24	EPA 9045D	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

BKG02@5'
2402332-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **02/19/24 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	1.45	0.200		mg/kg dry	1	BHB0705	02/22/24	02/23/24	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/19/24 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.2			%	1	BHB0846	02/27/24	02/28/24	Calculation	

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

Date Sampled: **02/19/24 10:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.97			pH Units	1	BHB0682	02/21/24	02/21/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

BKG03@5'
2402332-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **02/19/24 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	4.58	0.200		mg/kg dry	1	BHB0705	02/22/24	02/23/24	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/19/24 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	83.2			%	1	BHB0846	02/27/24	02/28/24	Calculation	

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

Date Sampled: **02/19/24 10:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.16			pH Units	1	BHB0682	02/21/24	02/21/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

BKG04@5'
2402332-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **02/19/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.44	0.200	mg/kg dry	1	BHB0705	02/22/24	02/23/24	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/19/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.8		%	1	BHB0846	02/27/24	02/28/24	Calculation	

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

Date Sampled: **02/19/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.05		pH Units	1	BHB0682	02/21/24	02/21/24	EPA 9045D	

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

BKG05@5'
2402332-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **02/19/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.19	0.200	mg/kg dry	1	BHB0705	02/22/24	02/23/24	EPA 6020B	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **02/19/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.8		%	1	BHB0846	02/27/24	02/28/24	Calculation	

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

Date Sampled: **02/19/24 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BHB0682	02/21/24	02/21/24	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

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 BHB0705 - EPA 3050B

Blank (BHB0705-BLK1)

Prepared: 02/22/24 Analyzed: 02/23/24

Arsenic ND 0.200 mg/kg wet

LCS (BHB0705-BS1)

Prepared: 02/22/24 Analyzed: 02/23/24

Arsenic 37.8 0.200 mg/kg wet 40.0 94.6 80-120

Duplicate (BHB0705-DUP1)

Source: 2402331-01

Prepared: 02/22/24 Analyzed: 02/23/24

Arsenic 2.26 0.200 mg/kg dry 4.76 71.0 20 QR-04

Matrix Spike (BHB0705-MS1)

Source: 2402331-01

Prepared: 02/22/24 Analyzed: 02/23/24

Arsenic 51.4 0.200 mg/kg dry 54.0 4.76 86.3 75-125

Matrix Spike Dup (BHB0705-MSD1)

Source: 2402331-01

Prepared: 02/22/24 Analyzed: 02/23/24

Arsenic 51.7 0.200 mg/kg dry 54.0 4.76 86.9 75-125 0.607 25

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

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

Summit Scientific

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

Batch BHB0846 - General Preparation

Duplicate (BHB0846-DUP1)		Source: 2402251-02		Prepared: 02/27/24 Analyzed: 02/28/24	
% Solids	93.2		%	94.8	1.68 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

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 BHB0682 - General Preparation

LCS (BHB0682-BS1)

Prepared & Analyzed: 02/21/24

pH	9.16	pH Units	9.18	99.8	95-105
----	------	----------	------	------	--------

Duplicate (BHB0682-DUP1)

Source: 2402158-01

Prepared & Analyzed: 02/21/24

pH	8.35	pH Units	8.10	3.04	20
----	------	----------	------	------	----

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
02/29/24 09:09

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.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 24, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

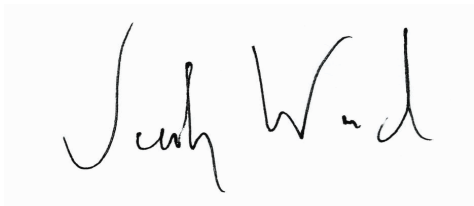
Broomfield, CO 80020

RE: Noble - Kissler K21-32D

Work Order #2403262

Enclosed are the results of analyses for samples received by Summit Scientific on 03/18/24 17:57. 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 Ben Shrewsbury

Laboratory Manager



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS05@5'	2403262-01	Soil	03/18/24 10:10	03/18/24 17:57

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

		Send Data To:	Send Invoice To:
Client: Noble / Tasman		Project Manager: Jake Whritenour	Company: Chevron
Address: 6855 W. 119th Ave		E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location:
City/State/Zip: Broomfield, CO 80020			AFE#:
Phone: 937-554-5108		Project Name: Kisser K21-32D	PO/Billing Codes:
Sampler Name: Molly P. Sywie B.		Project Number:	Contact: Keith McLean

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	pH,EC,SAR	Boron - HWS	Metals - 915	HOLD		
1	SS05 @ 5'	3-18-24	1010	2			X			X			X	X	X	X	X	X			pH, EC, SAR by saturated paste
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <u>MP</u>	Date/Time: <u>3-18-24 / 1720</u>	Received by: <u>Tasman Lock Box</u>	Date/Time: <u>3-18-24 / 1720</u>	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <u>Tasman Lock Box</u>	Date/Time: <u>3/18/24 1757</u>	Received by: <u>[Signature]</u>	Date/Time: <u>3/18/24 1757</u>	1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days <input type="checkbox"/>	Field Temp.	
				Standard <input type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>12.1</u>		Corrected Temperature: <u>0</u>		IR gun #: <u>1</u>	HNO3 lot #: _____	

S₂

Sample Receipt Checklist

S2 Work Order# 2403262Client: Noble FrismanClient Project ID: Kissler K21-32DShipped 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"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

12.1

Thermometer #

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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Custodian Printed Name

3/18/24
Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

SS05@5'
2403262-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHC0651	03/18/24	03/19/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0399	99.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0414	103 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHC0653	03/18/24	03/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.63	69.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

SS05@5'
2403262-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHC0690	03/19/24	03/20/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0242	72.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0258	77.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHC0676	03/19/24	04/24/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

SS05@5'
2403262-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.70	0.200	mg/kg dry	1	BHC0733	03/20/24	04/19/24	EPA 6020B
Barium	56.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.47	0.400	"	"	"	"	"	"
Lead	4.69	0.200	"	"	"	"	"	"
Nickel	ND	0.400	"	"	"	"	"	"
Silver	0.0269	0.0200	"	"	"	"	"	"
Zinc	12.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHC0667	03/19/24	03/20/24	EPA 7196A	

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

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	31.7	0.0500	mg/L dry	1	BHC0955	03/25/24	04/23/24	EPA 6020B	
Magnesium	7.90	0.0500	"	"	"	"	"	"	
Sodium	38.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.59	0.00100	units	1	BHD0875	04/24/24	04/24/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

SS05@5'
2403262-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.8		%	1	BHC0659	03/19/24	03/21/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.384	0.0100	mmhos/cm	1	BHC0956	03/25/24	03/29/24	EPA 120.1	

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

Date Sampled: **03/18/24 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.98		pH Units	1	BHC0957	03/25/24	03/29/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0651 - EPA 5030 Soil MS

Blank (BHC0651-BLK1)

Prepared: 03/18/24 Analyzed: 03/19/24

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	0.0408		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0414		"	0.0400		104	50-150			

LCS (BHC0651-BS1)

Prepared: 03/18/24 Analyzed: 03/19/24

Benzene	0.111	0.0020	mg/kg	0.100		111	70-130			
Toluene	0.109	0.0050	"	0.100		109	70-130			
Ethylbenzene	0.108	0.0050	"	0.100		108	70-130			
m,p-Xylene	0.219	0.010	"	0.200		109	70-130			
o-Xylene	0.111	0.0050	"	0.100		111	70-130			
1,2,4-Trimethylbenzene	0.0953	0.0050	"	0.100		95.3	70-130			
1,3,5-Trimethylbenzene	0.0978	0.0050	"	0.100		97.8	70-130			
Naphthalene	0.0818	0.0038	"	0.100		81.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0390		"	0.0400		97.5	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	50-150			

Matrix Spike (BHC0651-MS1)

Source: 2403257-01

Prepared: 03/18/24 Analyzed: 03/19/24

Benzene	0.0886	0.0020	mg/kg	0.100	ND	88.6	70-130			
Toluene	0.0848	0.0050	"	0.100	ND	84.8	70-130			
Ethylbenzene	0.0801	0.0050	"	0.100	ND	80.1	70-130			
m,p-Xylene	0.160	0.010	"	0.200	ND	80.2	70-130			
o-Xylene	0.0818	0.0050	"	0.100	ND	81.8	70-130			
1,2,4-Trimethylbenzene	0.0722	0.0050	"	0.100	ND	72.2	70-130			
1,3,5-Trimethylbenzene	0.0731	0.0050	"	0.100	ND	73.1	70-130			
Naphthalene	0.0448	0.0038	"	0.100	ND	44.8	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0409		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0398		"	0.0400		99.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0412		"	0.0400		103	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0651 - EPA 5030 Soil MS

Matrix Spike Dup (BHC0651-MSD1)		Source: 2403257-01			Prepared: 03/18/24 Analyzed: 03/19/24					
Benzene	0.0955	0.0020	mg/kg	0.100	ND	95.5	70-130	7.40	30	
Toluene	0.0918	0.0050	"	0.100	ND	91.8	70-130	7.99	30	
Ethylbenzene	0.0841	0.0050	"	0.100	ND	84.1	70-130	4.90	30	
m,p-Xylene	0.168	0.010	"	0.200	ND	84.2	70-130	4.89	30	
o-Xylene	0.0847	0.0050	"	0.100	ND	84.7	70-130	3.49	30	
1,2,4-Trimethylbenzene	0.0740	0.0050	"	0.100	ND	74.0	70-130	2.46	30	
1,3,5-Trimethylbenzene	0.0741	0.0050	"	0.100	ND	74.1	70-130	1.35	30	
Naphthalene	0.0465	0.0038	"	0.100	ND	46.5	70-130	3.81	30	QM-07
Surrogate: 1,2-Dichloroethane-d4		0.0411	"	0.0400		103	50-150			
Surrogate: Toluene-d8		0.0400	"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene		0.0397	"	0.0400		99.3	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0653 - EPA 3550A

Blank (BHC0653-BLK1)

Prepared: 03/18/24 Analyzed: 03/19/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	11.2		"	12.5		89.7	30-150			

LCS (BHC0653-BS1)

Prepared: 03/18/24 Analyzed: 03/19/24

C10-C28 (DRO)	456	50	mg/kg	500		91.2	70-130			
Surrogate: o-Terphenyl	11.0		"	12.5		88.2	30-150			

Matrix Spike (BHC0653-MS1)

Source: 2403257-01

Prepared: 03/18/24 Analyzed: 03/19/24

C10-C28 (DRO)	404	50	mg/kg	500	34.5	73.9	70-130			
Surrogate: o-Terphenyl	7.86		"	12.5		62.9	30-150			

Matrix Spike Dup (BHC0653-MSD1)

Source: 2403257-01

Prepared: 03/18/24 Analyzed: 03/19/24

C10-C28 (DRO)	396	50	mg/kg	500	34.5	72.4	70-130	1.94	20	
Surrogate: o-Terphenyl	7.68		"	12.5		61.4	30-150			

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Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHC0690 - EPA 5030 Soil MS

Blank (BHC0690-BLK1)

Prepared: 03/19/24 Analyzed: 03/20/24

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	0.0290		"	0.0333		87.0	40-150			
Surrogate: Fluoranthene-d10	0.0328		"	0.0333		98.3	40-150			

LCS (BHC0690-BS1)

Prepared: 03/19/24 Analyzed: 03/20/24

Acenaphthene	0.0316	0.00500	mg/kg	0.0333	94.9	31-137
Anthracene	0.0307	0.00500	"	0.0333	92.1	30-120
Benzo (a) anthracene	0.0319	0.00500	"	0.0333	95.8	30-120
Benzo (a) pyrene	0.0279	0.00500	"	0.0333	83.7	30-120
Benzo (b) fluoranthene	0.0295	0.00500	"	0.0333	88.5	30-120
Benzo (k) fluoranthene	0.0277	0.00500	"	0.0333	83.0	30-120
Chrysene	0.0302	0.00500	"	0.0333	90.6	30-120
Dibenz (a,h) anthracene	0.0239	0.00500	"	0.0333	71.8	30-120
Fluoranthene	0.0297	0.00500	"	0.0333	89.2	30-120
Fluorene	0.0230	0.00500	"	0.0333	69.1	30-120
Indeno (1,2,3-cd) pyrene	0.0249	0.00500	"	0.0333	74.8	30-120
Pyrene	0.0318	0.00500	"	0.0333	95.3	35-142
1-Methylnaphthalene	0.0326	0.00500	"	0.0333	97.8	35-142
2-Methylnaphthalene	0.0292	0.00500	"	0.0333	87.5	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0347		"	0.0333	104	40-150
Surrogate: Fluoranthene-d10	0.0305		"	0.0333	91.6	40-150

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHC0690 - EPA 5030 Soil MS

Matrix Spike (BHC0690-MS1)			Source: 2403244-01		Prepared: 03/19/24 Analyzed: 03/20/24						
Acenaphthene	0.0155	0.00500	mg/kg	0.0333	ND	46.6	31-137				
Anthracene	0.0157	0.00500	"	0.0333	ND	47.2	30-120				
Benzo (a) anthracene	0.0163	0.00500	"	0.0333	ND	48.9	30-120				
Benzo (a) pyrene	0.0139	0.00500	"	0.0333	ND	41.6	30-120				
Benzo (b) fluoranthene	0.0142	0.00500	"	0.0333	ND	42.6	30-120				
Benzo (k) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.9	30-120				
Chrysene	0.0147	0.00500	"	0.0333	ND	44.2	30-120				
Dibenz (a,h) anthracene	0.0141	0.00500	"	0.0333	ND	42.2	30-120				
Fluoranthene	0.0154	0.00500	"	0.0333	ND	46.2	30-120				
Fluorene	0.0140	0.00500	"	0.0333	ND	42.1	30-120				
Indeno (1,2,3-cd) pyrene	0.0188	0.00500	"	0.0333	ND	56.3	30-120				
Pyrene	0.0162	0.00500	"	0.0333	ND	48.6	35-142				
1-Methylnaphthalene	0.0157	0.00500	"	0.0333	ND	47.1	15-130				
2-Methylnaphthalene	0.0148	0.00500	"	0.0333	ND	44.5	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0171		"	0.0333		51.3	40-150				
Surrogate: Fluoranthene-d10	0.0163		"	0.0333		49.0	40-150				

Matrix Spike Dup (BHC0690-MSD1)			Source: 2403244-01		Prepared: 03/19/24 Analyzed: 03/20/24						
Acenaphthene	0.0148	0.00500	mg/kg	0.0333	ND	44.4	31-137	4.81	30		
Anthracene	0.0139	0.00500	"	0.0333	ND	41.8	30-120	12.1	30		
Benzo (a) anthracene	0.0151	0.00500	"	0.0333	ND	45.4	30-120	7.45	30		
Benzo (a) pyrene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	5.08	30		
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333	ND	69.2	30-120	47.6	30		QR-02
Benzo (k) fluoranthene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	0.482	30		
Chrysene	0.0135	0.00500	"	0.0333	ND	40.6	30-120	8.58	30		
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.3	30-120	7.07	30		
Fluoranthene	0.0138	0.00500	"	0.0333	ND	41.4	30-120	10.9	30		
Fluorene	0.0142	0.00500	"	0.0333	ND	42.6	30-120	1.19	30		
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	11.9	30		
Pyrene	0.0147	0.00500	"	0.0333	ND	44.1	35-142	9.85	30		
1-Methylnaphthalene	0.0134	0.00500	"	0.0333	ND	40.1	15-130	16.1	50		
2-Methylnaphthalene	0.0136	0.00500	"	0.0333	ND	40.8	15-130	8.66	50		
Surrogate: 2-Methylnaphthalene-d10	0.0143		"	0.0333		42.9	40-150				
Surrogate: Fluoranthene-d10	0.0146		"	0.0333		43.8	40-150				

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0676 - EPA 3050B

Blank (BHC0676-BLK1)

Prepared: 03/19/24 Analyzed: 04/24/24

Boron ND 2.00 mg/L

LCS (BHC0676-BS1)

Prepared: 03/19/24 Analyzed: 04/24/24

Boron 4.00 2.00 mg/L 5.00 80.0 80-120

Duplicate (BHC0676-DUP1)

Source: 2403257-01

Prepared: 03/19/24 Analyzed: 04/24/24

Boron 0.247 2.00 mg/L 0.285 14.0 20

Matrix Spike (BHC0676-MS1)

Source: 2403257-01

Prepared: 03/19/24 Analyzed: 04/24/24

Boron 4.36 2.00 mg/L 5.00 0.285 81.6 75-125

Matrix Spike Dup (BHC0676-MSD1)

Source: 2403257-01

Prepared: 03/19/24 Analyzed: 04/24/24

Boron 4.56 2.00 mg/L 5.00 0.285 85.6 75-125 4.46 25

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0733 - EPA 3050B

Blank (BHC0733-BLK1)

Prepared: 03/20/24 Analyzed: 04/19/24

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 (BHC0733-BS1)

Prepared: 03/20/24 Analyzed: 04/19/24

Arsenic	48.2	0.200	mg/kg wet	40.0	120	80-120
Barium	44.2	0.400	"	40.0	110	80-120
Cadmium	2.02	0.200	"	2.00	101	80-120
Copper	44.3	0.400	"	40.0	111	80-120
Lead	20.9	0.200	"	20.0	104	80-120
Nickel	42.6	0.400	"	40.0	106	80-120
Silver	2.06	0.0200	"	2.00	103	80-120
Zinc	42.0	0.400	"	40.0	105	80-120
Selenium	4.73	0.260	"	4.00	118	80-120

Duplicate (BHC0733-DUP1)

Source: 2403195-01

Prepared: 03/20/24 Analyzed: 04/19/24

Arsenic	4.37	0.200	mg/kg dry	3.94	10.3	20
Barium	93.2	0.400	"	93.1	0.130	20
Cadmium	0.228	0.200	"	0.224	1.96	20
Copper	3.82	0.400	"	3.85	0.680	20
Lead	6.63	0.200	"	6.29	5.26	20
Nickel	ND	0.400	"	ND		20
Silver	0.0354	0.0200	"	0.0339	4.26	20
Zinc	18.8	0.400	"	18.8	0.160	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0733 - EPA 3050B

Matrix Spike (BHC0733-MS1)		Source: 2403195-01			Prepared: 03/20/24 Analyzed: 04/19/24					
Arsenic	63.7	0.200	mg/kg dry	49.2	3.94	121	75-125			
Barium	153	0.400	"	49.2	93.1	121	75-125			
Cadmium	2.85	0.200	"	2.46	0.224	107	75-125			
Copper	37.3	0.400	"	49.2	3.85	68.0	75-125			QM-05
Lead	32.2	0.200	"	24.6	6.29	105	75-125			
Nickel	54.3	0.400	"	49.2	ND	110	75-125			
Silver	2.59	0.0200	"	2.46	0.0339	104	75-125			
Zinc	50.4	0.400	"	49.2	18.8	64.2	75-125			QM-05
Selenium	5.85	0.260	"	4.92	ND	119	75-125			

Matrix Spike Dup (BHC0733-MSD1)		Source: 2403195-01			Prepared: 03/20/24 Analyzed: 04/19/24					
Arsenic	64.4	0.200	mg/kg dry	49.2	3.94	123	75-125	1.07	25	
Barium	150	0.400	"	49.2	93.1	115	75-125	1.97	25	
Cadmium	2.72	0.200	"	2.46	0.224	102	75-125	4.66	25	
Copper	36.9	0.400	"	49.2	3.85	67.2	75-125	1.06	25	QM-05
Lead	31.3	0.200	"	24.6	6.29	102	75-125	2.74	25	
Nickel	54.9	0.400	"	49.2	ND	112	75-125	1.10	25	
Silver	2.53	0.0200	"	2.46	0.0339	101	75-125	2.52	25	
Zinc	49.6	0.400	"	49.2	18.8	62.5	75-125	1.65	25	QM-05
Selenium	5.83	0.260	"	4.92	ND	119	75-125	0.396	25	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0667 - 3060A Mod

Blank (BHC0667-BLK1)

Prepared: 03/19/24 Analyzed: 03/20/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHC0667-BS1)

Prepared: 03/19/24 Analyzed: 03/20/24

Chromium, Hexavalent 25.2 0.30 mg/kg wet 25.0 101 80-120

Duplicate (BHC0667-DUP1)

Source: 2403176-01

Prepared: 03/19/24 Analyzed: 03/20/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHC0667-MS1)

Source: 2403176-01

Prepared: 03/19/24 Analyzed: 03/20/24

Chromium, Hexavalent 29.7 0.30 mg/kg dry 28.7 ND 103 75-125

Matrix Spike Dup (BHC0667-MSD1)

Source: 2403176-01

Prepared: 03/19/24 Analyzed: 03/20/24

Chromium, Hexavalent 29.6 0.30 mg/kg dry 28.7 ND 103 75-125 0.388 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0955 - General Preparation

Blank (BHC0955-BLK1)

Prepared: 03/25/24 Analyzed: 04/23/24

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

LCS (BHC0955-BS1)

Prepared: 03/25/24 Analyzed: 04/23/24

Calcium	5.78	0.0500	mg/L wet	5.00	116	70-130
Magnesium	4.88	0.0500	"	5.00	97.6	70-130
Sodium	4.98	0.0500	"	5.00	99.7	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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

Summit Scientific

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

Batch BHC0659 - General Preparation

Duplicate (BHC0659-DUP1)		Source: 2403235-01			Prepared: 03/19/24 Analyzed: 03/21/24					
% Solids	80.5		%		82.4			2.43	20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D
Project Number: UWRWE-A2454-ABN
Project Manager: Jacob Whritenour

Reported:
04/24/24 13:40

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 BHC0956 - General Preparation

Blank (BHC0956-BLK1)

Prepared: 03/25/24 Analyzed: 03/29/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHC0956-BS1)

Prepared: 03/25/24 Analyzed: 03/29/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BHC0956-DUP1)

Source: 2403150-01

Prepared: 03/25/24 Analyzed: 03/29/24

Specific Conductance (EC) 0.251 0.0100 mmhos/cm 0.256 2.13 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:

04/24/24 13:40

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 BHC0957 - General Preparation

LCS (BHC0957-BS1)

Prepared: 03/25/24 Analyzed: 03/29/24

pH	9.03	pH Units	9.18	98.4	95-105
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Duplicate (BHC0957-DUP1)

Source: 2403150-01

Prepared: 03/25/24 Analyzed: 03/29/24

pH	7.23	pH Units	7.18	0.694	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Kissler K21-32D

Project Number: UWRWE-A2454-ABN

Project Manager: Jacob Whritenour

Reported:

04/24/24 13:40

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.
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.
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