

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 13, 2025

Mike Medina

Tasman Geosciences

4725 Independence St.

Wheat Ridge, CO 80033

RE: Noble - Erickson A4-12 Flowline

Work Order #2504057

Enclosed are the results of analyses for samples received by Summit Scientific on 04/02/25 17:47. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Amanda Stilwell For Paul Shrewsbury

President

Please Note - Out-of-Hold Results Included:

The 8260B GBTEXN 915 analyses were analyzed outside of allotted holding times due to delays at Summit Scientific.



Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
 Project Number: UWRWE-A4034-ABN
 Project Manager: Mike Medina

Reported:
 06/13/25 13:02

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-01@4'	2504057-01	Soil	04/02/25 10:40	04/02/25 17:47
FL01-02@4'	2504057-02	Soil	04/02/25 10:50	04/02/25 17:47
FL01-03@4'	2504057-03	Soil	04/02/25 11:10	04/02/25 17:47
BKG02@2'	2504057-04	Soil	04/02/25 11:20	04/02/25 17:47
BKG02@3'	2504057-05	Soil	04/02/25 11:25	04/02/25 17:47
BKG02@4'	2504057-06	Soil	04/02/25 11:30	04/02/25 17:47
BKG03@2'	2504057-07	Soil	04/02/25 11:35	04/02/25 17:47
BKG03@3'	2504057-08	Soil	04/02/25 11:40	04/02/25 17:47
BKG03@4'	2504057-09	Soil	04/02/25 11:45	04/02/25 17:47

Case Narrative

The 8260B GBTEXN 915 analyses were completed outside of allotted holding times due to delays at Summit Scientific.

This report has been revised to include the proper hold-time qualifiers.

This is a revision of the report originally sent on 05/23/2025 at 11:20 MT.

Summit Scientific

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Client: EN Noble / Tasman	Project Manager: Mike Medina	Send Invoice To: Company: Noble Energy
Address: 4725 N 6855 W 119th Ave In Attendance St	E-Mail: jason.davidson@chevron.com; tas-chevron-2@tasman-geo.com; rbueuf27@chevron.com	Project Name/Location: Ericusson A04-12 Flowline
City/State/Zip: What CO, 80020 CO, 80033	Project Name: Ericusson A04-12 Flowline	AFE#:
Phone: 303-487-1228 6N	Project Number:	PO/Billing Codes:
Sampler Name: E. Gooding-Lord		Contact: Jason Davidson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested					Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEXN - 8260B	1,2,4 & 1,3,5-TMB	TDS, Cl, SO4	Full 915-1 Suite	pH, EC, SAR, boron	
1	FL01-01 @4'	04/02/25	1040	2			X			X					X			
2	FL01-02 @4'		1050	↓														
3	FL01-03 @4'		1110	↓														
4	BK602 @2'		1120	↓												X	X	
5	BK602 @3'		1125	↓														
6	BK602 @4'		1130	↓														
7	BK603 @2'		1135	↓														
8	BK603 @3'		1140	↓														
9	BK603 @4'		1145	↓														
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by: Elise Gooding-Lord	Date/Time: 04/02/25 1345	Received by: Tasman Locibox	Date/Time: 04/02/25 1345	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Locibox	Date/Time: 4225	Received by: [Signature]	Date/Time: 4225	1 Day	Field ORP	
	1747		1747	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 2.9	Corrected Temperature: C	IR gun #:		HNO3 lot #:		



Tasman Geosciences
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Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-01@4'
2504057-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BID0677	04/11/25	05/05/25	EPA 8260B	I-02
Toluene	ND	0.0050		"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010		"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038		"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	I-02

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0439	110 %		50-150		"	"	"	"	I-02
Surrogate: Toluene-d8	0.0390	97.5 %		50-150		"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0402	100 %		50-150		"	"	"	"	I-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BID0679	04/11/25	05/15/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.41	67.3 %		50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-01@4'
2504057-01 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.129	0.00500	mg/kg	1	BID0571	04/10/25	05/10/25	EPA 8270E SIM	
Anthracene	0.158	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.180	0.00500	"	"	"	"	"	"	E
Benzo (a) pyrene	0.147	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.204	0.00500	"	"	"	"	"	"	E
Benzo (k) fluoranthene	0.0797	0.00500	"	"	"	"	"	"	
Chrysene	0.172	0.00500	"	"	"	"	"	"	E
Dibenz (a,h) anthracene	0.0263	0.00500	"	"	"	"	"	"	
Fluoranthene	0.272	0.00500	"	"	"	"	"	"	E
Fluorene	0.160	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.144	0.00500	"	"	"	"	"	"	
Pyrene	0.222	0.00500	"	"	"	"	"	"	E
1-Methylnaphthalene	0.0280	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	0.0553	0.00500	"	"	"	"	"	"	

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0205	61.6 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0222	66.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.06	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	

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Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-01@4'
2504057-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Barium	59.7	0.400	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	8.80	0.400	"	"	"	"	"	"	
Lead	8.47	0.200	"	"	"	"	"	"	
Nickel	4.10	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	22.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	65.5	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	47.7	0.0500	"	"	"	"	"	"	
Sodium	97.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.22	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 06/13/25 13:02

FL01-01@4'
2504057-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	78.1	%	1	BID0483	04/09/25	04/09/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.30	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.23		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

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06/13/25 13:02

FL01-02@4'
2504057-02 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BID0677	04/11/25	05/05/25	EPA 8260B	I-02
Toluene	ND	0.0050		"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010		"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038		"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	I-02

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0455	114 %		50-150		"	"	"	"	I-02
Surrogate: Toluene-d8	0.0392	97.9 %		50-150		"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0405	101 %		50-150		"	"	"	"	I-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BID0679	04/11/25	05/15/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.39	67.1 %		50-140		"	"	"	"	

PAH by EPA Method 8270E SIM

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06/13/25 13:02

FL01-02@4'
2504057-02 (Soil)

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PAH by EPA Method 8270E SIM

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0571	04/10/25	05/10/25	EPA 8270E 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	0.0100	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	0.00775	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0246	73.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0261	78.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
06/13/25 13:02

FL01-02@4'
2504057-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.94	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	111	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.77	0.400	"	"	"	"	"	"	
Lead	8.53	0.200	"	"	"	"	"	"	
Nickel	5.97	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	30.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	153	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	70.0	0.0500	"	"	"	"	"	"	
Sodium	143	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.40	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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FL01-02@4'
2504057-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.7		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.94	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.18		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

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Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-03@4'
2504057-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0677	04/11/25	05/05/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0461	115 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0390	97.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0406	101 %	50-150	"	"	"	"	"	I-02

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0679	04/11/25	05/15/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.83	70.6 %	50-140	"	"	"	"	"	

PAH by EPA Method 8270E SIM

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-03@4'
2504057-03 (Soil)

Summit Scientific

PAH by EPA Method 8270E SIM

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.00798	0.00500	mg/kg	1	BID0571	04/10/25	05/10/25	EPA 8270E SIM	
Anthracene	0.0136	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0150	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00908	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0161	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0142	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0352	0.00500	"	"	"	"	"	"	
Fluorene	0.0105	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00616	0.00500	"	"	"	"	"	"	
Pyrene	0.0261	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0204	61.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 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
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-03@4'
2504057-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.22	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	74.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.36	0.400	"	"	"	"	"	"	
Lead	8.87	0.200	"	"	"	"	"	"	
Nickel	4.48	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	28.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	87.4	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	60.8	0.0500	"	"	"	"	"	"	
Sodium	109	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.19	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

FL01-03@4'
2504057-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.1		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.55	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.21		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG02@2'
2504057-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.54	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	126	0.400	"	"	"	"	"	"	
Cadmium	0.268	0.200	"	"	"	"	"	"	
Copper	8.71	0.400	"	"	"	"	"	"	
Lead	8.64	0.200	"	"	"	"	"	"	
Nickel	9.13	0.400	"	"	"	"	"	"	
Silver	0.0377	0.0200	"	"	"	"	"	"	
Zinc	32.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	117	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	41.9	0.0500	"	"	"	"	"	"	
Sodium	98.4	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG02@2'
2504057-04 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.99	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	82.7		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.57	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.19		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG02@3'
2504057-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.07	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	371	0.400	"	"	"	"	"	"	
Cadmium	0.362	0.200	"	"	"	"	"	"	
Copper	7.56	0.400	"	"	"	"	"	"	
Lead	7.90	0.200	"	"	"	"	"	"	
Nickel	7.83	0.400	"	"	"	"	"	"	
Silver	0.0282	0.0200	"	"	"	"	"	"	
Zinc	28.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	52.8	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	20.2	0.0500	"	"	"	"	"	"	
Sodium	36.9	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG02@3'
2504057-05 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.10	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.2		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.688	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.60		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG02@4'
2504057-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.13	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	322	0.400	"	"	"	"	"	"	
Cadmium	0.307	0.200	"	"	"	"	"	"	
Copper	6.66	0.400	"	"	"	"	"	"	
Lead	7.59	0.200	"	"	"	"	"	"	
Nickel	6.99	0.400	"	"	"	"	"	"	
Silver	0.0239	0.0200	"	"	"	"	"	"	
Zinc	26.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	64.7	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	22.3	0.0500	"	"	"	"	"	"	
Sodium	36.2	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG02@4'
2504057-06 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.990	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	80.8		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.742	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.54		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline

Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG03@2'
2504057-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.40	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	123	0.400	"	"	"	"	"	"	
Cadmium	0.212	0.200	"	"	"	"	"	"	
Copper	8.45	0.400	"	"	"	"	"	"	
Lead	10.5	0.200	"	"	"	"	"	"	
Nickel	8.69	0.400	"	"	"	"	"	"	
Silver	0.0305	0.0200	"	"	"	"	"	"	
Zinc	35.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	34.0	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	11.9	0.0500	"	"	"	"	"	"	
Sodium	41.8	0.0500	"	"	"	"	"	"	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG03@2'
2504057-07 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.57	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.0		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.576	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.43		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG03@3'
2504057-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.03	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	85.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.75	0.400	"	"	"	"	"	"	
Lead	6.80	0.200	"	"	"	"	"	"	
Nickel	6.72	0.400	"	"	"	"	"	"	
Silver	0.0309	0.0200	"	"	"	"	"	"	
Zinc	23.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	175	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	60.1	0.0500	"	"	"	"	"	"	
Sodium	130	0.0500	"	"	"	"	"	"	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG03@3'
2504057-08 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.16	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.01	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.34		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG03@4'
2504057-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Boron	ND	2.00	mg/L dry	1	BID0332	04/07/25	04/15/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.16	0.200	mg/kg dry	1	BID0425	04/08/25	05/16/25	EPA 6020B	
Barium	92.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.63	0.400	"	"	"	"	"	"	
Lead	6.89	0.200	"	"	"	"	"	"	
Nickel	2.73	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0516	04/09/25	04/11/25	EPA 7196A	

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

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	104	0.0500	mg/L dry	1	BID1436	04/28/25	05/11/25	EPA 6020B	
Magnesium	62.0	0.0500	"	"	"	"	"	"	
Sodium	139	0.0500	"	"	"	"	"	"	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

BKG03@4'
2504057-09 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.67	0.00100	units	1	BIE0457	05/11/25	05/11/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.9		%	1	BID0483	04/09/25	04/09/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.75	0.0100	mmhos/cm	1	BID1438	04/28/25	04/30/25	EPA 120.1	

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

Date Sampled: **04/02/25 11:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BID1441	04/28/25	04/30/25	EPA 9045D	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

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 BID0677 - EPA 5030 Soil MS

Blank (BID0677-BLK1)

Prepared: 04/11/25 Analyzed: 05/05/25

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>	0.0450		"	0.0400		112	50-150				
<i>Surrogate: Toluene-d8</i>	0.0393		"	0.0400		98.2	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0405		"	0.0400		101	50-150				

LCS (BID0677-BS1)

Prepared: 04/11/25 Analyzed: 05/05/25

Benzene	0.0952	0.0020	mg/kg	0.100		95.2	70-130				
Toluene	0.0990	0.0050	"	0.100		99.0	70-130				
Ethylbenzene	0.0943	0.0050	"	0.100		94.3	70-130				
m,p-Xylene	0.192	0.010	"	0.200		96.0	70-130				
o-Xylene	0.0977	0.0050	"	0.100		97.7	70-130				
1,2,4-Trimethylbenzene	0.0974	0.0050	"	0.100		97.4	70-130				
1,3,5-Trimethylbenzene	0.0950	0.0050	"	0.100		95.0	70-130				
Naphthalene	0.0961	0.0038	"	0.100		96.1	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0460		"	0.0400		115	50-150				
<i>Surrogate: Toluene-d8</i>	0.0394		"	0.0400		98.5	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0408		"	0.0400		102	50-150				

Matrix Spike (BID0677-MS1)

Source: 2504023-01

Prepared: 04/11/25 Analyzed: 05/05/25

Benzene	0.100	0.0020	mg/kg	0.100	ND	100	70-130				
Toluene	0.104	0.0050	"	0.100	ND	104	70-130				
Ethylbenzene	0.0992	0.0050	"	0.100	ND	99.2	70-130				
m,p-Xylene	0.201	0.010	"	0.200	ND	101	70-130				
o-Xylene	0.100	0.0050	"	0.100	ND	100	70-130				
1,2,4-Trimethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130				
1,3,5-Trimethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130				
Naphthalene	0.0854	0.0038	"	0.100	ND	85.4	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0445		"	0.0400		111	50-150				
<i>Surrogate: Toluene-d8</i>	0.0394		"	0.0400		98.5	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0400		"	0.0400		100	50-150				

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

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 BID0677 - EPA 5030 Soil MS

Matrix Spike Dup (BID0677-MSD1)	Source: 2504023-01			Prepared: 04/11/25 Analyzed: 05/05/25						
Benzene	0.0825	0.0020	mg/kg	0.100	ND	82.5	70-130	19.3	30	
Toluene	0.0849	0.0050	"	0.100	ND	84.9	70-130	19.9	30	
Ethylbenzene	0.0779	0.0050	"	0.100	ND	77.9	70-130	24.1	30	
m,p-Xylene	0.158	0.010	"	0.200	ND	79.0	70-130	24.1	30	
o-Xylene	0.0818	0.0050	"	0.100	ND	81.8	70-130	20.3	30	
1,2,4-Trimethylbenzene	0.0779	0.0050	"	0.100	ND	77.9	70-130	26.1	30	
1,3,5-Trimethylbenzene	0.0764	0.0050	"	0.100	ND	76.4	70-130	26.8	30	
Naphthalene	0.0705	0.0038	"	0.100	ND	70.5	70-130	19.2	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0447</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.8</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0401</i>		<i>"</i>	<i>0.0400</i>		<i>100</i>	<i>50-150</i>			

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BID0679 - EPA 3550A

Blank (BID0679-BLK1)

Prepared: 04/11/25 Analyzed: 05/15/25

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.7		"	12.5		109	50-140				

LCS (BID0679-BS1)

Prepared: 04/11/25 Analyzed: 05/15/25

C10-C28 (DRO)	556	50	mg/kg	500		111	50-140				
Surrogate: <i>o</i> -Terphenyl	12.2		"	12.5		97.3	50-140				

Matrix Spike (BID0679-MS1)

Source: 2504023-01

Prepared: 04/11/25 Analyzed: 05/15/25

C10-C28 (DRO)	533	50	mg/kg	500	ND	107	50-140				
Surrogate: <i>o</i> -Terphenyl	10.9		"	12.5		87.4	50-140				

Matrix Spike Dup (BID0679-MSD1)

Source: 2504023-01

Prepared: 04/11/25 Analyzed: 05/15/25

C10-C28 (DRO)	556	50	mg/kg	500	ND	111	50-140	4.17	20		
Surrogate: <i>o</i> -Terphenyl	10.6		"	12.5		84.7	50-140				

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

PAH by EPA Method 8270E SIM - Quality Control
Summit Scientific

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

Batch BID0571 - EPA 5030 Soil MS

Blank (BID0571-BLK1)

Prepared: 04/10/25 Analyzed: 05/09/25

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0304		"	0.0333		91.1	40-140			
Surrogate: Fluoranthene-d10	0.0301		"	0.0333		90.2	40-140			

LCS (BID0571-BS1)

Prepared: 04/10/25 Analyzed: 05/09/25

Acenaphthene	0.0261	0.00500	mg/kg	0.0333		78.3	40-140			
Anthracene	0.0280	0.00500	"	0.0333		83.9	40-140			
Benzo (a) anthracene	0.0292	0.00500	"	0.0333		87.5	40-140			
Benzo (a) pyrene	0.0292	0.00500	"	0.0333		87.6	40-140			
Benzo (b) fluoranthene	0.0305	0.00500	"	0.0333		91.6	40-140			
Benzo (k) fluoranthene	0.0306	0.00500	"	0.0333		91.8	40-140			
Chrysene	0.0284	0.00500	"	0.0333		85.1	40-140			
Dibenz (a,h) anthracene	0.0222	0.00500	"	0.0333		66.5	40-140			
Fluoranthene	0.0282	0.00500	"	0.0333		84.7	40-140			
Fluorene	0.0258	0.00500	"	0.0333		77.5	40-140			
Indeno (1,2,3-cd) pyrene	0.0142	0.00500	"	0.0333		42.5	40-140			
Pyrene	0.0270	0.00500	"	0.0333		81.0	40-140			
1-Methylnaphthalene	0.0285	0.00500	"	0.0333		85.6	40-140			
2-Methylnaphthalene	0.0285	0.00500	"	0.0333		85.4	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0314		"	0.0333		94.1	40-140			
Surrogate: Fluoranthene-d10	0.0309		"	0.0333		92.6	40-140			

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

PAH by EPA Method 8270E SIM - Quality Control

Summit Scientific

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

Batch BID0571 - EPA 5030 Soil MS

Matrix Spike (BID0571-MS1)		Source: 2504051-01			Prepared: 04/10/25		Analyzed: 05/09/25	
Acenaphthene	0.0207	0.00500	mg/kg	0.0333	ND	62.0	40-140	
Anthracene	0.0222	0.00500	"	0.0333	ND	66.7	40-140	
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.5	40-140	
Benzo (a) pyrene	0.0226	0.00500	"	0.0333	ND	67.9	40-140	
Benzo (b) fluoranthene	0.0233	0.00500	"	0.0333	ND	70.0	40-140	
Benzo (k) fluoranthene	0.0233	0.00500	"	0.0333	ND	69.9	40-140	
Chrysene	0.0231	0.00500	"	0.0333	ND	69.2	40-140	
Dibenz (a,h) anthracene	0.0191	0.00500	"	0.0333	ND	57.3	40-140	
Fluoranthene	0.0232	0.00500	"	0.0333	ND	69.7	40-140	
Fluorene	0.0217	0.00500	"	0.0333	ND	65.1	40-140	
Indeno (1,2,3-cd) pyrene	0.0192	0.00500	"	0.0333	ND	57.5	40-140	
Pyrene	0.0218	0.00500	"	0.0333	ND	65.4	40-140	
1-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.0	40-140	
2-Methylnaphthalene	0.0204	0.00500	"	0.0333	ND	61.1	40-140	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0225</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>67.4</i>	<i>40-140</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0256</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>76.8</i>	<i>40-140</i>	

Matrix Spike Dup (BID0571-MSD1)		Source: 2504051-01			Prepared: 04/10/25		Analyzed: 05/09/25	
Acenaphthene	0.0213	0.00500	mg/kg	0.0333	ND	63.8	40-140	2.92 30
Anthracene	0.0231	0.00500	"	0.0333	ND	69.4	40-140	3.90 30
Benzo (a) anthracene	0.0246	0.00500	"	0.0333	ND	73.8	40-140	3.18 30
Benzo (a) pyrene	0.0238	0.00500	"	0.0333	ND	71.4	40-140	5.03 30
Benzo (b) fluoranthene	0.0244	0.00500	"	0.0333	ND	73.1	40-140	4.39 30
Benzo (k) fluoranthene	0.0238	0.00500	"	0.0333	ND	71.5	40-140	2.28 30
Chrysene	0.0234	0.00500	"	0.0333	ND	70.1	40-140	1.35 30
Dibenz (a,h) anthracene	0.0216	0.00500	"	0.0333	ND	64.9	40-140	12.6 30
Fluoranthene	0.0238	0.00500	"	0.0333	ND	71.4	40-140	2.47 30
Fluorene	0.0226	0.00500	"	0.0333	ND	67.8	40-140	4.00 30
Indeno (1,2,3-cd) pyrene	0.0213	0.00500	"	0.0333	ND	64.0	40-140	10.8 30
Pyrene	0.0221	0.00500	"	0.0333	ND	66.4	40-140	1.54 30
1-Methylnaphthalene	0.0233	0.00500	"	0.0333	ND	69.9	40-140	12.0 30
2-Methylnaphthalene	0.0235	0.00500	"	0.0333	ND	70.6	40-140	14.5 30
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0249</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>74.7</i>	<i>40-140</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0265</i>	<i>"</i>	<i>"</i>	<i>0.0333</i>	<i>"</i>	<i>79.5</i>	<i>40-140</i>	

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

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

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

Batch BID0332 - EPA 3050B

Blank (BID0332-BLK1)

Prepared: 04/07/25 Analyzed: 04/15/25

Boron ND 2.00 mg/L wet

LCS (BID0332-BS1)

Prepared: 04/07/25 Analyzed: 04/15/25

Boron 4.93 2.00 mg/L wet 5.00 98.6 80-120

Duplicate (BID0332-DUP1)

Source: 2504057-01

Prepared: 04/07/25 Analyzed: 04/15/25

Boron 0.558 2.00 mg/L dry 0.635 12.9 20

Matrix Spike (BID0332-MS1)

Source: 2504057-01

Prepared: 04/07/25 Analyzed: 04/15/25

Boron 7.12 2.00 mg/L dry 6.39 0.635 101 75-125

Matrix Spike Dup (BID0332-MSD1)

Source: 2504057-01

Prepared: 04/07/25 Analyzed: 04/15/25

Boron 7.11 2.00 mg/L dry 6.39 0.635 101 75-125 0.191 25

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

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 BID0425 - EPA 3050B

Blank (BID0425-BLK1)

Prepared: 04/08/25 Analyzed: 05/16/25

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 (BID0425-BS1)

Prepared: 04/08/25 Analyzed: 05/16/25

Arsenic	44.9	0.200	mg/kg wet	41.0	110	80-120
Barium	43.8	0.400	"	41.0	107	80-120
Cadmium	2.19	0.200	"	2.05	107	80-120
Copper	46.9	0.400	"	41.0	114	80-120
Lead	21.3	0.200	"	20.5	104	80-120
Nickel	46.4	0.400	"	41.0	113	80-120
Silver	2.15	0.0200	"	2.05	105	80-120
Zinc	45.7	0.400	"	41.0	111	80-120
Selenium	4.23	0.260	"	4.10	103	80-120

Duplicate (BID0425-DUP1)

Source: 2504055-19

Prepared: 04/08/25 Analyzed: 05/16/25

Arsenic	0.555	0.200	mg/kg dry	0.524	5.86	20
Barium	37.6	0.400	"	37.1	1.27	20
Cadmium	0.0363	0.200	"	0.0382	5.25	20
Copper	1.86	0.400	"	2.05	9.73	20
Lead	2.50	0.200	"	4.36	54.2	20
Nickel	2.01	0.400	"	2.08	3.54	20
Silver	0.00906	0.0200	"	0.00872	3.84	20
Zinc	9.03	0.400	"	11.0	19.9	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline

Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

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 BID0425 - EPA 3050B

Matrix Spike (BID0425-MS1)	Source: 2504055-19			Prepared: 04/08/25		Analyzed: 05/16/25					
Arsenic	24.7	0.200	mg/kg dry	41.9	0.524	57.7	75-125				QM-05
Barium	86.4	0.400	"	41.9	37.1	118	75-125				
Cadmium	2.21	0.200	"	2.09	0.0382	104	75-125				
Copper	42.4	0.400	"	41.9	2.05	96.5	75-125				
Lead	23.9	0.200	"	20.9	4.36	93.5	75-125				
Nickel	42.1	0.400	"	41.9	2.08	95.5	75-125				
Silver	2.12	0.0200	"	2.09	0.00872	101	75-125				
Zinc	51.4	0.400	"	41.9	11.0	96.5	75-125				
Selenium	4.15	0.260	"	4.19	ND	99.1	75-125				

Matrix Spike Dup (BID0425-MSD1)	Source: 2504055-19			Prepared: 04/08/25		Analyzed: 05/16/25					
Arsenic	24.5	0.200	mg/kg dry	41.2	0.524	58.2	75-125	0.697	25		QM-05
Barium	80.4	0.400	"	41.2	37.1	105	75-125	7.15	25		
Cadmium	2.12	0.200	"	2.06	0.0382	101	75-125	4.33	25		
Copper	40.5	0.400	"	41.2	2.05	93.3	75-125	4.67	25		
Lead	23.3	0.200	"	20.6	4.36	91.9	75-125	2.70	25		
Nickel	40.0	0.400	"	41.2	2.08	92.0	75-125	5.14	25		
Silver	2.05	0.0200	"	2.06	0.00872	99.3	75-125	3.00	25		
Zinc	48.3	0.400	"	41.2	11.0	90.5	75-125	6.25	25		
Selenium	4.37	0.260	"	4.12	ND	106	75-125	5.02	25		

Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

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 BID0516 - 3060A Mod

Blank (BID0516-BLK1)

Prepared: 04/09/25 Analyzed: 04/11/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BID0516-BS1)

Prepared: 04/09/25 Analyzed: 04/11/25

Chromium, Hexavalent 23.4 0.30 mg/kg wet 24.5 95.4 80-120

Duplicate (BID0516-DUP1)

Source: 2504057-01

Prepared: 04/09/25 Analyzed: 04/11/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BID0516-MS1)

Source: 2504057-01

Prepared: 04/09/25 Analyzed: 04/11/25

Chromium, Hexavalent 30.0 0.30 mg/kg dry 32.0 ND 93.8 75-125

Matrix Spike Dup (BID0516-MSD1)

Source: 2504057-01

Prepared: 04/09/25 Analyzed: 04/11/25

Chromium, Hexavalent 29.4 0.30 mg/kg dry 31.7 ND 92.8 75-125 2.07 20

Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
 Project Number: UWRWE-A4034-ABN
 Project Manager: Mike Medina

Reported:
 06/13/25 13:02

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 BID1436 - General Preparation

Blank (BID1436-BLK1)

Prepared: 04/28/25 Analyzed: 05/11/25

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

LCS (BID1436-BS1)

Prepared: 04/28/25 Analyzed: 05/11/25

Calcium	4.52	0.0500	mg/L wet	5.00	90.5	70-130				
Magnesium	4.88	0.0500	"	5.00	97.6	70-130				
Sodium	4.63	0.0500	"	5.00	92.5	70-130				

Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
 Project Number: UWRWE-A4034-ABN
 Project Manager: Mike Medina

Reported:
 06/13/25 13:02

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

Summit Scientific

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

Batch BID0483 - General Preparation

Duplicate (BID0483-DUP1)

Source: 2504039-31

Prepared & Analyzed: 04/09/25

% Solids	85.2		%		85.5			0.399	20	
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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
 Project Number: UWRWE-A4034-ABN
 Project Manager: Mike Medina

Reported:
 06/13/25 13:02

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 BID1438 - General Preparation

Blank (BID1438-BLK1)

Prepared: 04/28/25 Analyzed: 04/30/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BID1438-BS1)

Prepared: 04/28/25 Analyzed: 04/30/25

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

Duplicate (BID1438-DUP1)

Source: 2504039-31

Prepared: 04/28/25 Analyzed: 04/30/25

Specific Conductance (EC) 1.26 0.0100 mmhos/cm 1.29 2.36 20

Summit Scientific

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Tasman Geosciences
 4725 Independence St.
 Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline
 Project Number: UWRWE-A4034-ABN
 Project Manager: Mike Medina

Reported:
 06/13/25 13:02

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 BID1441 - General Preparation

LCS (BID1441-BS1)

Prepared: 04/28/25 Analyzed: 04/30/25

pH	9.09	pH Units	9.18	99.0	95-105
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Duplicate (BID1441-DUP1)

Source: 2504039-31

Prepared: 04/28/25 Analyzed: 04/30/25

pH	8.31	pH Units	8.32	0.120	20
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Summit Scientific

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Tasman Geosciences
4725 Independence St.
Wheat Ridge CO, 80033

Project: Noble - Erickson A4-12 Flowline

Project Number: UWRWE-A4034-ABN
Project Manager: Mike Medina

Reported:
06/13/25 13:02

Notes and Definitions

- 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. Only applies to source/DUP and MS/MSD pairs.
- 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.
- I-02 Sample was prepared and/or analyzed outside of holding time.
- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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