

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 09, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Frico 06-14 Flowline
Work Order #2410077

Enclosed are the results of analyses for samples received by Summit Scientific on 10/03/24 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 "Natalie Tessier". The signature is written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-04@3'	2410077-01	Soil	10/03/24 13:51	10/03/24 17:57



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

Lab ID	Page 1 of 1
2410077	

		Send Data To:	Send Invoice To:
Client: Noble/Tasman	Project Manager: Jake Whritenour		Company: NOBLE
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: Frico 6-14 flowline
City/State/Zip: Broomfield/CO/ 80020			AFE#: UWRWE-A3593-ABW
Phone: 937-554-5108	Project Name: Frico 6-14 flowline		PO/Billing Codes:
Sampler Name: molly Parks	Project Number: 31344		Contact: Wade Firestein

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD
1	FL01-04 @ 3'	10-3-24	1351	3			X			X			X	X	X	X	X	X		SAR, EC, pH by saturated paste
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: mp	Date/Time: 10-3-24 / 1600	Received by: Tasman Lock Box	Date/Time: 10-3-24 / 1600	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 10-3-24 / 1757	Received by: [Signature]	Date/Time: 10-3-24 / 1757	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: 93	Corrected Temperature: 8	IR gun #:		HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2410077

Client: Nadelman Client Project ID: Frico 6-14 Flowline

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

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input 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

10/3/24
Date/Time



Tasman Geosciences
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Project: Noble - Frico 06-14 Flowline
Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

FL01-04@3'
2410077-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHJ0226	10/04/24	10/05/24	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: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0446	112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0401	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHJ0228	10/04/24	10/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.9	95.1 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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2410077-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0190	10/04/24	10/08/24	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: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0198	59.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0212	10/04/24	10/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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2410077-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.15	0.200	mg/kg dry	1	BHJ0233	10/04/24	10/09/24	EPA 6020B
Barium	62.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.35	0.400	"	"	"	"	"	"
Lead	5.16	0.200	"	"	"	"	"	"
Nickel	3.97	0.400	"	"	"	"	"	"
Silver	0.0202	0.0200	"	"	"	"	"	"
Zinc	14.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0205	10/04/24	10/04/24	EPA 7196A	

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

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.9	0.0500	mg/L dry	1	BHJ0268	10/07/24	10/08/24	EPA 6020B	
Magnesium	20.7	0.0500	"	"	"	"	"	"	
Sodium	37.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.11	0.00100	units	1	BHJ0331	10/09/24	10/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.3			%	1	BHJ0219	10/04/24	10/04/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.539	0.0100		mmhos/cm	1	BHJ0270	10/07/24	10/08/24	EPA 120.1	

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

Date Sampled: **10/03/24 13:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.35			pH Units	1	BHJ0269	10/07/24	10/08/24	EPA 9045D	

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Reported:
10/09/24 10:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHJ0226 - EPA 5030 Soil MS

Blank (BHJ0226-BLK1)

Prepared: 10/04/24 Analyzed: 10/05/24

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	0.0417		"	0.0400		104	50-150				
Surrogate: Toluene-d8	0.0415		"	0.0400		104	50-150				
Surrogate: 4-Bromofluorobenzene	0.0406		"	0.0400		102	50-150				

LCS (BHJ0226-BS1)

Prepared: 10/04/24 Analyzed: 10/05/24

Benzene	0.106	0.0020	mg/kg	0.100		106	70-130				
Toluene	0.108	0.0050	"	0.100		108	70-130				
Ethylbenzene	0.105	0.0050	"	0.100		105	70-130				
m,p-Xylene	0.214	0.010	"	0.200		107	70-130				
o-Xylene	0.106	0.0050	"	0.100		106	70-130				
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130				
1,3,5-Trimethylbenzene	0.0996	0.0050	"	0.100		99.6	70-130				
Naphthalene	0.103	0.0038	"	0.100		103	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150				
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150				
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	50-150				

Matrix Spike (BHJ0226-MS1)

Source: 2410077-01

Prepared: 10/04/24 Analyzed: 10/05/24

Benzene	0.0990	0.0020	mg/kg	0.100	ND	99.0	70-130				
Toluene	0.0997	0.0050	"	0.100	ND	99.7	70-130				
Ethylbenzene	0.0980	0.0050	"	0.100	ND	98.0	70-130				
m,p-Xylene	0.200	0.010	"	0.200	ND	100	70-130				
o-Xylene	0.0987	0.0050	"	0.100	ND	98.7	70-130				
1,2,4-Trimethylbenzene	0.0927	0.0050	"	0.100	ND	92.7	70-130				
1,3,5-Trimethylbenzene	0.0929	0.0050	"	0.100	ND	92.9	70-130				
Naphthalene	0.0899	0.0038	"	0.100	ND	89.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	50-150				
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150				
Surrogate: 4-Bromofluorobenzene	0.0404		"	0.0400		101	50-150				

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Reported:
10/09/24 10:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHJ0226 - EPA 5030 Soil MS

Matrix Spike Dup (BHJ0226-MSD1)	Source: 2410077-01			Prepared: 10/04/24 Analyzed: 10/05/24						
Benzene	0.0975	0.0020	mg/kg	0.100	ND	97.5	70-130	1.56	30	
Toluene	0.0984	0.0050	"	0.100	ND	98.4	70-130	1.36	30	
Ethylbenzene	0.0965	0.0050	"	0.100	ND	96.5	70-130	1.54	30	
m,p-Xylene	0.195	0.010	"	0.200	ND	97.7	70-130	2.40	30	
o-Xylene	0.0979	0.0050	"	0.100	ND	97.9	70-130	0.794	30	
1,2,4-Trimethylbenzene	0.0908	0.0050	"	0.100	ND	90.8	70-130	2.09	30	
1,3,5-Trimethylbenzene	0.0907	0.0050	"	0.100	ND	90.7	70-130	2.42	30	
Naphthalene	0.0866	0.0038	"	0.100	ND	86.6	70-130	3.77	30	
Surrogate: 1,2-Dichloroethane-d4	0.0433		"	0.0400		108	50-150			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	50-150			

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHJ0228 - EPA 3550A

Blank (BHJ0228-BLK1)

Prepared: 10/04/24 Analyzed: 10/08/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5		96.3	30-150				

LCS (BHJ0228-BS1)

Prepared: 10/04/24 Analyzed: 10/08/24

C10-C28 (DRO)	438	50	mg/kg	500		87.6	70-130				
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		91.8	30-150				

Matrix Spike (BHJ0228-MS1)

Source: 2410077-01

Prepared: 10/04/24 Analyzed: 10/08/24

C10-C28 (DRO)	422	50	mg/kg	500	ND	84.4	70-130				
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.8	30-150				

Matrix Spike Dup (BHJ0228-MSD1)

Source: 2410077-01

Prepared: 10/04/24 Analyzed: 10/08/24

C10-C28 (DRO)	447	50	mg/kg	500	ND	89.4	70-130	5.68	20		
Surrogate: <i>o</i> -Terphenyl	10.6		"	12.5		85.1	30-150				

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10/09/24 10:03

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ0190 - EPA 5030 Soil MS

Blank (BHJ0190-BLK1)

Prepared: 10/04/24 Analyzed: 10/07/24

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	0.0201		"	0.0333	60.3	40-150				
Surrogate: Fluoranthene-d10	0.0218		"	0.0333	65.4	40-150				

LCS (BHJ0190-BS1)

Prepared: 10/04/24 Analyzed: 10/07/24

Acenaphthene	0.0233	0.00500	mg/kg	0.0333	69.9	31-137				
Anthracene	0.0231	0.00500	"	0.0333	69.2	30-120				
Benzo (a) anthracene	0.0138	0.00500	"	0.0333	41.6	30-120				
Benzo (a) pyrene	0.0235	0.00500	"	0.0333	70.4	30-120				
Benzo (b) fluoranthene	0.0253	0.00500	"	0.0333	75.9	30-120				
Benzo (k) fluoranthene	0.0197	0.00500	"	0.0333	59.0	30-120				
Chrysene	0.0245	0.00500	"	0.0333	73.6	30-120				
Dibenz (a,h) anthracene	0.0214	0.00500	"	0.0333	64.1	30-120				
Fluoranthene	0.0235	0.00500	"	0.0333	70.6	30-120				
Fluorene	0.0231	0.00500	"	0.0333	69.3	30-120				
Indeno (1,2,3-cd) pyrene	0.0206	0.00500	"	0.0333	61.9	30-120				
Pyrene	0.0334	0.00500	"	0.0333	100	35-142				
1-Methylnaphthalene	0.0216	0.00500	"	0.0333	64.9	35-142				
2-Methylnaphthalene	0.0215	0.00500	"	0.0333	64.6	35-142				
Surrogate: 2-Methylnaphthalene-d10	0.0221		"	0.0333	66.2	40-150				
Surrogate: Fluoranthene-d10	0.0249		"	0.0333	74.8	40-150				

Summit Scientific

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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHJ0190 - EPA 5030 Soil MS

Matrix Spike (BHJ0190-MS1)	Source: 2410068-01			Prepared: 10/04/24 Analyzed: 10/07/24						
Acenaphthene	0.0203	0.00500	mg/kg	0.0333	ND	60.9	31-137			
Anthracene	0.0209	0.00500	"	0.0333	ND	62.6	30-120			
Benzo (a) anthracene	0.0133	0.00500	"	0.0333	ND	40.0	30-120			
Benzo (a) pyrene	0.0203	0.00500	"	0.0333	ND	61.0	30-120			
Benzo (b) fluoranthene	0.0222	0.00500	"	0.0333	ND	66.7	30-120			
Benzo (k) fluoranthene	0.0183	0.00500	"	0.0333	ND	54.9	30-120			
Chrysene	0.0213	0.00500	"	0.0333	ND	63.8	30-120			
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	48.1	30-120			
Fluoranthene	0.0207	0.00500	"	0.0333	0.00664	42.1	30-120			
Fluorene	0.0209	0.00500	"	0.0333	ND	62.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0156	0.00500	"	0.0333	ND	46.8	30-120			
Pyrene	0.0266	0.00500	"	0.0333	ND	79.8	35-142			
1-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	59.9	15-130			
2-Methylnaphthalene	0.0199	0.00500	"	0.0333	ND	59.6	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0202</i>		<i>"</i>	<i>0.0333</i>		<i>60.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0218</i>		<i>"</i>	<i>0.0333</i>		<i>65.5</i>	<i>40-150</i>			

Matrix Spike Dup (BHJ0190-MSD1)	Source: 2410068-01			Prepared: 10/04/24 Analyzed: 10/07/24						
Acenaphthene	0.0193	0.00500	mg/kg	0.0333	ND	57.9	31-137	5.08	30	
Anthracene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	11.2	30	
Benzo (a) anthracene	0.0147	0.00500	"	0.0333	ND	44.2	30-120	9.77	30	
Benzo (a) pyrene	0.0189	0.00500	"	0.0333	ND	56.7	30-120	7.42	30	
Benzo (b) fluoranthene	0.0198	0.00500	"	0.0333	ND	59.3	30-120	11.7	30	
Benzo (k) fluoranthene	0.0174	0.00500	"	0.0333	ND	52.1	30-120	5.08	30	
Chrysene	0.0196	0.00500	"	0.0333	ND	58.8	30-120	8.14	30	
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.9	30-120	11.4	30	
Fluoranthene	0.0189	0.00500	"	0.0333	0.00664	36.7	30-120	9.06	30	
Fluorene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	2.18	30	
Indeno (1,2,3-cd) pyrene	0.0135	0.00500	"	0.0333	ND	40.4	30-120	14.8	30	
Pyrene	0.0256	0.00500	"	0.0333	ND	76.7	35-142	3.95	30	
1-Methylnaphthalene	0.0189	0.00500	"	0.0333	ND	56.6	15-130	5.55	50	
2-Methylnaphthalene	0.0187	0.00500	"	0.0333	ND	56.2	15-130	5.92	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0190</i>		<i>"</i>	<i>0.0333</i>		<i>57.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0200</i>		<i>"</i>	<i>0.0333</i>		<i>59.9</i>	<i>40-150</i>			

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

Project: Noble - Frico 06-14 Flowline
Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

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

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

Batch BHJ0212 - EPA 3050B

Blank (BHJ0212-BLK1)

Prepared: 10/04/24 Analyzed: 10/07/24

Boron ND 2.00 mg/L

LCS (BHJ0212-BS1)

Prepared: 10/04/24 Analyzed: 10/07/24

Boron 4.96 2.00 mg/L 5.00 99.3 80-120

Duplicate (BHJ0212-DUP1)

Source: 2410055-01

Prepared: 10/04/24 Analyzed: 10/07/24

Boron 0.0402 2.00 mg/L 0.0898 76.4 20 QR-01

Matrix Spike (BHJ0212-MS1)

Source: 2410055-01

Prepared: 10/04/24 Analyzed: 10/07/24

Boron 4.67 2.00 mg/L 5.04 0.0898 90.9 75-125

Matrix Spike Dup (BHJ0212-MSD1)

Source: 2410055-01

Prepared: 10/04/24 Analyzed: 10/07/24

Boron 5.09 2.00 mg/L 5.04 0.0898 99.3 75-125 8.69 25

Summit Scientific

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

Project: Noble - Frico 06-14 Flowline
Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHJ0233 - EPA 3050B

Blank (BHJ0233-BLK1)

Prepared: 10/04/24 Analyzed: 10/09/24

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 (BHJ0233-BS1)

Prepared: 10/04/24 Analyzed: 10/09/24

Arsenic	37.0	0.200	mg/kg wet	39.7	93.2	80-120
Barium	37.6	0.400	"	39.7	94.8	80-120
Cadmium	1.91	0.200	"	1.98	96.2	80-120
Copper	42.8	0.400	"	39.7	108	80-120
Lead	18.7	0.200	"	19.8	94.1	80-120
Nickel	42.6	0.400	"	39.7	107	80-120
Silver	1.90	0.0200	"	1.98	96.0	80-120
Zinc	41.8	0.400	"	39.7	105	80-120
Selenium	4.26	0.260	"	3.97	107	80-120

Duplicate (BHJ0233-DUP1)

Source: 2410077-01

Prepared: 10/04/24 Analyzed: 10/09/24

Arsenic	2.23	0.200	mg/kg dry	2.15	3.66	20
Barium	65.1	0.400	"	62.1	4.66	20
Cadmium	0.159	0.200	"	0.161	0.924	20
Copper	3.55	0.400	"	3.35	5.80	20
Lead	5.42	0.200	"	5.16	4.96	20
Nickel	4.28	0.400	"	3.97	7.53	20
Silver	0.0202	0.0200	"	0.0202	0.148	20
Zinc	15.6	0.400	"	14.4	8.15	20
Selenium	ND	0.260	"	ND		20

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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHJ0233 - EPA 3050B

Matrix Spike (BHJ0233-MS1)	Source: 2410077-01			Prepared: 10/04/24		Analyzed: 10/09/24					
Arsenic	37.3	0.200	mg/kg dry	39.2	2.15	89.4	75-125				
Barium	99.3	0.400	"	39.2	62.1	95.0	75-125				
Cadmium	2.09	0.200	"	1.96	0.161	98.4	75-125				
Copper	28.6	0.400	"	39.2	3.35	64.6	75-125				QM-05
Lead	23.1	0.200	"	19.6	5.16	91.4	75-125				
Nickel	29.8	0.400	"	39.2	3.97	65.9	75-125				QM-05
Silver	1.87	0.0200	"	1.96	0.0202	94.6	75-125				
Zinc	40.1	0.400	"	39.2	14.4	65.6	75-125				QM-05
Selenium	3.99	0.260	"	3.92	ND	102	75-125				

Matrix Spike Dup (BHJ0233-MSD1)	Source: 2410077-01			Prepared: 10/04/24		Analyzed: 10/09/24					
Arsenic	37.2	0.200	mg/kg dry	39.2	2.15	89.4	75-125	0.351	25		
Barium	91.6	0.400	"	39.2	62.1	75.2	75-125	8.14	25		
Cadmium	2.10	0.200	"	1.96	0.161	99.2	75-125	0.748	25		
Copper	29.0	0.400	"	39.2	3.35	65.5	75-125	1.25	25		QM-05
Lead	23.3	0.200	"	19.6	5.16	92.5	75-125	0.959	25		
Nickel	30.2	0.400	"	39.2	3.97	67.1	75-125	1.50	25		QM-05
Silver	1.90	0.0200	"	1.96	0.0202	95.8	75-125	1.23	25		
Zinc	41.1	0.400	"	39.2	14.4	68.3	75-125	2.53	25		QM-05
Selenium	3.94	0.260	"	3.92	ND	101	75-125	1.29	25		

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

Project: Noble - Frico 06-14 Flowline
Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHJ0205 - 3060A Mod

Blank (BHJ0205-BLK1)

Prepared & Analyzed: 10/04/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHJ0205-BS1)

Prepared & Analyzed: 10/04/24

Chromium, Hexavalent 27.0 0.30 mg/kg wet 25.0 108 80-120

Duplicate (BHJ0205-DUP1)

Source: 2410068-01

Prepared & Analyzed: 10/04/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHJ0205-MS1)

Source: 2410068-01

Prepared & Analyzed: 10/04/24

Chromium, Hexavalent 28.1 0.30 mg/kg dry 25.7 ND 109 75-125

Matrix Spike Dup (BHJ0205-MSD1)

Source: 2410068-01

Prepared & Analyzed: 10/04/24

Chromium, Hexavalent 27.8 0.30 mg/kg dry 25.7 ND 108 75-125 1.10 20

Summit Scientific

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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

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

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

Batch BHJ0268 - General Preparation

Blank (BHJ0268-BLK1)

Prepared: 10/07/24 Analyzed: 10/08/24

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

LCS (BHJ0268-BS1)

Prepared: 10/07/24 Analyzed: 10/08/24

Calcium	5.88	0.0500	mg/L wet	5.00	118	70-130				
Magnesium	5.14	0.0500	"	5.00	103	70-130				
Sodium	5.19	0.0500	"	5.00	104	70-130				

Summit Scientific

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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
 Project Manager: Jacob Whritenour

Reported:
 10/09/24 10:03

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

Summit Scientific

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

Batch BHJ0219 - General Preparation

Duplicate (BHJ0219-DUP1)

Source: 2410064-01

Prepared & Analyzed: 10/04/24

% Solids	87.2		%		86.9			0.274		20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

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

Summit Scientific

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

Batch BHJ0270 - General Preparation

Blank (BHJ0270-BLK1)

Prepared: 10/07/24 Analyzed: 10/08/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHJ0270-BS1)

Prepared: 10/07/24 Analyzed: 10/08/24

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

Duplicate (BHJ0270-DUP1)

Source: 2410070-01

Prepared: 10/07/24 Analyzed: 10/08/24

Specific Conductance (EC) 0.358 0.0100 mmhos/cm 0.364 1.52 20

Summit Scientific

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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

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

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

Batch BHJ0269 - General Preparation

LCS (BHJ0269-BS1)

Prepared: 10/07/24 Analyzed: 10/08/24

pH	9.23	pH Units	9.18	101	95-105
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Duplicate (BHJ0269-DUP1)

Source: 2410064-01

Prepared: 10/07/24 Analyzed: 10/08/24

pH	7.16	pH Units	7.14	0.280	20
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Summit Scientific

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

Project: Noble - Frico 06-14 Flowline

Project Number: UWRWE-A3593-ABN 31344
Project Manager: Jacob Whritenour

Reported:
10/09/24 10:03

Notes and Definitions

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