

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 18, 2024

Daniel Simpson

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Watkins 12-02 Flowline

Work Order #2412169

Enclosed are the results of analyses for samples received by Summit Scientific on 12/09/24 18:33. 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 'W'.

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Watkins 12-02 Flowline


Project Number: UWRWE-A2399-ABN
 Project Manager: Daniel Simpson

Reported:
 12/18/24 12:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS02@3'	2412169-01	Soil	12/09/24 11:07	12/09/24 18:33
SS05@1'	2412169-02	Soil	12/09/24 11:10	12/09/24 18:33
SS06@1'	2412169-03	Soil	12/09/24 11:14	12/09/24 18:33
SS07@1'	2412169-04	Soil	12/09/24 11:18	12/09/24 18:33
SS08@1'	2412169-05	Soil	12/09/24 11:21	12/09/24 18:33
BKG06@1'	2412169-06	Soil	12/09/24 12:03	12/09/24 18:33
BKG06@3'	2412169-07	Soil	12/09/24 12:11	12/09/24 18:33
BKG07@1'	2412169-08	Soil	12/09/24 12:20	12/09/24 18:33
BKG07@3'	2412169-09	Soil	12/09/24 12:26	12/09/24 18:33
BKG08@1'	2412169-10	Soil	12/09/24 12:33	12/09/24 18:33
BKG08@3'	2412169-11	Soil	12/09/24 12:40	12/09/24 18:33
BKG09@1'	2412169-12	Soil	12/09/24 12:53	12/09/24 18:33
BKG09@3'	2412169-13	Soil	12/09/24 13:00	12/09/24 18:33

Summit Scientific



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

Lab ID	Page 1 of 2
2412169.1	

		Send Data To:	Send Invoice To:
Client: <i>Tasman Inc</i>	Project Manager: <i>Daniel Simpson</i>	Company: <i>Noble</i>	
Address: <i>6855 W. 119th Ave.</i>	E-Mail: <i>Tas-chevron-5@tasman-geo.com</i>	Project Name/Location: <i>Watkins 12-02 Flowline</i>	
City/State/Zip: <i>Broomfield CO 80020</i>	<i>RBUEF27@chevron.com, Jason.Davis@chevron.com</i>	AFE#: <i>UWRWE-A2399-ABN</i>	
Phone: <i>303-487-1228</i>	Project Name: <i>Watkins 12-02 Flowline</i>	PO/Billing Codes:	
Sampler Name: <i>Wright Wadleigh</i>	Project Number:	Contact: <i>Erin Crawford</i>	

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	PAH-915	SAR, EC, pH	Boron- HWS		HOLD
1	<i>F502a3'</i>	<i>12/09/24</i>	<i>1107</i>	<i>2</i>			<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
2	<i>SS05a1'</i>		<i>1110</i>																
3	<i>SS06a1'</i>		<i>1114</i>																
4	<i>SS07a1'</i>		<i>1118</i>																
5	<i>SS08a1'</i>		<i>1121</i>																
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <i>Wright Wadleigh</i>	Date/Time: <i>12/09/24 1600</i>	Received by: <i>Tasman LCP-604</i>	Date/Time: <i>12/09/24 1600</i>	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <i>Tasman LCP-604</i>	Date/Time: <i>12/09/24 1833</i>	Received by: <i>[Signature]</i>	Date/Time: <i>12/09/24 1833</i>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <i>17</i>	Corrected Temperature: <i>8</i>	IR gun #: <i>1</i>	HNO3 lot #:			



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

Lab ID	Page 2 of 2
2412169.2	

Send Data To:		Send Invoice To:
Client: <i>Tasman Inc</i>	Project Manager: <i>Daniel Simpson</i>	Company: <i>Nobilc</i>
Address: <i>6855 W. 119th Ave</i>	E-Mail: <i>Tas-chevron-5@tasman-geo.com</i>	Project Name/Location: <i>Watkins 12-02 Flowline</i>
City/State/Zip: <i>Broomfield / CO / 80020</i>	<i>RBUEF27@chevron.com, JASON.DALLIDSON@chevron.com</i>	AFE#: <i>UNRWF-A2399-ADN</i>
Phone: <i>303-481-1229</i>	Project Name: <i>Watkins 12-02 Flowline</i>	PO/Billing Codes:
Sampler Name: <i>Water Valveish</i>	Project Number:	Contact: <i>Erin Crawford</i>

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	PAH-915	SAR, EC, pH	
1	<i>B12605a1'</i>	<i>12/09/21</i>	<i>1203</i>	<i>1</i>			<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
2	<i>B12606a3'</i>		<i>1211</i>														
3	<i>B12607a1'</i>		<i>1220</i>														
4	<i>B12607a3'</i>		<i>1226</i>														
5	<i>B12608a1'</i>		<i>1233</i>														
6	<i>B12608a3'</i>		<i>1240</i>														
7	<i>B12609a1'</i>		<i>1253</i>														
8	<i>B12609a3'</i>		<i>1300</i>														
9																	
10																	
11																	
12																	
13																	
14																	
15																	

Relinquished by: <i>WTH</i>	Date/Time: <i>12/09/21 1600</i>	Received by: <i>Tasman Locks</i>	Date/Time: <i>12/09/21 1600</i>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Locks</i>	Date/Time: <i>12/09/21 1833</i>	Received by: <i>[Signature]</i>	Date/Time: <i>12/09/21 1833</i>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	<input checked="" type="checkbox"/> Field Turb.	
Temperature Upon Receipt: <i>22</i>	Corrected Temperature: <i>8</i>	IR gun #: <i>1</i>	HNO3 lot #:			

S₂

22

Sample Receipt Checklist

S2 Work Order#

2412169

Client: Tasman

Client Project ID: Watkins 12-02 Flowline

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

Airbill #:

-

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Additional Comments (if any):

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

AS

Custodian Printed Name

12/9/24

Date/Time

5000 2



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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

FS02@3'
2412169-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0366	12/09/24	12/10/24	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: **12/09/24 11:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0388	97.0 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0428	107 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0370	12/09/24	12/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.2	89.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

FS02@3'
2412169-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0593	12/13/24	12/16/24	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: **12/09/24 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0447	134 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0428	128 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 11:07**

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

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

FS02@3'
2412169-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.99	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	58.0	0.400	"	"	"	"	"	"	
Cadmium	0.218	0.200	"	"	"	"	"	"	
Copper	4.46	0.400	"	"	"	"	"	"	
Lead	6.61	0.200	"	"	"	"	"	"	
Nickel	3.97	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	16.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/09/24 11:07

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: 12/09/24 11:07

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.5	0.0500	mg/L dry	1	BHL0371	12/09/24	12/10/24	EPA 6020B	
Magnesium	5.48	0.0500	"	"	"	"	"	"	
Sodium	0.156	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/09/24 11:07

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.00701	0.00100	units	1	BHL0474	12/11/24	12/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

FS02@3'
2412169-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.5		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0963	0.0100	mmhos/cm	1	BHL0373	12/09/24	12/10/24	EPA 120.1	

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

Date Sampled: **12/09/24 11:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.62		pH Units	1	BHL0372	12/09/24	12/10/24	EPA 9045D	

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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS05@1'
2412169-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0366	12/09/24	12/10/24	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: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0411	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0370	12/09/24	12/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.2	89.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS05@1'
2412169-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0593	12/13/24	12/16/24	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: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0199	59.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 11:10**

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

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS05@1'
2412169-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.60	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	54.5	0.400	"	"	"	"	"	"	
Cadmium	0.217	0.200	"	"	"	"	"	"	
Copper	4.31	0.400	"	"	"	"	"	"	
Lead	6.52	0.200	"	"	"	"	"	"	
Nickel	3.86	0.400	"	"	"	"	"	"	
Silver	0.0235	0.0200	"	"	"	"	"	"	
Zinc	15.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	34.7	0.0500	mg/L dry	1	BHL0371	12/09/24	12/10/24	EPA 6020B	
Magnesium	5.83	0.0500	"	"	"	"	"	"	
Sodium	0.532	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0220	0.00100	units	1	BHL0474	12/11/24	12/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 11:10**

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 - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS05@1'
2412169-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	89.3	%	1	BHL0406	12/10/24	12/11/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 11:10**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.256	0.0100	mmhos/cm	1	BHL0373	12/09/24	12/10/24	EPA 120.1	

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

Date Sampled: **12/09/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.30		pH Units	1	BHL0372	12/09/24	12/10/24	EPA 9045D	

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS06@1'
2412169-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0366	12/09/24	12/10/24	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: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0468	117 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0370	12/09/24	12/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.7	93.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS06@1'
2412169-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0593	12/13/24	12/16/24	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: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0311	93.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0341	102 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 11:14**

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 - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS06@1'
2412169-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.86	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	37.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.16	0.400	"	"	"	"	"	"	
Lead	3.49	0.200	"	"	"	"	"	"	
Nickel	2.78	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	10.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/09/24 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: 12/09/24 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.1	0.0500	mg/L dry	1	BHL0371	12/09/24	12/10/24	EPA 6020B	
Magnesium	6.02	0.0500	"	"	"	"	"	"	
Sodium	0.605	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/09/24 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0270	0.00100	units	1	BHL0474	12/11/24	12/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS06@1'
2412169-03 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.5			%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.0925	0.0100		mmhos/cm	1	BHL0373	12/09/24	12/10/24	EPA 120.1	

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

Date Sampled: **12/09/24 11:14**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.26			pH Units	1	BHL0372	12/09/24	12/10/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS07@1'
2412169-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHL0366	12/09/24	12/10/24	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: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0404	101 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHL0370	12/09/24	12/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.4	91.5 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS07@1'
2412169-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0593	12/13/24	12/16/24	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: **12/09/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0554	166 %	40-140		"	"	"	"	S-07
Surrogate: Fluoranthene-d10	0.0540	162 %	40-140		"	"	"	"	S-07

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 11:18**

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

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS07@1'
2412169-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.80	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	61.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.22	0.400	"	"	"	"	"	"	
Lead	5.94	0.200	"	"	"	"	"	"	
Nickel	3.76	0.400	"	"	"	"	"	"	
Silver	0.0241	0.0200	"	"	"	"	"	"	
Zinc	15.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.6	0.0500	mg/L dry	1	BHL0371	12/09/24	12/10/24	EPA 6020B	
Magnesium	7.39	0.0500	"	"	"	"	"	"	
Sodium	0.437	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0171	0.00100	units	1	BHL0474	12/11/24	12/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS07@1'
2412169-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.7			%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.175	0.0100		mmhos/cm	1	BHL0373	12/09/24	12/10/24	EPA 120.1	

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

Date Sampled: **12/09/24 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.62			pH Units	1	BHL0372	12/09/24	12/10/24	EPA 9045D	

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Tasman Geosciences
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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS08@1'
2412169-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHL0366	12/09/24	12/10/24	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: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0414	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.1 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHL0370	12/09/24	12/11/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.6	93.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS08@1'
2412169-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHL0593	12/13/24	12/16/24	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: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0258	77.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0259	77.8 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 11:21**

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 - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS08@1'
2412169-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.74	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	46.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.09	0.400	"	"	"	"	"	"	
Lead	5.26	0.200	"	"	"	"	"	"	
Nickel	3.37	0.400	"	"	"	"	"	"	
Silver	0.0209	0.0200	"	"	"	"	"	"	
Zinc	14.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 12/09/24 11:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: 12/09/24 11:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.1	0.0500	mg/L dry	1	BHL0371	12/09/24	12/10/24	EPA 6020B	
Magnesium	5.76	0.0500	"	"	"	"	"	"	
Sodium	0.599	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 12/09/24 11:21

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0247	0.00100	units	1	BHL0474	12/11/24	12/11/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

SS08@1'
2412169-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.2		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.240	0.0100	mmhos/cm	1	BHL0373	12/09/24	12/10/24	EPA 120.1	

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

Date Sampled: **12/09/24 11:21**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.31		pH Units	1	BHL0372	12/09/24	12/10/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG06@1'
2412169-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Boron	ND	2.00		mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Arsenic	2.24	0.200		mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	72.3	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Copper	4.87	0.400		"	"	"	"	"	"	
Lead	7.02	0.200		"	"	"	"	"	"	
Nickel	4.47	0.400		"	"	"	"	"	"	
Silver	0.0319	0.0200		"	"	"	"	"	"	
Zinc	17.5	0.400		"	"	"	"	"	"	
Selenium	ND	0.260		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Calcium	37.3	0.0500		mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	6.97	0.0500		"	"	"	"	"	"	
Sodium	0.654	0.0500		"	"	"	"	"	"	

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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG06@1'
2412169-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0258	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.7		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.125	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.32		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG06@3'
2412169-07 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.26	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	36.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.99	0.400	"	"	"	"	"	"	
Lead	3.47	0.200	"	"	"	"	"	"	
Nickel	2.58	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	10.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	25.1	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	5.22	0.0500	"	"	"	"	"	"	
Sodium	1.10	0.0500	"	"	"	"	"	"	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG06@3'
2412169-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0522	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.7		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0701	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG07@1'
2412169-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.00	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	64.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.26	0.400	"	"	"	"	"	"	
Lead	5.91	0.200	"	"	"	"	"	"	
Nickel	4.07	0.400	"	"	"	"	"	"	
Silver	0.0231	0.0200	"	"	"	"	"	"	
Zinc	15.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	37.4	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	7.42	0.0500	"	"	"	"	"	"	
Sodium	0.337	0.0500	"	"	"	"	"	"	

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

Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG07@1'
2412169-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0132	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.8		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0620	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.17		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG07@3'
2412169-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.46	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	46.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.46	0.400	"	"	"	"	"	"	
Lead	4.31	0.200	"	"	"	"	"	"	
Nickel	3.23	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	12.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	32.1	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	6.58	0.0500	"	"	"	"	"	"	
Sodium	0.922	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG07@3'
2412169-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0387	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.9		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0604	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.95		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG08@1'
2412169-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.71	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	74.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.15	0.400	"	"	"	"	"	"	
Lead	7.07	0.200	"	"	"	"	"	"	
Nickel	4.55	0.400	"	"	"	"	"	"	
Silver	0.0364	0.0200	"	"	"	"	"	"	
Zinc	17.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	36.3	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	7.21	0.0500	"	"	"	"	"	"	
Sodium	0.800	0.0500	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG08@1'
2412169-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0317	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.5		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0560	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.29		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG08@3'
2412169-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.15	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	26.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.13	0.400	"	"	"	"	"	"	
Lead	2.58	0.200	"	"	"	"	"	"	
Nickel	1.85	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.81	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	17.2	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	3.62	0.0500	"	"	"	"	"	"	
Sodium	1.51	0.0500	"	"	"	"	"	"	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG08@3'
2412169-11 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0864	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.0		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0632	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.04		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG09@1'
2412169-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.57	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	54.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.11	0.400	"	"	"	"	"	"	
Lead	5.40	0.200	"	"	"	"	"	"	
Nickel	3.31	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	34.6	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	6.31	0.0500	"	"	"	"	"	"	
Sodium	0.120	0.0500	"	"	"	"	"	"	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG09@1'
2412169-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.00493	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.3		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0476	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 12:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.27		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG09@3'
2412169-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L	1	BHL0392	12/10/24	12/10/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.27	0.200	mg/kg dry	1	BHL0381	12/10/24	12/10/24	EPA 6020B	
Barium	85.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.36	0.400	"	"	"	"	"	"	
Lead	6.84	0.200	"	"	"	"	"	"	
Nickel	4.34	0.400	"	"	"	"	"	"	
Silver	0.0434	0.0200	"	"	"	"	"	"	
Zinc	17.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0448	12/11/24	12/11/24	EPA 7196A	

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

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	39.2	0.0500	mg/L dry	1	BHL0513	12/11/24	12/12/24	EPA 6020B	
Magnesium	7.50	0.0500	"	"	"	"	"	"	
Sodium	2.37	0.0500	"	"	"	"	"	"	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

BKG09@3'
2412169-13 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0909	0.00100	units	1	BHL0598	12/13/24	12/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.3		%	1	BHL0406	12/10/24	12/11/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.200	0.0100	mmhos/cm	1	BHL0515	12/11/24	12/12/24	EPA 120.1	

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

Date Sampled: **12/09/24 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.76		pH Units	1	BHL0514	12/11/24	12/12/24	EPA 9045D	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0366 - EPA 5030 Soil MS

Blank (BHL0366-BLK1)

Prepared: 12/09/24 Analyzed: 12/10/24

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>	0.0388		"	0.0400		97.0	50-150				
<i>Surrogate: Toluene-d8</i>	0.0396		"	0.0400		98.9	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0390		"	0.0400		97.5	50-150				

LCS (BHL0366-BS1)

Prepared: 12/09/24 Analyzed: 12/10/24

Benzene	0.0902	0.0020	mg/kg	0.100		90.2	70-130				
Toluene	0.0900	0.0050	"	0.100		90.0	70-130				
Ethylbenzene	0.0979	0.0050	"	0.100		97.9	70-130				
m,p-Xylene	0.192	0.010	"	0.200		96.0	70-130				
o-Xylene	0.0930	0.0050	"	0.100		93.0	70-130				
1,2,4-Trimethylbenzene	0.0945	0.0050	"	0.100		94.5	70-130				
1,3,5-Trimethylbenzene	0.0944	0.0050	"	0.100		94.4	70-130				
Naphthalene	0.0745	0.0038	"	0.100		74.5	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0400		"	0.0400		100	50-150				
<i>Surrogate: Toluene-d8</i>	0.0395		"	0.0400		98.8	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0384		"	0.0400		95.9	50-150				

Matrix Spike (BHL0366-MS1)

Source: 2412159-01

Prepared: 12/09/24 Analyzed: 12/10/24

Benzene	0.0917	0.0020	mg/kg	0.100	0.00603	85.7	70-130				
Toluene	0.0806	0.0050	"	0.100	ND	80.6	70-130				
Ethylbenzene	0.117	0.0050	"	0.100	0.0223	94.4	70-130				
m,p-Xylene	0.178	0.010	"	0.200	ND	89.2	70-130				
o-Xylene	0.0864	0.0050	"	0.100	ND	86.4	70-130				
1,2,4-Trimethylbenzene	0.0866	0.0050	"	0.100	ND	86.6	70-130				
1,3,5-Trimethylbenzene	0.0843	0.0050	"	0.100	ND	84.3	70-130				
Naphthalene	0.0919	0.0038	"	0.100	ND	91.9	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0405		"	0.0400		101	50-150				
<i>Surrogate: Toluene-d8</i>	0.0422		"	0.0400		106	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0287		"	0.0400		71.7	50-150				

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

Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0366 - EPA 5030 Soil MS

Matrix Spike Dup (BHL0366-MSD1)	Source: 2412159-01			Prepared: 12/09/24 Analyzed: 12/10/24						
Benzene	0.100	0.0020	mg/kg	0.100	0.00603	94.0	70-130	8.61	30	
Toluene	0.0901	0.0050	"	0.100	ND	90.1	70-130	11.1	30	
Ethylbenzene	0.122	0.0050	"	0.100	0.0223	100	70-130	4.84	30	
m,p-Xylene	0.187	0.010	"	0.200	ND	93.3	70-130	4.47	30	
o-Xylene	0.0901	0.0050	"	0.100	ND	90.1	70-130	4.18	30	
1,2,4-Trimethylbenzene	0.0932	0.0050	"	0.100	ND	93.2	70-130	7.37	30	
1,3,5-Trimethylbenzene	0.0888	0.0050	"	0.100	ND	88.8	70-130	5.13	30	
Naphthalene	0.0949	0.0038	"	0.100	ND	94.9	70-130	3.28	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0410</i>		<i>"</i>	<i>0.0400</i>		<i>103</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0318</i>		<i>"</i>	<i>0.0400</i>		<i>79.5</i>	<i>50-150</i>			

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

Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0370 - EPA 3550A

Blank (BHL0370-BLK1)

Prepared: 12/09/24 Analyzed: 12/10/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		106		30-150		

LCS (BHL0370-BS1)

Prepared: 12/09/24 Analyzed: 12/11/24

C10-C28 (DRO)	532	50	mg/kg	500		106		70-130		
Surrogate: <i>o</i> -Terphenyl	13.5		"	12.5		108		30-150		

Matrix Spike (BHL0370-MS1)

Source: 2412159-01

Prepared: 12/09/24 Analyzed: 12/11/24

C10-C28 (DRO)	565	50	mg/kg	500	5.85	112		70-130		
Surrogate: <i>o</i> -Terphenyl	12.6		"	12.5		101		30-150		

Matrix Spike Dup (BHL0370-MSD1)

Source: 2412159-01

Prepared: 12/09/24 Analyzed: 12/11/24

C10-C28 (DRO)	536	50	mg/kg	500	5.85	106		70-130	5.31	20
Surrogate: <i>o</i> -Terphenyl	12.6		"	12.5		101		30-150		

Summit Scientific

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0593 - EPA 5030 Soil MS

Blank (BHL0593-BLK1)

Prepared: 12/13/24 Analyzed: 12/15/24

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>0.0134</i>		"	<i>0.0333</i>		<i>40.2</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0293</i>		"	<i>0.0333</i>		<i>87.8</i>	<i>40-140</i>			

LCS (BHL0593-BS1)

Prepared: 12/13/24 Analyzed: 12/15/24

Acenaphthene	0.0222	0.00500	mg/kg	0.0333		66.6	40-140			
Anthracene	0.0287	0.00500	"	0.0333		86.1	40-140			
Benzo (a) anthracene	0.0292	0.00500	"	0.0333		87.7	40-140			
Benzo (a) pyrene	0.0282	0.00500	"	0.0333		84.7	40-140			
Benzo (b) fluoranthene	0.0295	0.00500	"	0.0333		88.4	40-140			
Benzo (k) fluoranthene	0.0305	0.00500	"	0.0333		91.4	40-140			
Chrysene	0.0319	0.00500	"	0.0333		95.7	40-140			
Dibenz (a,h) anthracene	0.0298	0.00500	"	0.0333		89.5	40-140			
Fluoranthene	0.0337	0.00500	"	0.0333		101	40-140			
Fluorene	0.0272	0.00500	"	0.0333		81.5	40-140			
Indeno (1,2,3-cd) pyrene	0.0218	0.00500	"	0.0333		65.5	40-140			
Pyrene	0.0308	0.00500	"	0.0333		92.5	40-140			
1-Methylnaphthalene	0.0163	0.00500	"	0.0333		49.0	40-140			
2-Methylnaphthalene	0.0159	0.00500	"	0.0333		47.8	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0162</i>		"	<i>0.0333</i>		<i>48.6</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0352</i>		"	<i>0.0333</i>		<i>106</i>	<i>40-140</i>			

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0593 - EPA 5030 Soil MS

Matrix Spike (BHL0593-MS1)	Source: 2412159-11			Prepared: 12/13/24 Analyzed: 12/15/24						
Acenaphthene	0.0215	0.00500	mg/kg	0.0333	ND	64.4	40-140			
Anthracene	0.0193	0.00500	"	0.0333	ND	57.9	40-140			
Benzo (a) anthracene	0.0181	0.00500	"	0.0333	ND	54.4	40-140			
Benzo (a) pyrene	0.0165	0.00500	"	0.0333	ND	49.6	40-140			
Benzo (b) fluoranthene	0.0147	0.00500	"	0.0333	ND	44.2	40-140			
Benzo (k) fluoranthene	0.0174	0.00500	"	0.0333	ND	52.3	40-140			
Chrysene	0.0195	0.00500	"	0.0333	ND	58.5	40-140			
Dibenz (a,h) anthracene	0.0147	0.00500	"	0.0333	ND	44.2	40-140			
Fluoranthene	0.0194	0.00500	"	0.0333	ND	58.1	40-140			
Fluorene	0.0213	0.00500	"	0.0333	ND	63.8	40-140			
Indeno (1,2,3-cd) pyrene	0.0127	0.00500	"	0.0333	ND	38.1	40-140			QM-05
Pyrene	0.0184	0.00500	"	0.0333	ND	55.3	40-140			
1-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.6	40-140			
2-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.4	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0219</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>65.8</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0202</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>60.7</i>	<i>40-140</i>			

Matrix Spike Dup (BHL0593-MSD1)	Source: 2412159-11			Prepared: 12/13/24 Analyzed: 12/15/24						
Acenaphthene	0.0213	0.00500	mg/kg	0.0333	ND	63.9	40-140	0.827	30	
Anthracene	0.0193	0.00500	"	0.0333	ND	57.8	40-140	0.152	30	
Benzo (a) anthracene	0.0185	0.00500	"	0.0333	ND	55.5	40-140	2.11	30	
Benzo (a) pyrene	0.0168	0.00500	"	0.0333	ND	50.3	40-140	1.43	30	
Benzo (b) fluoranthene	0.0149	0.00500	"	0.0333	ND	44.6	40-140	0.782	30	
Benzo (k) fluoranthene	0.0174	0.00500	"	0.0333	ND	52.1	40-140	0.253	30	
Chrysene	0.0197	0.00500	"	0.0333	ND	59.1	40-140	1.07	30	
Dibenz (a,h) anthracene	0.0147	0.00500	"	0.0333	ND	44.2	40-140	0.147	30	
Fluoranthene	0.0193	0.00500	"	0.0333	ND	58.0	40-140	0.253	30	
Fluorene	0.0208	0.00500	"	0.0333	ND	62.5	40-140	2.04	30	
Indeno (1,2,3-cd) pyrene	0.0121	0.00500	"	0.0333	ND	36.4	40-140	4.64	30	QM-05
Pyrene	0.0190	0.00500	"	0.0333	ND	56.9	40-140	2.86	30	
1-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.9	40-140	1.07	30	
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	40-140	0.697	30	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0216</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>64.9</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0201</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>60.2</i>	<i>40-140</i>			

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

Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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	Limit		

Batch BHL0392 - EPA 3050B

Blank (BHL0392-BLK1)

Prepared & Analyzed: 12/10/24

Boron ND 2.00 mg/L

LCS (BHL0392-BS1)

Prepared & Analyzed: 12/10/24

Boron 4.61 2.00 mg/L 5.00 92.1 80-120

Duplicate (BHL0392-DUP1)

Source: 2412169-01

Prepared & Analyzed: 12/10/24

Boron 0.253 2.00 mg/L 0.557 74.9 20 QR-01

Matrix Spike (BHL0392-MS1)

Source: 2412169-01

Prepared & Analyzed: 12/10/24

Boron 4.80 2.00 mg/L 5.04 0.557 84.2 75-125

Matrix Spike Dup (BHL0392-MSD1)

Source: 2412169-01

Prepared & Analyzed: 12/10/24

Boron 5.03 2.00 mg/L 5.04 0.557 88.7 75-125 4.64 25

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0381 - EPA 3050B

Blank (BHL0381-BLK1)

Prepared & Analyzed: 12/10/24

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 (BHL0381-BS1)

Prepared & Analyzed: 12/10/24

Arsenic	35.0	0.200	mg/kg wet	40.3	86.8	80-120
Barium	35.5	0.400	"	40.3	88.1	80-120
Cadmium	1.81	0.200	"	2.02	90.0	80-120
Copper	38.0	0.400	"	40.3	94.4	80-120
Lead	17.3	0.200	"	20.2	85.6	80-120
Nickel	38.0	0.400	"	40.3	94.3	80-120
Silver	1.81	0.0200	"	2.02	89.7	80-120
Zinc	37.4	0.400	"	40.3	92.8	80-120
Selenium	3.50	0.260	"	4.03	86.9	80-120

Duplicate (BHL0381-DUP1)

Source: 2411416-02

Prepared & Analyzed: 12/10/24

Arsenic	3.21	0.200	mg/kg dry	4.12	24.8	20	QR-04
Barium	351	0.400	"	202	54.0	20	QR-04
Cadmium	0.228	0.200	"	0.225	1.74	20	
Copper	4.12	0.400	"	3.99	3.19	20	
Lead	7.41	0.200	"	6.72	9.78	20	
Nickel	4.52	0.400	"	4.40	2.84	20	
Silver	0.0220	0.0200	"	0.0203	8.27	20	
Zinc	15.1	0.400	"	14.6	3.81	20	
Selenium	ND	0.260	"	ND		20	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0381 - EPA 3050B

Matrix Spike (BHL0381-MS1)

Source: 2411416-02

Prepared & Analyzed: 12/10/24

Arsenic	45.3	0.200	mg/kg dry	45.2	4.12	91.0	75-125				
Barium	255	0.400	"	45.2	202	118	75-125				
Cadmium	2.33	0.200	"	2.26	0.225	93.3	75-125				
Copper	29.8	0.400	"	45.2	3.99	57.1	75-125				QM-05
Lead	27.3	0.200	"	22.6	6.72	91.3	75-125				
Nickel	30.4	0.400	"	45.2	4.40	57.5	75-125				QM-05
Silver	2.09	0.0200	"	2.26	0.0203	91.6	75-125				
Zinc	41.7	0.400	"	45.2	14.6	59.9	75-125				QM-05
Selenium	3.39	0.260	"	4.52	ND	75.0	75-125				

Matrix Spike Dup (BHL0381-MSD1)

Source: 2411416-02

Prepared & Analyzed: 12/10/24

Arsenic	42.0	0.200	mg/kg dry	44.1	4.12	85.8	75-125	7.59	25		
Barium	223	0.400	"	44.1	202	47.6	75-125	13.5	25		QM-05
Cadmium	2.26	0.200	"	2.21	0.225	92.3	75-125	3.27	25		
Copper	29.1	0.400	"	44.1	3.99	56.8	75-125	2.52	25		QM-05
Lead	26.3	0.200	"	22.1	6.72	88.7	75-125	3.99	25		
Nickel	30.0	0.400	"	44.1	4.40	58.1	75-125	1.24	25		QM-05
Silver	2.04	0.0200	"	2.21	0.0203	91.4	75-125	2.75	25		
Zinc	40.8	0.400	"	44.1	14.6	59.4	75-125	2.15	25		QM-05
Selenium	3.26	0.260	"	4.41	ND	73.8	75-125	4.01	25		QM-05

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0448 - 3060A Mod

Blank (BHL0448-BLK1)

Prepared & Analyzed: 12/11/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHL0448-BS1)

Prepared & Analyzed: 12/11/24

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHL0448-DUP1)

Source: 2411332-01

Prepared & Analyzed: 12/11/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHL0448-MS1)

Source: 2411332-01

Prepared & Analyzed: 12/11/24

Chromium, Hexavalent 30.0 0.30 mg/kg dry 28.3 ND 106 75-125

Matrix Spike Dup (BHL0448-MSD1)

Source: 2411332-01

Prepared & Analyzed: 12/11/24

Chromium, Hexavalent 30.4 0.30 mg/kg dry 28.3 ND 108 75-125 1.50 20

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0371 - General Preparation

Blank (BHL0371-BLK1)

Prepared: 12/09/24 Analyzed: 12/10/24

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

LCS (BHL0371-BS1)

Prepared: 12/09/24 Analyzed: 12/10/24

Calcium	5.23	0.0500	mg/L wet	5.00	105	70-130
Magnesium	4.90	0.0500	"	5.00	98.0	70-130
Sodium	4.88	0.0500	"	5.00	97.5	70-130

Batch BHL0513 - General Preparation

Blank (BHL0513-BLK1)

Prepared: 12/11/24 Analyzed: 12/12/24

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

LCS (BHL0513-BS1)

Prepared: 12/11/24 Analyzed: 12/12/24

Calcium	4.80	0.0500	mg/L wet	5.00	96.0	70-130
Magnesium	4.21	0.0500	"	5.00	84.2	70-130
Sodium	4.14	0.0500	"	5.00	82.8	70-130

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

Project: Noble - Watkins 12-02 Flowline
 Project Number: UWRWE-A2399-ABN
 Project Manager: Daniel Simpson

Reported:
 12/18/24 12:20

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

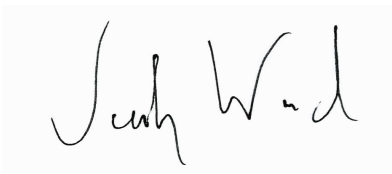
Summit Scientific

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

Batch BHL0406 - General Preparation

Duplicate (BHL0406-DUP1)		Source: 2411388-01		Prepared: 12/10/24 Analyzed: 12/11/24	
% Solids	84.7	%		82.1	3.08 20

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

Project: Noble - Watkins 12-02 Flowline
Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0373 - General Preparation

Blank (BHL0373-BLK1)

Prepared: 12/09/24 Analyzed: 12/10/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHL0373-BS1)

Prepared: 12/09/24 Analyzed: 12/10/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHL0373-DUP1)

Source: 2412159-01

Prepared: 12/09/24 Analyzed: 12/10/24

Specific Conductance (EC) 0.864 0.0100 mmhos/cm 0.901 4.16 20

Batch BHL0515 - General Preparation

Blank (BHL0515-BLK1)

Prepared: 12/11/24 Analyzed: 12/12/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHL0515-BS1)

Prepared: 12/11/24 Analyzed: 12/12/24

Specific Conductance (EC) 0.158 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHL0515-DUP1)

Source: 2411291-01

Prepared: 12/11/24 Analyzed: 12/12/24

Specific Conductance (EC) 3.93 0.0100 mmhos/cm 3.99 1.56 20

Summit Scientific

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

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 BHL0372 - General Preparation

LCS (BHL0372-BS1)		Prepared: 12/09/24 Analyzed: 12/10/24								
pH	9.19		pH Units	9.18		100	95-105			
Duplicate (BHL0372-DUP1)		Source: 2412159-01		Prepared: 12/09/24 Analyzed: 12/10/24						
pH	8.25		pH Units		8.34			1.08	20	

Batch BHL0514 - General Preparation

LCS (BHL0514-BS1)		Prepared: 12/11/24 Analyzed: 12/12/24								
pH	9.08		pH Units	9.18		98.9	95-105			
Duplicate (BHL0514-DUP1)		Source: 2411291-01		Prepared: 12/11/24 Analyzed: 12/12/24						
pH	7.54		pH Units		7.53			0.133	20	

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

Project: Noble - Watkins 12-02 Flowline

Project Number: UWRWE-A2399-ABN
Project Manager: Daniel Simpson

Reported:
12/18/24 12:20

Notes and Definitions

- S-07 The surrogate recovery was outside acceptance limits indicating a potential high bias. The sample did not exhibit concentrations above reporting level for analytes represented by this surrogate. Data quality is not affected.
- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference