

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 10, 2025

Daniel Simpson
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - UPRC 31-13H6
Work Order #2501180

Enclosed are the results of analyses for samples received by Summit Scientific on 01/14/25 18:16. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury
President



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

Project: Noble - UPRC 31-13H6

Project Number: UWRWE-A4271-ABN

Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-01@4'	2501180-01	Soil	01/14/25 14:31	01/14/25 18:16

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

Lab ID	Page 1 of 1
2501180	

	Send Data To:	Send Invoice To:
Client: Tasman, Inc.	Project Manager: Daniel Simpson	Company: Noble Energy
Address: 6855 W. 119th Ave.	E-Mail: Tas-chevron-5@tasman-geo.com	Project Name/Location: UPRC 31-13H6
City/State/Zip: Broomfield / CO/ 80020	ABUEUF27@chevron.com, jason.davidson@chevron.com	AFE#: UWRWE-A4271-AES
Phone: 303-487-1228	Project Name: UPRC 31-13H6	PO/Billing Codes:
Sampler Name: J. Gustafson	Project Number:	Contact: Mike Montoya

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	³⁶ BTEXN SAR, EC, M	³⁶ PAHs - 12, 14 & 1, 2, 3	³⁶ PAHs - 915	³⁶ Chloride T-911-915	³⁶ Sulfate Bocol-1105	PAH - 915		Metals - 915
1	FL01-01@41	1/14/25	1431	2			X							X	X	X	X	X	X	
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>Am. KAP</i>	Date/Time: 1/14/25 1800	Received by: Tasman Lockbox	Date/Time: 1/14/25 1800	<input type="checkbox"/> AT Business Days	Field DO	Notes:
				<input type="checkbox"/> Same Day	Field EC	
Relinquished by: <i>Tasman Lockbox</i>	Date/Time: 1/14/25 1810	Received by: <i>RSQ</i>	Date/Time: 1/14/25 1810	<input type="checkbox"/> 1 Day	Field ORP	
				<input type="checkbox"/> 2 Days	Field pH	
				<input type="checkbox"/> 3 Days	Field Temp.	
Temperature Upon Receipt: 7.1	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	<input checked="" type="checkbox"/> Standard	Field Turb.	



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03/10/25 13:05

FL01-01@4'
2501180-01 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIA0933	01/20/25	01/26/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0392	97.9 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	99.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0408	102 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIA0934	01/20/25	01/22/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.29	74.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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FL01-01@4'
2501180-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIA0896	01/20/25	02/01/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0241	72.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0243	72.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1186	02/20/25	03/05/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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2501180-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	6.34	0.200	mg/kg dry	1	BIA1508	01/31/25	02/12/25	EPA 6020B	
Barium	186	0.400	"	"	"	"	"	"	
Cadmium	0.447	0.200	"	"	"	"	"	"	
Copper	9.63	0.400	"	"	"	"	"	"	
Lead	13.6	0.200	"	"	"	"	"	"	
Nickel	9.76	0.400	"	"	"	"	"	"	
Silver	0.0657	0.0200	"	"	"	"	"	"	
Zinc	36.2	0.400	"	"	"	"	"	"	
Selenium	0.277	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0041	02/03/25	02/05/25	EPA 7196A	

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

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	72.3	0.0500	mg/L dry	1	BIB0360	02/07/25	02/15/25	EPA 6020B	
Magnesium	27.1	0.0500	"	"	"	"	"	"	
Sodium	35.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.914	0.00100	units	1	BIB0882	02/17/25	02/17/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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FL01-01@4'
2501180-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.9	%	1	BIA1506	01/31/25	02/05/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/14/25 14:31**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.712	0.0100	mmhos/cm	1	BIB0363	02/07/25	02/13/25	EPA 120.1	

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

Date Sampled: **01/14/25 14:31**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.09		pH Units	1	BIB0365	02/07/25	02/13/25	EPA 9045D	

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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 BIA0933 - EPA 5030 Soil MS

Blank (BIA0933-BLK1)

Prepared: 01/20/25 Analyzed: 01/26/25

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>	0.0439		"	0.0400		110	50-150			
<i>Surrogate: Toluene-d8</i>	0.0401		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0410		"	0.0400		103	50-150			

LCS (BIA0933-BS1)

Prepared: 01/20/25 Analyzed: 01/26/25

Benzene	0.0981	0.0020	mg/kg	0.100		98.1	70-130			
Toluene	0.0962	0.0050	"	0.100		96.2	70-130			
Ethylbenzene	0.0981	0.0050	"	0.100		98.1	70-130			
m,p-Xylene	0.195	0.010	"	0.200		97.7	70-130			
o-Xylene	0.0968	0.0050	"	0.100		96.8	70-130			
1,2,4-Trimethylbenzene	0.0976	0.0050	"	0.100		97.6	70-130			
1,3,5-Trimethylbenzene	0.0982	0.0050	"	0.100		98.2	70-130			
Naphthalene	0.108	0.0038	"	0.100		108	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0440		"	0.0400		110	50-150			
<i>Surrogate: Toluene-d8</i>	0.0400		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0415		"	0.0400		104	50-150			

Matrix Spike (BIA0933-MS1)

Source: 2501152-01

Prepared: 01/20/25 Analyzed: 01/26/25

Benzene	0.106	0.0020	mg/kg	0.100	ND	106	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.205	0.010	"	0.200	ND	103	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
1,3,5-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130			
Naphthalene	0.108	0.0038	"	0.100	ND	108	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0438		"	0.0400		109	50-150			
<i>Surrogate: Toluene-d8</i>	0.0406		"	0.0400		101	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0412		"	0.0400		103	50-150			

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Reported:
03/10/25 13:05

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 BIA0933 - EPA 5030 Soil MS

Matrix Spike Dup (BIA0933-MSD1)	Source: 2501152-01			Prepared: 01/20/25 Analyzed: 01/26/25					
Benzene	0.109	0.0020	mg/kg	0.100	ND	109	70-130	3.26	30
Toluene	0.107	0.0050	"	0.100	ND	107	70-130	1.82	30
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130	5.76	30
m,p-Xylene	0.217	0.010	"	0.200	ND	109	70-130	5.65	30
o-Xylene	0.106	0.0050	"	0.100	ND	106	70-130	4.35	30
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	1.37	30
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130	2.84	30
Naphthalene	0.0994	0.0038	"	0.100	ND	99.4	70-130	8.41	30
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0396</i>		<i>"</i>	<i>0.0400</i>		<i>99.1</i>	<i>50-150</i>		
<i>Surrogate: Toluene-d8</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>50-150</i>		
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>		

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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BIA0934 - EPA 3550A

Blank (BIA0934-BLK1)

Prepared: 01/20/25 Analyzed: 01/22/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	19.9		"	25.0		79.7	30-150			

LCS (BIA0934-BS1)

Prepared: 01/20/25 Analyzed: 01/22/25

C10-C28 (DRO)	555	50	mg/kg	500		111	70-130			
Surrogate: <i>o</i> -Terphenyl	23.6		"	25.0		94.2	30-150			

Matrix Spike (BIA0934-MS1)

Source: 2501152-01

Prepared: 01/20/25 Analyzed: 01/22/25

C10-C28 (DRO)	549	50	mg/kg	500	ND	110	70-130			
Surrogate: <i>o</i> -Terphenyl	18.7		"	12.5		150	30-150			

Matrix Spike Dup (BIA0934-MSD1)

Source: 2501152-01

Prepared: 01/20/25 Analyzed: 01/22/25

C10-C28 (DRO)	487	50	mg/kg	500	ND	97.3	70-130	12.0	20	
Surrogate: <i>o</i> -Terphenyl	18.4		"	12.5		148	30-150			

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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 BIA0896 - EPA 5030 Soil MS

Blank (BIA0896-BLK1)

Prepared: 01/20/25 Analyzed: 01/26/25

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>0.0171</i>		"	<i>0.0333</i>		<i>51.2</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0178</i>		"	<i>0.0333</i>		<i>53.3</i>	<i>40-140</i>			

LCS (BIA0896-BS1)

Prepared: 01/20/25 Analyzed: 01/26/25

Acenaphthene	0.0177	0.00500	mg/kg	0.0333		53.2	40-140			
Anthracene	0.0182	0.00500	"	0.0333		54.5	40-140			
Benzo (a) anthracene	0.0190	0.00500	"	0.0333		56.9	40-140			
Benzo (a) pyrene	0.0183	0.00500	"	0.0333		54.8	40-140			
Benzo (b) fluoranthene	0.0185	0.00500	"	0.0333		55.4	40-140			
Benzo (k) fluoranthene	0.0187	0.00500	"	0.0333		56.0	40-140			
Chrysene	0.0192	0.00500	"	0.0333		57.7	40-140			
Dibenz (a,h) anthracene	0.0182	0.00500	"	0.0333		54.7	40-140			
Fluoranthene	0.0181	0.00500	"	0.0333		54.3	40-140			
Fluorene	0.0179	0.00500	"	0.0333		53.7	40-140			
Indeno (1,2,3-cd) pyrene	0.0183	0.00500	"	0.0333		54.9	40-140			
Pyrene	0.0198	0.00500	"	0.0333		59.4	40-140			
1-Methylnaphthalene	0.0170	0.00500	"	0.0333		50.9	40-140			
2-Methylnaphthalene	0.0169	0.00500	"	0.0333		50.7	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0179</i>		"	<i>0.0333</i>		<i>53.6</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0193</i>		"	<i>0.0333</i>		<i>57.9</i>	<i>40-140</i>			

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PAH by EPA Method 8270D SIM - Quality Control

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

Batch BIA0896 - EPA 5030 Soil MS

Matrix Spike (BIA0896-MS1)		Source: 2501132-01			Prepared: 01/20/25		Analyzed: 01/26/25	
Acenaphthene	0.0150	0.00500	mg/kg	0.0333	ND	45.1	40-140	
Anthracene	0.0162	0.00500	"	0.0333	ND	48.5	40-140	
Benzo (a) anthracene	0.0181	0.00500	"	0.0333	ND	54.2	40-140	
Benzo (a) pyrene	0.0179	0.00500	"	0.0333	ND	53.8	40-140	
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.5	40-140	
Benzo (k) fluoranthene	0.0163	0.00500	"	0.0333	ND	49.0	40-140	
Chrysene	0.0179	0.00500	"	0.0333	ND	53.6	40-140	
Dibenz (a,h) anthracene	0.0173	0.00500	"	0.0333	ND	52.0	40-140	
Fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	40-140	
Fluorene	0.0166	0.00500	"	0.0333	ND	49.7	40-140	
Indeno (1,2,3-cd) pyrene	0.0183	0.00500	"	0.0333	ND	54.8	40-140	
Pyrene	0.0173	0.00500	"	0.0333	ND	51.9	40-140	
1-Methylnaphthalene	0.0210	0.00500	"	0.0333	0.00985	33.4	40-140	QM-05
2-Methylnaphthalene	0.0205	0.00500	"	0.0333	0.00962	32.5	40-140	QM-05
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0113</i>		"	<i>0.0333</i>		<i>34.0</i>	<i>40-140</i>	<i>QM-05</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0174</i>		"	<i>0.0333</i>		<i>52.3</i>	<i>40-140</i>	

Matrix Spike Dup (BIA0896-MSD1)		Source: 2501132-01			Prepared: 01/20/25		Analyzed: 01/26/25	
Acenaphthene	0.0135	0.00500	mg/kg	0.0333	ND	40.4	40-140	10.9 30
Anthracene	0.0144	0.00500	"	0.0333	ND	43.3	40-140	11.4 30
Benzo (a) anthracene	0.0159	0.00500	"	0.0333	ND	47.6	40-140	12.9 30
Benzo (a) pyrene	0.0158	0.00500	"	0.0333	ND	47.4	40-140	12.8 30
Benzo (b) fluoranthene	0.0151	0.00500	"	0.0333	ND	45.2	40-140	13.1 30
Benzo (k) fluoranthene	0.0138	0.00500	"	0.0333	ND	41.4	40-140	16.8 30
Chrysene	0.0148	0.00500	"	0.0333	ND	44.4	40-140	18.7 30
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	40-140	12.6 30
Fluoranthene	0.0162	0.00500	"	0.0333	ND	48.5	40-140	8.67 30
Fluorene	0.0147	0.00500	"	0.0333	ND	44.1	40-140	11.9 30
Indeno (1,2,3-cd) pyrene	0.0163	0.00500	"	0.0333	ND	48.8	40-140	11.5 30
Pyrene	0.0149	0.00500	"	0.0333	ND	44.6	40-140	15.2 30
1-Methylnaphthalene	0.0196	0.00500	"	0.0333	0.00985	29.2	40-140	6.82 30
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	0.00962	31.5	40-140	1.67 30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0136</i>		"	<i>0.0333</i>		<i>40.7</i>	<i>40-140</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0162</i>		"	<i>0.0333</i>		<i>48.7</i>	<i>40-140</i>	

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

Project: Noble - UPRC 31-13H6
Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

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

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

Batch BIB1186 - EPA 3050B

Blank (BIB1186-BLK1)

Prepared: 02/20/25 Analyzed: 03/05/25

Boron ND 2.00 mg/L

LCS (BIB1186-BS1)

Prepared: 02/20/25 Analyzed: 03/05/25

Boron 4.62 2.00 mg/L 5.00 92.3 80-120

Duplicate (BIB1186-DUP1)

Source: 2501179-09

Prepared: 02/20/25 Analyzed: 03/05/25

Boron 0.185 2.00 mg/L 0.188 1.66 20

Matrix Spike (BIB1186-MS1)

Source: 2501179-09

Prepared: 02/20/25 Analyzed: 03/05/25

Boron 4.86 2.00 mg/L 4.99 0.188 93.7 75-125

Matrix Spike Dup (BIB1186-MSD1)

Source: 2501179-09

Prepared: 02/20/25 Analyzed: 03/05/25

Boron 5.30 2.00 mg/L 4.99 0.188 103 75-125 8.64 25

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

Project: Noble - UPRC 31-13H6
Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIA1508 - EPA 3050B

Blank (BIA1508-BLK1)

Prepared: 01/31/25 Analyzed: 02/12/25

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 (BIA1508-BS1)

Prepared: 01/31/25 Analyzed: 02/14/25

Arsenic	45.9	0.200	mg/kg wet	40.7		113	80-120
Barium	40.1	0.400	"	40.7		98.7	80-120
Cadmium	2.07	0.200	"	2.03		102	80-120
Copper	48.0	0.400	"	40.7		118	80-120
Lead	20.7	0.200	"	20.3		102	80-120
Nickel	47.3	0.400	"	40.7		116	80-120
Silver	2.05	0.0200	"	2.03		101	80-120
Zinc	46.9	0.400	"	40.7		115	80-120
Selenium	4.05	0.260	"	4.07		99.6	80-120

Duplicate (BIA1508-DUP1)

Source: 2501179-01

Prepared: 01/31/25 Analyzed: 02/12/25

Arsenic	11.9	0.200	mg/kg dry	9.70		19.9	20
Barium	54.0	0.400	"	60.0		10.6	20
Cadmium	0.166	0.200	"	0.171		3.01	20
Copper	3.41	0.400	"	3.71		8.34	20
Lead	7.83	0.200	"	7.89		0.784	20
Nickel	5.75	0.400	"	5.51		4.38	20
Silver	0.0219	0.0200	"	0.0252		14.0	20
Zinc	24.4	0.400	"	24.3		0.492	20
Selenium	ND	0.260	"	ND			20

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Broomfield CO, 80020

Project: Noble - UPRC 31-13H6
Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

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 BIA1508 - EPA 3050B

Matrix Spike (BIA1508-MS1)	Source: 2501179-01			Prepared: 01/31/25 Analyzed: 02/14/25								
Arsenic	39.6	0.200	mg/kg dry	46.1	9.70	64.9	75-125					QM-05
Barium	85.8	0.400	"	46.1	60.0	55.9	75-125					QM-05
Cadmium	2.46	0.200	"	2.31	0.171	99.2	75-125					
Copper	35.6	0.400	"	46.1	3.71	69.2	75-125					QM-05
Lead	29.9	0.200	"	23.1	7.89	95.5	75-125					
Nickel	37.4	0.400	"	46.1	5.51	69.0	75-125					QM-05
Silver	2.27	0.0200	"	2.31	0.0252	97.5	75-125					
Zinc	54.9	0.400	"	46.1	24.3	66.3	75-125					QM-05
Selenium	4.53	0.260	"	4.61	ND	98.1	75-125					

Matrix Spike Dup (BIA1508-MSD1)	Source: 2501179-01			Prepared: 01/31/25 Analyzed: 02/14/25								
Arsenic	39.3	0.200	mg/kg dry	45.0	9.70	65.8	75-125	0.790	25			QM-05
Barium	78.3	0.400	"	45.0	60.0	40.6	75-125	9.11	25			QM-05
Cadmium	2.52	0.200	"	2.25	0.171	104	75-125	2.26	25			
Copper	34.7	0.400	"	45.0	3.71	68.9	75-125	2.66	25			QM-05
Lead	30.0	0.200	"	22.5	7.89	98.1	75-125	0.142	25			
Nickel	36.5	0.400	"	45.0	5.51	68.9	75-125	2.23	25			QM-05
Silver	2.28	0.0200	"	2.25	0.0252	100	75-125	0.411	25			
Zinc	52.1	0.400	"	45.0	24.3	61.8	75-125	5.18	25			QM-05
Selenium	4.63	0.260	"	4.50	ND	103	75-125	2.31	25			

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Broomfield CO, 80020

Project: Noble - UPRC 31-13H6
Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

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 BIB0041 - 3060A Mod

Blank (BIB0041-BLK1)

Prepared: 02/03/25 Analyzed: 02/05/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIB0041-BS1)

Prepared: 02/03/25 Analyzed: 02/05/25

Chromium, Hexavalent 26.2 0.30 mg/kg wet 25.3 104 80-120

Duplicate (BIB0041-DUP1)

Source: 2501179-01

Prepared: 02/03/25 Analyzed: 02/05/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIB0041-MS1)

Source: 2501179-01

Prepared: 02/03/25 Analyzed: 02/05/25

Chromium, Hexavalent 27.7 0.30 mg/kg dry 27.1 ND 102 75-125

Matrix Spike Dup (BIB0041-MSD1)

Source: 2501179-01

Prepared: 02/03/25 Analyzed: 02/05/25

Chromium, Hexavalent 29.8 0.30 mg/kg dry 29.1 ND 103 75-125 7.23 20

Summit Scientific

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Broomfield CO, 80020

Project: Noble - UPRC 31-13H6

Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

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 BIB0360 - General Preparation

Blank (BIB0360-BLK1)

Prepared: 02/07/25 Analyzed: 02/15/25


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

LCS (BIB0360-BS1)

Prepared: 02/07/25 Analyzed: 02/15/25

Calcium	4.85	0.0500	mg/L wet	5.00	97.1	70-130
Magnesium	4.54	0.0500	"	5.00	90.8	70-130
Sodium	4.53	0.0500	"	5.00	90.6	70-130

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Broomfield CO, 80020

Project: Noble - UPRC 31-13H6

Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

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

Summit Scientific

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

Batch BIA1506 - General Preparation

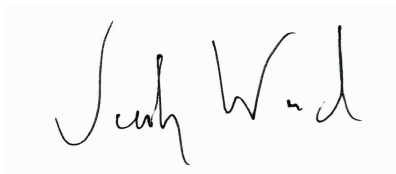
Duplicate (BIA1506-DUP1)

Source: 2501179-12

Prepared: 01/31/25 Analyzed: 02/05/25

% Solids	84.7	%		89.1		5.05	20
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Broomfield CO, 80020

Project: Noble - UPRC 31-13H6
Project Number: UWRWE-A4271-ABN
Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

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

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

Batch BIB0363 - General Preparation

Blank (BIB0363-BLK1)

Prepared: 02/07/25 Analyzed: 02/13/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIB0363-BS1)

Prepared: 02/07/25 Analyzed: 02/13/25

Specific Conductance (EC) 1.36 0.0100 mmhos/cm 1.41 96.5 95-105

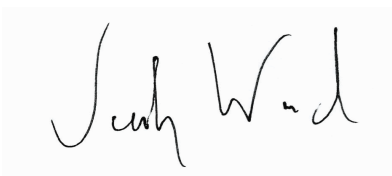
Duplicate (BIB0363-DUP1)

Source: 2501180-01

Prepared: 02/07/25 Analyzed: 02/13/25

Specific Conductance (EC) 0.710 0.0100 mmhos/cm 0.712 0.277 20

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

Project: Noble - UPRC 31-13H6

Project Number: UWRWE-A4271-ABN
 Project Manager: Daniel Simpson

Reported:
 03/10/25 13:05

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 BIB0365 - General Preparation

LCS (BIB0365-BS1)

Prepared: 02/07/25 Analyzed: 02/13/25

pH	9.21	pH Units	9.18	100	95-105
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Duplicate (BIB0365-DUP1)

Source: 2501180-01

Prepared: 02/07/25 Analyzed: 02/13/25

pH	8.11	pH Units	8.09	0.218	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - UPRC 31-13H6

Project Number: UWRWE-A4271-ABN

Project Manager: Daniel Simpson

Reported:
03/10/25 13:05

Notes and Definitions

- 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