

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 10, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Frico 06-14 Flowline

Work Order #2410094

Enclosed are the results of analyses for samples received by Summit Scientific on 10/04/24 17:40. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood 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:
10/10/24 15:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-05@3'	2410094-01	Soil	10/04/24 13:18	10/04/24 17:40

Summit Scientific

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

Lab ID	Page 1 of 1
2410094	

		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#: UW RWE-A3593-ABN
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	
1	F101-05 @ 3'	10-4-24	1318	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: <u>mf</u>	Date/Time: <u>10-04-24 / 1530</u>	Received by: Tasman Lock Box	Date/Time: <u>10-04-24 / 1530</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman lock box</u>	Date/Time: <u>10/24/21</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/24/21</u>	1 Day	Field ORP	
	<u>1740</u>		<u>1740</u>	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>7.6</u>	Corrected Temperature: <u>8</u>	IR gun #:		HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2410094

Client: Noble Casman 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"/>	<u>OK</u>
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 10/4/24
Custodian Printed Name Date/Time



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:
10/10/24 15:21

FL01-05@3'
2410094-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHJ0272	10/07/24	10/07/24	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: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0420	105 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0415	104 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0410	102 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHJ0273	10/07/24	10/09/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	17.2	138 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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PAH by EPA Method 8270D SIM

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHJ0256	10/07/24	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: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0148	44.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0170	51.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHJ0259	10/07/24	10/07/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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2410094-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.15	0.200	mg/kg dry	1	BHJ0257	10/07/24	10/07/24	EPA 6020B	
Barium	55.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.81	0.400	"	"	"	"	"	"	
Lead	4.80	0.200	"	"	"	"	"	"	
Nickel	4.92	0.400	"	"	"	"	"	"	
Silver	0.0219	0.0200	"	"	"	"	"	"	
Zinc	18.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHJ0260	10/07/24	10/07/24	EPA 7196A	

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

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	200	0.0500	mg/L dry	1	BHJ0275	10/07/24	10/08/24	EPA 6020B	
Magnesium	39.9	0.0500	"	"	"	"	"	"	
Sodium	7.63	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.129	0.00100	units	1	BHJ0338	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: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	91.1			%	1	BHJ0283	10/08/24	10/08/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	1.14	0.0100		mmhos/cm	1	BHJ0278	10/07/24	10/08/24	EPA 120.1	

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

Date Sampled: **10/04/24 13:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.02			pH Units	1	BHJ0279	10/07/24	10/08/24	EPA 9045D	

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Reported:
10/10/24 15:21

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHJ0272 - EPA 5030 Soil MS

Blank (BHJ0272-BLK1)

Prepared & Analyzed: 10/07/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0415		"	0.0400		104	50-150			
<i>Surrogate: Toluene-d8</i>	0.0420		"	0.0400		105	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0420		"	0.0400		105	50-150			

LCS (BHJ0272-BS1)

Prepared & Analyzed: 10/07/24

Benzene	0.111	0.0020	mg/kg	0.100		111	70-130			
Toluene	0.126	0.0050	"	0.100		126	70-130			
Ethylbenzene	0.116	0.0050	"	0.100		116	70-130			
m,p-Xylene	0.226	0.010	"	0.200		113	70-130			
o-Xylene	0.109	0.0050	"	0.100		109	70-130			
1,2,4-Trimethylbenzene	0.109	0.0050	"	0.100		109	70-130			
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100		109	70-130			
Naphthalene	0.0920	0.0038	"	0.100		92.0	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0430		"	0.0400		108	50-150			
<i>Surrogate: Toluene-d8</i>	0.0418		"	0.0400		104	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0404		"	0.0400		101	50-150			

Matrix Spike (BHJ0272-MS1)

Source: 2410076-01

Prepared & Analyzed: 10/07/24

Benzene	0.113	0.0020	mg/kg	0.100	ND	113	70-130			
Toluene	0.119	0.0050	"	0.100	ND	119	70-130			
Ethylbenzene	0.118	0.0050	"	0.100	ND	118	70-130			
m,p-Xylene	0.226	0.010	"	0.200	ND	113	70-130			
o-Xylene	0.110	0.0050	"	0.100	ND	110	70-130			
1,2,4-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130			
1,3,5-Trimethylbenzene	0.116	0.0050	"	0.100	ND	116	70-130			
Naphthalene	0.0982	0.0038	"	0.100	ND	98.2	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0444		"	0.0400		111	50-150			
<i>Surrogate: Toluene-d8</i>	0.0420		"	0.0400		105	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0404		"	0.0400		101	50-150			

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Reported:
10/10/24 15:21

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BHJ0272 - EPA 5030 Soil MS

Matrix Spike Dup (BHJ0272-MSD1)	Source: 2410076-01			Prepared & Analyzed: 10/07/24						
Benzene	0.114	0.0020	mg/kg	0.100	ND	114	70-130	0.159	30	
Toluene	0.119	0.0050	"	0.100	ND	119	70-130	0.479	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	0.665	30	
m,p-Xylene	0.226	0.010	"	0.200	ND	113	70-130	0.0663	30	
o-Xylene	0.111	0.0050	"	0.100	ND	111	70-130	0.733	30	
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130	1.04	30	
1,3,5-Trimethylbenzene	0.113	0.0050	"	0.100	ND	113	70-130	2.09	30	
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130	3.36	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0450</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0420</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0408</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHJ0273 - EPA 3550A

Blank (BHJ0273-BLK1)

Prepared: 10/07/24 Analyzed: 10/09/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.7		"	12.5		93.5	30-150			

LCS (BHJ0273-BS1)

Prepared: 10/07/24 Analyzed: 10/09/24

C10-C28 (DRO)	522	50	mg/kg	500		104	70-130			
Surrogate: <i>o</i> -Terphenyl	14.9		"	12.5		119	30-150			

Matrix Spike (BHJ0273-MS1)

Source: 2410075-01

Prepared: 10/07/24 Analyzed: 10/09/24

C10-C28 (DRO)	404	50	mg/kg	500	14.5	77.8	70-130			
Surrogate: <i>o</i> -Terphenyl	16.2		"	12.5		130	30-150			

Matrix Spike Dup (BHJ0273-MSD1)

Source: 2410075-01

Prepared: 10/07/24 Analyzed: 10/09/24

C10-C28 (DRO)	465	50	mg/kg	500	14.5	90.0	70-130	14.1	20	
Surrogate: <i>o</i> -Terphenyl	16.1		"	12.5		129	30-150			

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Reported:
10/10/24 15:21

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 BHJ0256 - EPA 5030 Soil MS

Blank (BHJ0256-BLK1)

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

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0186</i>		"	<i>0.0333</i>		<i>55.7</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0230</i>		"	<i>0.0333</i>		<i>69.0</i>	<i>40-150</i>			

LCS (BHJ0256-BS1)

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

Acenaphthene	0.0218	0.00500	mg/kg	0.0333		65.4	31-137			
Anthracene	0.0220	0.00500	"	0.0333		66.0	30-120			
Benzo (a) anthracene	0.0240	0.00500	"	0.0333		72.1	30-120			
Benzo (a) pyrene	0.0217	0.00500	"	0.0333		65.0	30-120			
Benzo (b) fluoranthene	0.0231	0.00500	"	0.0333		69.3	30-120			
Benzo (k) fluoranthene	0.0216	0.00500	"	0.0333		64.9	30-120			
Chrysene	0.0221	0.00500	"	0.0333		66.2	30-120			
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333		48.0	30-120			
Fluoranthene	0.0219	0.00500	"	0.0333		65.7	30-120			
Fluorene	0.0220	0.00500	"	0.0333		66.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333		49.1	30-120			
Pyrene	0.0225	0.00500	"	0.0333		67.4	35-142			
1-Methylnaphthalene	0.0157	0.00500	"	0.0333		47.1	35-142			
2-Methylnaphthalene	0.0174	0.00500	"	0.0333		52.3	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0169</i>		"	<i>0.0333</i>		<i>50.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0223</i>		"	<i>0.0333</i>		<i>66.9</i>	<i>40-150</i>			

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:
10/10/24 15:21

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 BHJ0256 - EPA 5030 Soil MS

Matrix Spike (BHJ0256-MS1)		Source: 2410090-01			Prepared: 10/07/24		Analyzed: 10/08/24	
Acenaphthene	0.0161	0.00500	mg/kg	0.0333	ND	48.3	31-137	
Anthracene	0.0157	0.00500	"	0.0333	ND	47.0	30-120	
Benzo (a) anthracene	0.0167	0.00500	"	0.0333	ND	50.2	30-120	
Benzo (a) pyrene	0.0146	0.00500	"	0.0333	ND	43.7	30-120	
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.9	30-120	
Benzo (k) fluoranthene	0.0147	0.00500	"	0.0333	ND	44.0	30-120	
Chrysene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.1	30-120	
Fluoranthene	0.0161	0.00500	"	0.0333	ND	48.3	30-120	
Fluorene	0.0173	0.00500	"	0.0333	ND	51.8	30-120	
Indeno (1,2,3-cd) pyrene	0.0136	0.00500	"	0.0333	ND	40.8	30-120	
Pyrene	0.0147	0.00500	"	0.0333	ND	44.0	35-142	
1-Methylnaphthalene	0.0135	0.00500	"	0.0333	ND	40.4	15-130	
2-Methylnaphthalene	0.0133	0.00500	"	0.0333	ND	40.0	15-130	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0134</i>		<i>"</i>	<i>0.0333</i>		<i>40.3</i>	<i>40-150</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0164</i>		<i>"</i>	<i>0.0333</i>		<i>49.3</i>	<i>40-150</i>	

Matrix Spike Dup (BHJ0256-MSD1)		Source: 2410090-01			Prepared: 10/07/24		Analyzed: 10/08/24	
Acenaphthene	0.0179	0.00500	mg/kg	0.0333	ND	53.8	31-137	10.8 30
Anthracene	0.0182	0.00500	"	0.0333	ND	54.5	30-120	14.7 30
Benzo (a) anthracene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	15.5 30
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	47.9	30-120	9.20 30
Benzo (b) fluoranthene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	12.9 30
Benzo (k) fluoranthene	0.0166	0.00500	"	0.0333	ND	49.7	30-120	12.2 30
Chrysene	0.0177	0.00500	"	0.0333	ND	53.1	30-120	15.4 30
Dibenz (a,h) anthracene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	5.62 30
Fluoranthene	0.0193	0.00500	"	0.0333	ND	57.8	30-120	17.7 30
Fluorene	0.0194	0.00500	"	0.0333	ND	58.3	30-120	11.9 30
Indeno (1,2,3-cd) pyrene	0.0137	0.00500	"	0.0333	ND	41.0	30-120	0.557 30
Pyrene	0.0179	0.00500	"	0.0333	ND	53.7	35-142	19.9 30
1-Methylnaphthalene	0.0134	0.00500	"	0.0333	ND	40.2	15-130	0.489 50
2-Methylnaphthalene	0.0145	0.00500	"	0.0333	ND	43.4	15-130	8.22 50
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0142</i>		<i>"</i>	<i>0.0333</i>		<i>42.6</i>	<i>40-150</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0197</i>		<i>"</i>	<i>0.0333</i>		<i>59.0</i>	<i>40-150</i>	

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:
10/10/24 15:21

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

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

Batch BHJ0259 - EPA 3050B

Blank (BHJ0259-BLK1)

Prepared & Analyzed: 10/07/24

Boron ND 2.00 mg/L

LCS (BHJ0259-BS1)

Prepared & Analyzed: 10/07/24

Boron 5.14 2.00 mg/L 5.00 103 80-120

Duplicate (BHJ0259-DUP1)

Source: 2410084-01

Prepared & Analyzed: 10/07/24

Boron 1.01 2.00 mg/L 0.863 15.7 20

Matrix Spike (BHJ0259-MS1)

Source: 2410084-01

Prepared & Analyzed: 10/07/24

Boron 4.92 2.00 mg/L 5.00 0.863 81.2 75-125

Matrix Spike Dup (BHJ0259-MSD1)

Source: 2410084-01

Prepared & Analyzed: 10/07/24

Boron 5.06 2.00 mg/L 5.00 0.863 83.9 75-125 2.71 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:
10/10/24 15:21

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 BHJ0257 - EPA 3050B

Blank (BHJ0257-BLK1)

Prepared & Analyzed: 10/07/24

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 (BHJ0257-BS1)

Prepared & Analyzed: 10/07/24

Arsenic	37.3	0.200	mg/kg wet	37.9	98.4	80-120
Barium	35.9	0.400	"	37.9	94.9	80-120
Cadmium	1.56	0.200	"	1.89	82.5	80-120
Copper	34.9	0.400	"	37.9	92.1	80-120
Lead	15.8	0.200	"	18.9	83.7	80-120
Nickel	35.2	0.400	"	37.9	92.8	80-120
Silver	1.58	0.0200	"	1.89	83.6	80-120
Zinc	35.9	0.400	"	37.9	94.7	80-120
Selenium	3.85	0.260	"	3.79	102	80-120

Duplicate (BHJ0257-DUP1)

Source: 2410068-01

Prepared & Analyzed: 10/07/24

Arsenic	1.03	0.200	mg/kg dry	1.05	2.08	20
Barium	30.3	0.400	"	31.2	3.05	20
Cadmium	0.0722	0.200	"	0.0733	1.42	20
Copper	2.98	0.400	"	3.08	3.53	20
Lead	6.74	0.200	"	6.97	3.38	20
Nickel	2.94	0.400	"	2.89	1.50	20
Silver	0.0114	0.0200	"	0.0114	0.382	20
Zinc	13.4	0.400	"	13.7	2.36	20
Selenium	ND	0.260	"	ND		20

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Broomfield CO, 80020

Project: Noble - Frico 06-14 Flowline

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

Reported:
10/10/24 15:21

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 BHJ0257 - EPA 3050B

Matrix Spike (BHJ0257-MS1)

Source: 2410068-01

Prepared & Analyzed: 10/07/24

Arsenic	39.0	0.200	mg/kg dry	39.8	1.05	95.4	75-125			
Barium	65.0	0.400	"	39.8	31.2	85.1	75-125			
Cadmium	1.70	0.200	"	1.99	0.0733	81.8	75-125			
Copper	38.1	0.400	"	39.8	3.08	87.9	75-125			
Lead	25.1	0.200	"	19.9	6.97	91.2	75-125			
Nickel	38.8	0.400	"	39.8	2.89	90.2	75-125			
Silver	1.61	0.0200	"	1.99	0.0114	80.3	75-125			
Zinc	49.7	0.400	"	39.8	13.7	90.4	75-125			
Selenium	3.68	0.260	"	3.98	ND	92.4	75-125			

Matrix Spike Dup (BHJ0257-MSD1)

Source: 2410068-01

Prepared & Analyzed: 10/07/24

Arsenic	38.4	0.200	mg/kg dry	40.4	1.05	92.5	75-125	1.46	25
Barium	65.0	0.400	"	40.4	31.2	83.7	75-125	0.0430	25
Cadmium	1.66	0.200	"	2.02	0.0733	78.4	75-125	2.59	25
Copper	37.4	0.400	"	40.4	3.08	84.9	75-125	1.75	25
Lead	22.9	0.200	"	20.2	6.97	78.7	75-125	9.31	25
Nickel	37.9	0.400	"	40.4	2.89	86.5	75-125	2.39	25
Silver	1.60	0.0200	"	2.02	0.0114	78.7	75-125	0.437	25
Zinc	48.6	0.400	"	40.4	13.7	86.3	75-125	2.26	25
Selenium	3.60	0.260	"	4.04	ND	89.0	75-125	2.24	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:
10/10/24 15:21

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHJ0260 - 3060A Mod

Blank (BHJ0260-BLK1)

Prepared & Analyzed: 10/07/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHJ0260-BS1)

Prepared & Analyzed: 10/07/24

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 99.8 80-120

Duplicate (BHJ0260-DUP1)

Source: 2410084-01

Prepared & Analyzed: 10/07/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHJ0260-MS1)

Source: 2410084-01

Prepared & Analyzed: 10/07/24

Chromium, Hexavalent 28.2 0.30 mg/kg dry 31.5 ND 89.6 75-125

Matrix Spike Dup (BHJ0260-MSD1)

Source: 2410084-01

Prepared & Analyzed: 10/07/24

Chromium, Hexavalent 34.0 0.30 mg/kg dry 31.5 ND 108 75-125 18.6 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:
10/10/24 15:21

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

Summit Scientific

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

Batch BHJ0275 - General Preparation

Blank (BHJ0275-BLK1)

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

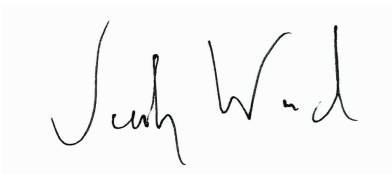
Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

LCS (BHJ0275-BS1)

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

Calcium	5.44	0.0500	mg/L wet	5.00	109	70-130				
Magnesium	5.06	0.0500	"	5.00	101	70-130				
Sodium	5.11	0.0500	"	5.00	102	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:
 10/10/24 15:21

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 BHJ0283 - General Preparation


Duplicate (BHJ0283-DUP1)

Source: 2410004-06

Prepared & Analyzed: 10/08/24

% Solids	89.7		%		90.1			0.467	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:
10/10/24 15:21

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 BHJ0278 - General Preparation

Blank (BHJ0278-BLK1)

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

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHJ0278-BS1)

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

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

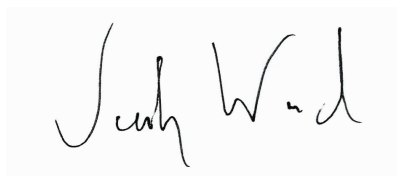
Duplicate (BHJ0278-DUP1)

Source: 2410090-01

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

Specific Conductance (EC) 0.667 0.0100 mmhos/cm 0.673 0.776 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:
10/10/24 15:21

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 BHJ0279 - General Preparation

LCS (BHJ0279-BS1)

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

pH	9.23		pH Units	9.18		101	95-105			
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Duplicate (BHJ0279-DUP1)

Source: 2410090-01

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

pH	7.81		pH Units			7.80		0.128	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:
10/10/24 15:21

Notes and Definitions

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