

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 27, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Hagemeister USX AA07-05 Flowline

Work Order #2406193

Enclosed are the results of analyses for samples received by Summit Scientific on 06/13/24 17:43. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01R-W@3'	2406193-01	Soil	06/13/24 11:00	06/13/24 17:43
FL01R-S@3'	2406193-02	Soil	06/13/24 12:23	06/13/24 17:43

Summit Scientific

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# SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
240493	

Client: Noble/Tasman				Send Data To:				Send Invoice To:												
Address: 6855 W. 119th Avenue				Project Manager: Jake Whritenour				Company: Noble/Chevron												
City/State/Zip: Broomfield, CO 80020				E-Mail: jwhritenour@tasman-geo.com				Project Name/Location: Hagemester VSX AA0705 Flowline												
Phone: 303-467-1228				Project Name: Hagemester VSX AA0705 Flowline				AFE#: UW/RWE-A4065-ABN												
Sampler Name: David Vigil				Project Number:				PO/Billing Codes:												
				Contact: Mike Mantoya																
ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested				Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	915-VOC	915-PAH	915-TPH	pH, EC, SAR	Boron	915-Metals		
1	FLOIR-W031	6/13/24	1100	3			X			X			X	X	X	X	X	X		
2	FLOIR-S031	↓	1223	↓			↓			↓			↓	↓	↓	↓	↓	↓		
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: Dai Vig	Date/Time: 6/13/24 1630	Received by: Tasman lock box	Date/Time: 6/13/24 1630	TAT Business Days	Field DO	Notes:
Relinquished by: (Signature)	Date/Time: 6/13/24 1743	Received by: (Signature)	Date/Time: 6/13/24 1743	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 95	Corrected Temperature: C	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S<sub>2</sub>

## Sample Receipt Checklist

S2 Work Order# 2406193Client: Niddet Asman

Client Project ID:

Flawline  
Hogemeister USX AH07-05

Shipped 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"/>
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Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? <sup>(1)</sup> <b>NOTE:</b> 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 site</u>
If custody seals are present, are they intact? <sup>(1)</sup>	<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 <sup>2+</sup> ), Hexavalent Chromium (Cr <sup>6+</sup> , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? <sup>(1)</sup>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? <sup>(1)</sup>	<input 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)? <sup>(1)</sup> Note the type of preservative in the comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? <sup>(1)</sup> Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				
<sup>(1)</sup> If NO, then contact the client before proceeding with analysis and note in case narrative.				

AS  
Custodian Printed Name

6/13/24  
Date/Time



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

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**FL01R-W@3'**  
**2406193-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHF0408	06/14/24	06/15/24	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: **06/13/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0477	119 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0442	111 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHF0410	06/14/24	06/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	11.4	90.8 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**PAH by EPA Method 8270D SIM**

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHF0406	06/14/24	06/14/24	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: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0232	69.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0220	65.9 %	40-150		"	"	"	"	

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

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHF0417	06/14/24	06/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **06/13/24 11:00**

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 - Hagemester USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**FL01R-W@3'**  
**2406193-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.02	0.181	mg/kg dry	1	BHF0476	06/17/24	06/19/24	EPA 6020B
Barium	47.0	0.362	"	"	"	"	"	"
Cadmium	ND	0.181	"	"	"	"	"	"
Copper	2.06	0.362	"	"	"	"	"	"
Lead	3.14	0.181	"	"	"	"	"	"
Nickel	2.32	0.362	"	"	"	"	"	"
Silver	ND	0.0181	"	"	"	"	"	"
Zinc	9.36	0.362	"	"	"	"	"	"
Selenium	ND	0.236	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0426	06/14/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.6	0.0500	mg/L dry	1	BHF0469	06/17/24	06/19/24	EPA 6020B	
Magnesium	20.5	0.0500	"	"	"	"	"	"	
Sodium	23.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.697	0.00100	units	1	BHF0612	06/20/24	06/20/24	Calculation	

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

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Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**FL01R-W@3'**  
**2406193-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.3		%	1	BHF0421	06/14/24	06/14/24	Calculation	

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

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.610	0.0100	mmhos/cm	1	BHF0471	06/17/24	06/18/24	EPA 120.1	

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

Date Sampled: **06/13/24 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.37		pH Units	1	BHF0470	06/17/24	06/18/24	EPA 9045D	

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06/27/24 11:56

**FL01R-S@3'**  
**2406193-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHF0408	06/14/24	06/15/24	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: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0457	114 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	96.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0412	103 %	50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHF0410	06/14/24	06/14/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.1	81.0 %	30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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06/27/24 11:56

**FL01R-S@3'**  
**2406193-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHF0406	06/14/24	06/14/24	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	"	"	"	"	"	"	
<b>Fluoranthene</b>	<b>0.00562</b>	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
<b>Pyrene</b>	<b>0.00644</b>	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0179	53.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.1 %	40-150		"	"	"	"	

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

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHF0417	06/14/24	06/18/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**FL01R-S@3'**  
**2406193-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Arsenic	2.49	0.179	mg/kg dry	1	BHF0476	06/17/24	06/19/24	EPA 6020B
Barium	47.7	0.357	"	"	"	"	"	"
Cadmium	0.193	0.179	"	"	"	"	"	"
Copper	3.55	0.357	"	"	"	"	"	"
Lead	4.71	0.179	"	"	"	"	"	"
Nickel	3.19	0.357	"	"	"	"	"	"
Silver	ND	0.0179	"	"	"	"	"	"
Zinc	33.2	0.357	"	"	"	"	"	"
Selenium	ND	0.232	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHF0426	06/14/24	06/25/24	EPA 7196A	

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

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	154	0.0500	mg/L dry	1	BHF0469	06/17/24	06/19/24	EPA 6020B	
Magnesium	19.8	0.0500	"	"	"	"	"	"	
Sodium	3.18	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0641	0.00100	units	1	BHF0612	06/20/24	06/20/24	Calculation	

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

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Project Manager: Jacob Whritenour

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**FL01R-S@3'**  
**2406193-02 (Soil)**

**Summit Scientific**

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

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.3		%	1	BHF0421	06/14/24	06/14/24	Calculation	

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

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.306	0.0100	mmhos/cm	1	BHF0471	06/17/24	06/18/24	EPA 120.1	

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

Date Sampled: **06/13/24 12:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.35		pH Units	1	BHF0470	06/17/24	06/18/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

## 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 BHF0408 - EPA 5030 Soil MS

##### Blank (BHF0408-BLK1)

Prepared: 06/14/24 Analyzed: 06/15/24

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	0.0414		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0384		"	0.0400		96.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	50-150			

##### LCS (BHF0408-BS1)

Prepared: 06/14/24 Analyzed: 06/15/24

Benzene	0.0945	0.0020	mg/kg	0.100		94.5	70-130			
Toluene	0.101	0.0050	"	0.100		101	70-130			
Ethylbenzene	0.0981	0.0050	"	0.100		98.1	70-130			
m,p-Xylene	0.194	0.010	"	0.200		97.0	70-130			
o-Xylene	0.0962	0.0050	"	0.100		96.2	70-130			
1,2,4-Trimethylbenzene	0.0926	0.0050	"	0.100		92.6	70-130			
1,3,5-Trimethylbenzene	0.0929	0.0050	"	0.100		92.9	70-130			
Naphthalene	0.0838	0.0038	"	0.100		83.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0403		"	0.0400		101	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.4	50-150			

##### Matrix Spike (BHF0408-MS1)

Source: 2406192-01

Prepared: 06/14/24 Analyzed: 06/15/24

Benzene	0.0870	0.0020	mg/kg	0.100	ND	87.0	70-130			
Toluene	0.0912	0.0050	"	0.100	ND	91.2	70-130			
Ethylbenzene	0.0919	0.0050	"	0.100	ND	91.9	70-130			
m,p-Xylene	0.171	0.010	"	0.200	ND	85.3	70-130			
o-Xylene	0.0893	0.0050	"	0.100	ND	89.3	70-130			
1,2,4-Trimethylbenzene	0.0787	0.0050	"	0.100	ND	78.7	70-130			
1,3,5-Trimethylbenzene	0.0825	0.0050	"	0.100	ND	82.5	70-130			
Naphthalene	0.0960	0.0038	"	0.100	ND	96.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0403		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.4	50-150			

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

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0408 - EPA 5030 Soil MS**

Matrix Spike Dup (BHF0408-MSD1)		Source: 2406192-01			Prepared: 06/14/24 Analyzed: 06/15/24					
Benzene	0.0890	0.0020	mg/kg	0.100	ND	89.0	70-130	2.28	30	
Toluene	0.0935	0.0050	"	0.100	ND	93.5	70-130	2.50	30	
Ethylbenzene	0.0964	0.0050	"	0.100	ND	96.4	70-130	4.78	30	
m,p-Xylene	0.182	0.010	"	0.200	ND	91.0	70-130	6.50	30	
o-Xylene	0.0945	0.0050	"	0.100	ND	94.5	70-130	5.68	30	
1,2,4-Trimethylbenzene	0.0824	0.0050	"	0.100	ND	82.4	70-130	4.62	30	
1,3,5-Trimethylbenzene	0.0874	0.0050	"	0.100	ND	87.4	70-130	5.79	30	
Naphthalene	0.0994	0.0038	"	0.100	ND	99.4	70-130	3.53	30	
Surrogate: 1,2-Dichloroethane-d4		0.0397	"	0.0400		99.3	50-150			
Surrogate: Toluene-d8		0.0408	"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene		0.0390	"	0.0400		97.4	50-150			

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Broomfield CO, 80020

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0410 - EPA 3550A**

**Blank (BHF0410-BLK1)**

Prepared: 06/14/24 Analyzed: 06/17/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	8.96		"	12.5		71.7	30-150			

**LCS (BHF0410-BS1)**

Prepared: 06/14/24 Analyzed: 06/18/24

C10-C28 (DRO)	442	50	mg/kg	500		88.4	70-130			
Surrogate: o-Terphenyl	15.9		"	12.5		127	30-150			

**Matrix Spike (BHF0410-MS1)**

Source: 2406192-01

Prepared: 06/14/24 Analyzed: 06/18/24

C10-C28 (DRO)	498	50	mg/kg	500	48.8	89.9	70-130			
Surrogate: o-Terphenyl	14.7		"	12.5		117	30-150			

**Matrix Spike Dup (BHF0410-MSD1)**

Source: 2406192-01

Prepared: 06/14/24 Analyzed: 06/18/24

C10-C28 (DRO)	532	50	mg/kg	500	48.8	96.6	70-130	6.47	20	
Surrogate: o-Terphenyl	16.1		"	12.5		129	30-150			

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

## 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 BHF0406 - EPA 5030 Soil MS

##### Blank (BHF0406-BLK1)

Prepared & Analyzed: 06/14/24

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	0.0190		"	0.0333		57.1	40-150			
Surrogate: Fluoranthene-d10	0.0215		"	0.0333		64.5	40-150			

##### LCS (BHF0406-BS1)

Prepared & Analyzed: 06/14/24

Acenaphthene	0.0190	0.00500	mg/kg	0.0333		57.1	31-137			
Anthracene	0.0191	0.00500	"	0.0333		57.4	30-120			
Benzo (a) anthracene	0.0218	0.00500	"	0.0333		65.3	30-120			
Benzo (a) pyrene	0.0169	0.00500	"	0.0333		50.7	30-120			
Benzo (b) fluoranthene	0.0174	0.00500	"	0.0333		52.2	30-120			
Benzo (k) fluoranthene	0.0192	0.00500	"	0.0333		57.7	30-120			
Chrysene	0.0213	0.00500	"	0.0333		63.8	30-120			
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333		46.7	30-120			
Fluoranthene	0.0196	0.00500	"	0.0333		58.8	30-120			
Fluorene	0.0178	0.00500	"	0.0333		53.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0191	0.00500	"	0.0333		57.2	30-120			
Pyrene	0.0238	0.00500	"	0.0333		71.3	35-142			
1-Methylnaphthalene	0.0196	0.00500	"	0.0333		58.8	35-142			
2-Methylnaphthalene	0.0183	0.00500	"	0.0333		55.0	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0205		"	0.0333		61.6	40-150			
Surrogate: Fluoranthene-d10	0.0216		"	0.0333		64.8	40-150			

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Project: Noble - Hagemester USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

## 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 BHF0406 - EPA 5030 Soil MS

##### Matrix Spike (BHF0406-MS1)

Source: 2406189-01

Prepared & Analyzed: 06/14/24

Acenaphthene	0.0254	0.00500	mg/kg	0.0333	ND	76.1	31-137				
Anthracene	0.0243	0.00500	"	0.0333	ND	72.8	30-120				
Benzo (a) anthracene	0.0256	0.00500	"	0.0333	ND	76.8	30-120				
Benzo (a) pyrene	0.0202	0.00500	"	0.0333	ND	60.5	30-120				
Benzo (b) fluoranthene	0.0203	0.00500	"	0.0333	ND	60.8	30-120				
Benzo (k) fluoranthene	0.0219	0.00500	"	0.0333	ND	65.6	30-120				
Chrysene	0.0255	0.00500	"	0.0333	ND	76.5	30-120				
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.1	30-120				
Fluoranthene	0.0239	0.00500	"	0.0333	ND	71.7	30-120				
Fluorene	0.0176	0.00500	"	0.0333	ND	52.7	30-120				
Indeno (1,2,3-cd) pyrene	0.0195	0.00500	"	0.0333	ND	58.6	30-120				
Pyrene	0.0269	0.00500	"	0.0333	ND	80.8	35-142				
1-Methylnaphthalene	0.0281	0.00500	"	0.0333	ND	84.2	15-130				
2-Methylnaphthalene	0.0272	0.00500	"	0.0333	ND	81.7	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0296		"	0.0333		88.8	40-150				
Surrogate: Fluoranthene-d10	0.0264		"	0.0333		79.2	40-150				

##### Matrix Spike Dup (BHF0406-MSD1)

Source: 2406189-01

Prepared & Analyzed: 06/14/24

Acenaphthene	0.0215	0.00500	mg/kg	0.0333	ND	64.5	31-137	16.5	30
Anthracene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	20.6	30
Benzo (a) anthracene	0.0213	0.00500	"	0.0333	ND	63.8	30-120	18.5	30
Benzo (a) pyrene	0.0164	0.00500	"	0.0333	ND	49.2	30-120	20.5	30
Benzo (b) fluoranthene	0.0165	0.00500	"	0.0333	ND	49.5	30-120	20.5	30
Benzo (k) fluoranthene	0.0179	0.00500	"	0.0333	ND	53.7	30-120	19.9	30
Chrysene	0.0211	0.00500	"	0.0333	ND	63.2	30-120	18.9	30
Dibenz (a,h) anthracene	0.0151	0.00500	"	0.0333	ND	45.3	30-120	15.9	30
Fluoranthene	0.0195	0.00500	"	0.0333	ND	58.6	30-120	20.0	30
Fluorene	0.0197	0.00500	"	0.0333	ND	59.1	30-120	11.5	30
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	ND	52.1	30-120	11.8	30
Pyrene	0.0232	0.00500	"	0.0333	ND	69.5	35-142	15.1	30
1-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.1	15-130	30.2	50
2-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.4	15-130	25.2	50
Surrogate: 2-Methylnaphthalene-d10	0.0232		"	0.0333		69.6	40-150		
Surrogate: Fluoranthene-d10	0.0214		"	0.0333		64.1	40-150		

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

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0417 - EPA 3050B**

**Blank (BHF0417-BLK1)**

Prepared: 06/14/24 Analyzed: 06/18/24

Boron ND 2.00 mg/L

**LCS (BHF0417-BS1)**

Prepared: 06/14/24 Analyzed: 06/18/24

Boron 4.40 2.00 mg/L 5.00 87.9 80-120

**Duplicate (BHF0417-DUP1)**

**Source: 2406171-04**

Prepared: 06/14/24 Analyzed: 06/18/24

Boron 0.190 2.00 mg/L 0.241 23.4 20 QR-01

**Matrix Spike (BHF0417-MS1)**

**Source: 2406171-04**

Prepared: 06/14/24 Analyzed: 06/18/24

Boron 4.18 2.00 mg/L 5.05 0.241 78.0 75-125

**Matrix Spike Dup (BHF0417-MSD1)**

**Source: 2406171-04**

Prepared: 06/14/24 Analyzed: 06/18/24

Boron 4.82 2.00 mg/L 5.05 0.241 90.8 75-125 14.4 25

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Hagemester USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0476 - EPA 3050B**

**Blank (BHF0476-BLK1)**

Prepared: 06/17/24 Analyzed: 06/19/24

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 (BHF0476-BS1)**

Prepared: 06/17/24 Analyzed: 06/19/24

Arsenic	38.8	0.200	mg/kg wet	40.0	96.9	80-120
Barium	39.1	0.400	"	40.0	97.7	80-120
Cadmium	1.95	0.200	"	2.00	97.5	80-120
Copper	41.4	0.400	"	40.0	103	80-120
Lead	19.5	0.200	"	20.0	97.3	80-120
Nickel	41.1	0.400	"	40.0	103	80-120
Silver	1.95	0.0200	"	2.00	97.4	80-120
Zinc	40.7	0.400	"	40.0	102	80-120
Selenium	3.98	0.260	"	4.00	99.5	80-120

**Duplicate (BHF0476-DUP1)**

Source: 2406193-01

Prepared: 06/17/24 Analyzed: 06/19/24

Arsenic	2.03	0.200	mg/kg dry	2.02	0.267	20
Barium	41.4	0.400	"	47.0	12.6	20
Cadmium	0.129	0.200	"	0.104	20.9	20
Copper	2.11	0.400	"	2.06	2.01	20
Lead	3.23	0.200	"	3.14	2.73	20
Nickel	2.45	0.400	"	2.32	5.51	20
Silver	0.0119	0.0200	"	0.0118	1.41	20
Zinc	10.5	0.400	"	9.36	11.6	20
Selenium	ND	0.260	"	ND		20

QR-01

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Project: Noble - Hagemester USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0476 - EPA 3050B**

Matrix Spike (BHF0476-MS1)		Source: 2406193-01			Prepared: 06/17/24 Analyzed: 06/19/24					
Arsenic	42.6	0.200	mg/kg dry	41.4	2.02	98.0	75-125			
Barium	90.4	0.400	"	41.4	47.0	105	75-125			
Cadmium	2.16	0.200	"	2.07	0.104	99.3	75-125			
Copper	32.7	0.400	"	41.4	2.06	74.1	75-125			QM-07
Lead	22.7	0.200	"	20.7	3.14	94.8	75-125			
Nickel	33.7	0.400	"	41.4	2.32	75.8	75-125			
Silver	2.01	0.0200	"	2.07	0.0118	96.5	75-125			
Zinc	41.3	0.400	"	41.4	9.36	77.3	75-125			
Selenium	3.67	0.260	"	4.14	ND	88.6	75-125			

Matrix Spike Dup (BHF0476-MSD1)		Source: 2406193-01			Prepared: 06/17/24 Analyzed: 06/19/24					
Arsenic	43.1	0.200	mg/kg dry	42.7	2.02	96.3	75-125	1.30	25	
Barium	82.0	0.400	"	42.7	47.0	82.0	75-125	9.80	25	
Cadmium	2.18	0.200	"	2.13	0.104	97.5	75-125	1.19	25	
Copper	34.1	0.400	"	42.7	2.06	75.0	75-125	4.02	25	
Lead	22.4	0.200	"	21.3	3.14	90.3	75-125	1.51	25	
Nickel	34.7	0.400	"	42.7	2.32	75.9	75-125	3.03	25	
Silver	2.04	0.0200	"	2.13	0.0118	94.9	75-125	1.50	25	
Zinc	43.0	0.400	"	42.7	9.36	78.8	75-125	3.93	25	
Selenium	3.73	0.260	"	4.27	ND	87.4	75-125	1.66	25	

Post Spike (BHF0476-PS1)		Source: 2406193-01			Prepared: 06/17/24 Analyzed: 06/19/24					
Arsenic	106		ug/l	100	5.15	101	75-125			
Barium	216		"	100	120	96.9	75-125			
Cadmium	5.34		"	5.00	0.266	101	75-125			
Copper	84.3		"	100	5.26	79.0	75-125			
Lead	54.8		"	50.0	8.00	93.7	75-125			
Nickel	85.6		"	100	5.91	79.7	75-125			
Silver	5.08		"	5.00	0.0300	101	75-125			
Zinc	105		"	100	23.8	81.0	75-125			
Selenium	9.50		"	10.0	0.157	93.4	75-125			

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Broomfield CO, 80020

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0426 - 3060A Mod**

**Blank (BHF0426-BLK1)**

Prepared: 06/14/24 Analyzed: 06/25/24

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BHF0426-BS1)**

Prepared: 06/14/24 Analyzed: 06/25/24

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 101 80-120

**Duplicate (BHF0426-DUP1)**

**Source: 2404268-05**

Prepared: 06/14/24 Analyzed: 06/25/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BHF0426-MS1)**

**Source: 2404268-05**

Prepared: 06/14/24 Analyzed: 06/25/24

Chromium, Hexavalent 30.3 0.30 mg/kg dry 28.7 ND 106 75-125

**Matrix Spike Dup (BHF0426-MSD1)**

**Source: 2404268-05**

Prepared: 06/14/24 Analyzed: 06/25/24

Chromium, Hexavalent 28.4 0.30 mg/kg dry 29.6 ND 96.0 75-125 6.54 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 - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0469 - General Preparation**

**Blank (BHF0469-BLK1)**

Prepared: 06/17/24 Analyzed: 06/19/24

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

**LCS (BHF0469-BS1)**

Prepared: 06/17/24 Analyzed: 06/19/24

Calcium	5.28	0.0500	mg/L wet	5.00	106	70-130
Magnesium	5.47	0.0500	"	5.00	109	70-130
Sodium	5.34	0.0500	"	5.00	107	70-130

Summit Scientific

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

Project: Noble - Hagemeister USX AA07-05 Flowline

Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0421 - General Preparation**

Duplicate (BHF0421-DUP1)		Source: 2406190-01			Prepared & Analyzed: 06/14/24						
% Solids	94.0		%		95.5			1.57		20	

Summit Scientific

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

Project: Noble - Hagemeister USX AA07-05 Flowline  
Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0471 - General Preparation**

**Blank (BHF0471-BLK1)**

Prepared: 06/17/24 Analyzed: 06/18/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHF0471-BS1)**

Prepared: 06/17/24 Analyzed: 06/18/24

Specific Conductance (EC) 0.151 0.0100 mmhos/cm 0.150 101 95-105

**Duplicate (BHF0471-DUP1)**

**Source: 2406166-01**

Prepared: 06/17/24 Analyzed: 06/18/24

Specific Conductance (EC) 0.208 0.0100 mmhos/cm 0.209 0.288 20

Summit Scientific

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

Project: Noble - Hagemeister USX AA07-05 Flowline

Project Number: UWRWE-A4065-ABN

Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

**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 BHF0470 - General Preparation**

**LCS (BHF0470-BS1)**

Prepared: 06/17/24 Analyzed: 06/18/24

pH	9.15	pH Units	9.18	99.7	95-105
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**Duplicate (BHF0470-DUP1)**

**Source: 2406166-01**

Prepared: 06/17/24 Analyzed: 06/18/24

pH	8.67	pH Units	8.72	0.575	20
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Summit Scientific

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

Project: Noble - Hagemeister USX AA07-05 Flowline

Project Number: UWRWE-A4065-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
06/27/24 11:56

### 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.
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