

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 01, 2025

Andy Sagen

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Wade 68N59W 59NWNE TB

Work Order #2501369

Enclosed are the results of analyses for samples received by Summit Scientific on 01/24/25 17:50. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President



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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-FL@5'	2501369-01	Soil	01/24/25 09:54	01/24/25 17:50
SEP01-DL-OIL@2.5'	2501369-02	Soil	01/24/25 09:55	01/24/25 17:50
SEP01-DL-WATER@2.5'	2501369-03	Soil	01/24/25 09:56	01/24/25 17:50
GS02@0.5'	2501369-04	Soil	01/24/25 10:38	01/24/25 17:50

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

Lab ID	Page 1 of 1
2501369	

^{to NOBLE} Client: PDC/Tasman	Send Data To: Project Manager: Andy Sagen	Send Invoice To: Company: PDC Energy Noble
Address: 6855 W. 119th Ave.	E-Mail: tas-chevron-1@tasman-geo.com	Project Name/Location: WADE 68N59W 29N46E T3
City/State/Zip: Broomfield/CO/ 80020	RBUEUF27@chevron.com	AFE#: UWRWE - A4246 - ABN
Phone: (972) 834-6036	Project Name: WADE 68N59W 29N46E T3	PO/Billing Codes:
Sampler Name: Jess O'Neal	Project Number: 37837	Contact: Karen Olson ^{SO} Jason Davidson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD	
1	SEPOI-FL@5'	1/24/25	9:54	2																SAR, EC, pH by saturated paste	
2	SEPOI-DL-OIL@2.5'	I	9:55	2																	
3	SEPOI-DL-WATER@2.5'	I	9:56	2																	
4	GSO2@0.5'	I	10:38	2																	
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: Jess O'Neal	Date/Time: 1/24/25 4:20	Received by: Tasman Lock Box	Date/Time: 1/24/25 4:20	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lock Box	Date/Time: 1/24/25 1:50	Received by: [Signature]	Date/Time: 1/24/25 1:50	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 7.3	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:	Standard	<input checked="" type="checkbox"/> Field Turb.	



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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

SEP01-FL@5'
2501369-01 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BIB0178	02/05/25	02/12/25	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0421	105 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.1 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BIB0180	02/05/25	02/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	8.63	69.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
04/01/25 10:38

SEP01-FL@5'
2501369-01 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0025	02/03/25	02/15/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0129	38.7 %	40-140		"	"	"	"	E
Surrogate: Fluoranthene-d10	0.0138	41.5 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1395	02/25/25	03/12/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
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SEP01-FL@5'
2501369-01 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.13	0.200	mg/kg dry	1	BIC0412	03/07/25	03/27/25	EPA 6020B	
Barium	332	0.400	"	"	"	"	"	"	
Cadmium	0.674	0.200	"	"	"	"	"	"	
Copper	7.48	0.400	"	"	"	"	"	"	
Lead	14.1	0.200	"	"	"	"	"	"	
Nickel	7.03	0.400	"	"	"	"	"	"	
Silver	0.0605	0.0200	"	"	"	"	"	"	
Zinc	27.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0407	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	302	0.0500	mg/L dry	1	BIB0974	02/18/25	02/26/25	EPA 6020B	
Magnesium	14.3	0.0500	"	"	"	"	"	"	
Sodium	42.9	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.655	0.00100	units	1	BIB1575	02/27/25	02/27/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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SEP01-FL@5'
2501369-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

% Solids	77.6	%	1	BIB0458	02/10/25	02/11/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.216	0.0100	mmhos/cm	1	BIB0979	02/18/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 09:54**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.81		pH Units	1	BIB0977	02/18/25	02/19/25	EPA 9045D	

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Project: Noble - Wade 68N59W 59NWN TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

SEP01-DL-OIL@2.5'
2501369-02 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB0178	02/05/25	02/12/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIB0180	02/05/25	02/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.88	63.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Reported:
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SEP01-DL-OIL@2.5'
2501369-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0025	02/03/25	02/15/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0158	47.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.4 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1395	02/25/25	03/12/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
04/01/25 10:38

SEP01-DL-OIL@2.5'
2501369-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.49	0.200	mg/kg dry	1	BIC0412	03/07/25	03/27/25	EPA 6020B
Barium	175	0.400	"	"	"	"	"	"
Cadmium	0.310	0.200	"	"	"	"	"	"
Copper	4.28	0.400	"	"	"	"	"	"
Lead	9.52	0.200	"	"	"	"	"	"
Nickel	6.31	0.400	"	"	"	"	"	"
Silver	0.0276	0.0200	"	"	"	"	"	"
Zinc	17.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0407	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	578	0.0500	mg/L dry	1	BIB0974	02/18/25	02/26/25	EPA 6020B	
Magnesium	20.9	0.0500	"	"	"	"	"	"	
Sodium	14.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.156	0.00100	units	1	BIB1575	02/27/25	02/27/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Reported:
04/01/25 10:38

SEP01-DL-OIL@2.5'
2501369-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	85.6	%	1	BIB0458	02/10/25	02/11/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.138	0.0100	mmhos/cm	1	BIB0979	02/18/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 09:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.80		pH Units	1	BIB0977	02/18/25	02/19/25	EPA 9045D	

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Reported:
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SEP01-DL-WATER@2.5'
2501369-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BIB0178	02/05/25	02/12/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0442	111 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0406	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BIB0180	02/05/25	02/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.51	60.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

SEP01-DL-WATER@2.5'
2501369-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0025	02/03/25	02/08/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0143	43.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0214	64.2 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1395	02/25/25	03/12/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 09:56**

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 - Wade 68N59W 59NWN TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

SEP01-DL-WATER@2.5'
2501369-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	3.30	0.200	mg/kg dry	1	BIC0412	03/07/25	03/27/25	EPA 6020B
Barium	142	0.400	"	"	"	"	"	"
Cadmium	0.319	0.200	"	"	"	"	"	"
Copper	4.82	0.400	"	"	"	"	"	"
Lead	15.0	0.200	"	"	"	"	"	"
Nickel	6.72	0.400	"	"	"	"	"	"
Silver	0.0337	0.0200	"	"	"	"	"	"
Zinc	19.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0407	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	873	0.0500	mg/L dry	1	BIB0974	02/18/25	02/26/25	EPA 6020B	
Magnesium	32.2	0.0500	"	"	"	"	"	"	
Sodium	14.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.132	0.00100	units	1	BIB1575	02/27/25	02/27/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 09:56**

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 - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

SEP01-DL-WATER@2.5'
2501369-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.7	%	1	BIB0458	02/10/25	02/11/25	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.139	0.0100	mmhos/cm	1	BIB0979	02/18/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.72		pH Units	1	BIB0977	02/18/25	02/19/25	EPA 9045D	

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

Project: Noble - Wade 68N59W 59NWN TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

GS02@0.5'
2501369-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BIB0178	02/05/25	02/12/25	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0427	107 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BIB0180	02/05/25	02/06/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	8.13	65.0 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWN TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

GS02@0.5'
2501369-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BIB0025	02/03/25	02/08/25	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0171	51.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0262	78.7 %	40-140		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BIB1395	02/25/25	03/12/25	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **01/24/25 10:38**

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 - Wade 68N59W 59NWNE TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

GS02@0.5'
2501369-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.42	0.200	mg/kg dry	1	BIC0412	03/07/25	03/27/25	EPA 6020B	
Barium	25.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.09	0.400	"	"	"	"	"	"	
Lead	2.39	0.200	"	"	"	"	"	"	
Nickel	4.87	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BIB0407	02/08/25	02/08/25	EPA 7196A	

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

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	37.3	0.0500	mg/L dry	1	BIB0974	02/18/25	02/26/25	EPA 6020B	
Magnesium	9.05	0.0500	"	"	"	"	"	"	
Sodium	2.33	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0888	0.00100	units	1	BIB1575	02/27/25	02/27/25	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

GS02@0.5'
2501369-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.0		%	1	BIB0458	02/10/25	02/11/25	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0517	0.0100	mmhos/cm	1	BIB0979	02/18/25	02/19/25	EPA 120.1	

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

Date Sampled: **01/24/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.12		pH Units	1	BIB0977	02/18/25	02/19/25	EPA 9045D	

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0178 - EPA 5030 Soil MS

Blank (BIB0178-BLK1)

Prepared: 02/05/25 Analyzed: 02/11/25

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	"								
Surrogate: 1,2-Dichloroethane-d4	0.0450		"	0.0400		112	50-150				
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150				
Surrogate: 4-Bromofluorobenzene	0.0407		"	0.0400		102	50-150				

LCS (BIB0178-BS1)

Prepared: 02/05/25 Analyzed: 02/11/25

Benzene	0.0977	0.0020	mg/kg	0.100		97.7	70-130				
Toluene	0.0947	0.0050	"	0.100		94.7	70-130				
Ethylbenzene	0.0966	0.0050	"	0.100		96.6	70-130				
m,p-Xylene	0.193	0.010	"	0.200		96.7	70-130				
o-Xylene	0.0977	0.0050	"	0.100		97.7	70-130				
1,2,4-Trimethylbenzene	0.0959	0.0050	"	0.100		95.9	70-130				
1,3,5-Trimethylbenzene	0.0952	0.0050	"	0.100		95.2	70-130				
Naphthalene	0.0920	0.0038	"	0.100		92.0	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0425		"	0.0400		106	50-150				
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	50-150				
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150				

Matrix Spike (BIB0178-MS1)

Source: 2501363-01

Prepared: 02/05/25 Analyzed: 02/11/25

Benzene	0.0947	0.0020	mg/kg	0.100	ND	94.7	70-130				
Toluene	0.0920	0.0050	"	0.100	ND	92.0	70-130				
Ethylbenzene	0.0882	0.0050	"	0.100	ND	88.2	70-130				
m,p-Xylene	0.175	0.010	"	0.200	ND	87.7	70-130				
o-Xylene	0.0877	0.0050	"	0.100	ND	87.7	70-130				
1,2,4-Trimethylbenzene	0.0823	0.0050	"	0.100	ND	82.3	70-130				
1,3,5-Trimethylbenzene	0.0824	0.0050	"	0.100	ND	82.4	70-130				
Naphthalene	0.101	0.0038	"	0.100	0.0187	82.1	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0451		"	0.0400		113	50-150				
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150				
Surrogate: 4-Bromofluorobenzene	0.0409		"	0.0400		102	50-150				

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

Project: Noble - Wade 68N59W 59NWNE TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0178 - EPA 5030 Soil MS

Matrix Spike Dup (BIB0178-MSD1)	Source: 2501363-01			Prepared: 02/05/25 Analyzed: 02/11/25						
Benzene	0.0869	0.0020	mg/kg	0.100	ND	86.9	70-130	8.62	30	
Toluene	0.0856	0.0050	"	0.100	ND	85.6	70-130	7.30	30	
Ethylbenzene	0.0813	0.0050	"	0.100	ND	81.3	70-130	8.18	30	
m,p-Xylene	0.162	0.010	"	0.200	ND	80.8	70-130	8.21	30	
o-Xylene	0.0826	0.0050	"	0.100	ND	82.6	70-130	5.92	30	
1,2,4-Trimethylbenzene	0.0754	0.0050	"	0.100	ND	75.4	70-130	8.75	30	
1,3,5-Trimethylbenzene	0.0758	0.0050	"	0.100	ND	75.8	70-130	8.46	30	
Naphthalene	0.0904	0.0038	"	0.100	0.0187	71.8	70-130	10.8	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0439</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0406</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0404</i>		<i>"</i>	<i>0.0400</i>		<i>101</i>	<i>50-150</i>			

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BIB0180 - EPA 3550A

Blank (BIB0180-BLK1)

Prepared & Analyzed: 02/05/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.3		"	12.5		90.5	30-150			

LCS (BIB0180-BS1)

Prepared & Analyzed: 02/05/25

C10-C28 (DRO)	454	50	mg/kg	500		90.8	70-130			
Surrogate: <i>o</i> -Terphenyl	11.2		"	12.5		89.6	30-150			

Matrix Spike (BIB0180-MS1)

Source: 2501363-01

Prepared & Analyzed: 02/05/25

C10-C28 (DRO)	386	50	mg/kg	500	ND	77.2	70-130			
Surrogate: <i>o</i> -Terphenyl	10.7		"	12.5		85.9	30-150			

Matrix Spike Dup (BIB0180-MSD1)

Source: 2501363-01

Prepared & Analyzed: 02/05/25

C10-C28 (DRO)	365	50	mg/kg	500	ND	72.9	70-130	5.64	20	
Surrogate: <i>o</i> -Terphenyl	10.4		"	12.5		83.5	30-150			

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BIB0025 - EPA 5030 Soil MS

Blank (BIB0025-BLK1)

Prepared: 02/03/25 Analyzed: 02/08/25

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	0.0211		"	0.0333	63.3	40-140					
Surrogate: Fluoranthene-d10	0.0166		"	0.0333	49.9	40-140					

LCS (BIB0025-BS1)

Prepared: 02/03/25 Analyzed: 02/08/25

Acenaphthene	0.0188	0.00500	mg/kg	0.0333	56.4	40-140					
Anthracene	0.0183	0.00500	"	0.0333	54.9	40-140					
Benzo (a) anthracene	0.0196	0.00500	"	0.0333	58.7	40-140					
Benzo (a) pyrene	0.0178	0.00500	"	0.0333	53.4	40-140					
Benzo (b) fluoranthene	0.0193	0.00500	"	0.0333	57.8	40-140					
Benzo (k) fluoranthene	0.0184	0.00500	"	0.0333	55.3	40-140					
Chrysene	0.0183	0.00500	"	0.0333	55.0	40-140					
Dibenz (a,h) anthracene	0.0168	0.00500	"	0.0333	50.3	40-140					
Fluoranthene	0.0214	0.00500	"	0.0333	64.2	40-140					
Fluorene	0.0187	0.00500	"	0.0333	56.2	40-140					
Indeno (1,2,3-cd) pyrene	0.0174	0.00500	"	0.0333	52.3	40-140					
Pyrene	0.0171	0.00500	"	0.0333	51.4	40-140					
1-Methylnaphthalene	0.0167	0.00500	"	0.0333	50.1	40-140					
2-Methylnaphthalene	0.0159	0.00500	"	0.0333	47.8	40-140					
Surrogate: 2-Methylnaphthalene-d10	0.0152		"	0.0333	45.7	40-140					
Surrogate: Fluoranthene-d10	0.0210		"	0.0333	63.0	40-140					

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0025 - EPA 5030 Soil MS

Matrix Spike (BIB0025-MS1)	Source: 2501366-01			Prepared: 02/03/25 Analyzed: 02/15/25							
Acenaphthene	0.0127	0.00500	mg/kg	0.0333	0.231	NR	40-140				QM-05
Anthracene	0.0125	0.00500	"	0.0333	0.188	NR	40-140				QM-05
Benzo (a) anthracene	0.0134	0.00500	"	0.0333	0.326	NR	40-140				QM-05
Benzo (a) pyrene	0.0128	0.00500	"	0.0333	0.215	NR	40-140				QM-05
Benzo (b) fluoranthene	0.0113	0.00500	"	0.0333	0.335	NR	40-140				QM-05
Benzo (k) fluoranthene	0.0124	0.00500	"	0.0333	0.128	NR	40-140				QM-05
Chrysene	0.0122	0.00500	"	0.0333	0.317	NR	40-140				QM-05
Dibenz (a,h) anthracene	0.0127	0.00500	"	0.0333	0.124	NR	40-140				QM-05
Fluoranthene	0.0126	0.00500	"	0.0333	1.00	NR	40-140				QM-05
Fluorene	0.0127	0.00500	"	0.0333	0.238	NR	40-140				QM-05
Indeno (1,2,3-cd) pyrene	0.00996	0.00500	"	0.0333	0.182	NR	40-140				QM-05
Pyrene	0.0126	0.00500	"	0.0333	0.823	NR	40-140				QM-05
1-Methylnaphthalene	0.0123	0.00500	"	0.0333	0.149	NR	40-140				QM-05
2-Methylnaphthalene	0.0125	0.00500	"	0.0333	0.299	NR	40-140				QM-05
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0123</i>		<i>"</i>	<i>0.0333</i>			<i>40-140</i>	<i>36.9</i>		<i>40-140</i>	<i>QM-05</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0126</i>		<i>"</i>	<i>0.0333</i>			<i>40-140</i>	<i>37.9</i>		<i>40-140</i>	<i>QM-05</i>

Matrix Spike Dup (BIB0025-MSD1)	Source: 2501366-01			Prepared: 02/03/25 Analyzed: 02/15/25							
Acenaphthene	0.0145	0.00500	mg/kg	0.0333	0.231	NR	40-140	12.8	30		QM-05
Anthracene	0.0145	0.00500	"	0.0333	0.188	NR	40-140	15.1	30		QM-05
Benzo (a) anthracene	0.0157	0.00500	"	0.0333	0.326	NR	40-140	16.0	30		QM-05
Benzo (a) pyrene	0.0147	0.00500	"	0.0333	0.215	NR	40-140	14.2	30		QM-05
Benzo (b) fluoranthene	0.0138	0.00500	"	0.0333	0.335	NR	40-140	20.0	30		QM-05
Benzo (k) fluoranthene	0.0141	0.00500	"	0.0333	0.128	NR	40-140	13.0	30		QM-05
Chrysene	0.0146	0.00500	"	0.0333	0.317	NR	40-140	18.1	30		QM-05
Dibenz (a,h) anthracene	0.0158	0.00500	"	0.0333	0.124	NR	40-140	22.1	30		QM-05
Fluoranthene	0.0147	0.00500	"	0.0333	1.00	NR	40-140	15.8	30		QM-05
Fluorene	0.0149	0.00500	"	0.0333	0.238	NR	40-140	15.7	30		QM-05
Indeno (1,2,3-cd) pyrene	0.0125	0.00500	"	0.0333	0.182	NR	40-140	200	30		QM-05
Pyrene	0.0149	0.00500	"	0.0333	0.823	NR	40-140	16.8	30		QM-05
1-Methylnaphthalene	0.0140	0.00500	"	0.0333	0.149	NR	40-140	13.0	30		QM-05
2-Methylnaphthalene	0.0142	0.00500	"	0.0333	0.299	NR	40-140	13.1	30		QM-05
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0140</i>		<i>"</i>	<i>0.0333</i>			<i>40-140</i>	<i>42.0</i>		<i>40-140</i>	
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0151</i>		<i>"</i>	<i>0.0333</i>			<i>40-140</i>	<i>45.2</i>		<i>40-140</i>	

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB1395 - EPA 3050B

Blank (BIB1395-BLK1)

Prepared: 02/25/25 Analyzed: 03/12/25

Boron ND 2.00 mg/L

LCS (BIB1395-BS1)

Prepared: 02/25/25 Analyzed: 03/12/25

Boron 5.16 2.00 mg/L 5.00 103 80-120

Duplicate (BIB1395-DUP1)

Source: 2501365-04

Prepared: 02/25/25 Analyzed: 03/12/25

Boron 0.413 2.00 mg/L 0.416 0.540 20

Matrix Spike (BIB1395-MS1)

Source: 2501365-04

Prepared: 02/25/25 Analyzed: 03/12/25

Boron 5.42 2.00 mg/L 5.02 0.416 99.7 75-125

Matrix Spike Dup (BIB1395-MSD1)

Source: 2501365-04

Prepared: 02/25/25 Analyzed: 03/12/25

Boron 5.45 2.00 mg/L 5.02 0.416 100 75-125 0.615 25

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNE TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BIC0412 - EPA 3050B

Blank (BIC0412-BLK1)

Prepared: 03/07/25 Analyzed: 03/27/25

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 (BIC0412-BS1)

Prepared: 03/07/25 Analyzed: 03/27/25

Arsenic	41.5	0.200	mg/kg wet	41.3	100	80-120
Barium	41.5	0.400	"	41.3	100	80-120
Cadmium	2.05	0.200	"	2.07	99.3	80-120
Copper	45.0	0.400	"	41.3	109	80-120
Lead	20.8	0.200	"	20.7	101	80-120
Nickel	46.5	0.400	"	41.3	113	80-120
Silver	2.04	0.0200	"	2.07	98.9	80-120
Zinc	44.4	0.400	"	41.3	107	80-120
Selenium	4.11	0.260	"	4.13	99.5	80-120

Duplicate (BIC0412-DUP1)

Source: 2501365-01

Prepared: 03/07/25 Analyzed: 03/27/25

Arsenic	2.77	0.200	mg/kg dry	2.74	0.951	20
Barium	110	0.400	"	112	2.00	20
Cadmium	0.443	0.200	"	0.428	3.48	20
Copper	5.65	0.400	"	5.53	2.05	20
Lead	9.19	0.200	"	8.83	4.02	20
Nickel	8.90	0.400	"	8.59	3.47	20
Silver	0.0299	0.0200	"	0.0297	0.703	20
Zinc	23.8	0.400	"	23.3	2.22	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIC0412 - EPA 3050B

Matrix Spike (BIC0412-MS1)	Source: 2501365-01			Prepared: 03/07/25		Analyzed: 03/27/25					
Arsenic	47.6	0.200	mg/kg dry	45.4	2.74	98.8	75-125				
Barium	152	0.400	"	45.4	112	88.2	75-125				
Cadmium	2.78	0.200	"	2.27	0.428	104	75-125				
Copper	33.8	0.400	"	45.4	5.53	62.3	75-125				QM-05
Lead	31.6	0.200	"	22.7	8.83	100	75-125				
Nickel	33.7	0.400	"	45.4	8.59	55.5	75-125				QM-05
Silver	2.28	0.0200	"	2.27	0.0297	99.4	75-125				
Zinc	53.3	0.400	"	45.4	23.3	66.3	75-125				QM-05
Selenium	3.79	0.260	"	4.54	ND	83.5	75-125				

Matrix Spike Dup (BIC0412-MSD1)	Source: 2501365-01			Prepared: 03/07/25		Analyzed: 03/27/25					
Arsenic	47.3	0.200	mg/kg dry	45.4	2.74	98.2	75-125	0.595	25		
Barium	149	0.400	"	45.4	112	80.1	75-125	2.45	25		
Cadmium	2.70	0.200	"	2.27	0.428	100	75-125	2.73	25		
Copper	33.2	0.400	"	45.4	5.53	61.0	75-125	1.81	25		QM-05
Lead	30.9	0.200	"	22.7	8.83	97.1	75-125	2.33	25		
Nickel	33.2	0.400	"	45.4	8.59	54.2	75-125	1.70	25		QM-05
Silver	2.23	0.0200	"	2.27	0.0297	97.2	75-125	2.13	25		
Zinc	51.7	0.400	"	45.4	23.3	62.8	75-125	3.04	25		QM-05
Selenium	3.85	0.260	"	4.54	ND	84.9	75-125	1.67	25		

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0407 - 3060A Mod

Blank (BIB0407-BLK1)

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BIB0407-BS1)

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent 23.6 0.30 mg/kg wet 25.0 94.2 80-120

Duplicate (BIB0407-DUP1)

Source: 2501355-01

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BIB0407-MS1)

Source: 2501355-01

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent 26.0 0.30 mg/kg dry 28.0 ND 93.0 75-125

Matrix Spike Dup (BIB0407-MSD1)

Source: 2501355-01

Prepared & Analyzed: 02/08/25

Chromium, Hexavalent 25.8 0.30 mg/kg dry 28.0 ND 92.0 75-125 1.08 20

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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

Summit Scientific

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

Batch BIB0974 - General Preparation

Blank (BIB0974-BLK1)

Prepared: 02/18/25 Analyzed: 02/26/25

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

LCS (BIB0974-BS1)

Prepared: 02/18/25 Analyzed: 02/26/25

Calcium	4.93	0.0500	mg/L wet	5.00	98.7	70-130
Magnesium	5.29	0.0500	"	5.00	106	70-130
Sodium	5.18	0.0500	"	5.00	104	70-130

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0458 - General Preparation

Duplicate (BIB0458-DUP1)	Source: 2501363-01			Prepared: 02/10/25 Analyzed: 02/11/25	
% Solids	95.5		%	92.0	3.76 20

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB
Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0979 - General Preparation

Blank (BIB0979-BLK1)

Prepared: 02/18/25 Analyzed: 02/19/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BIB0979-BS1)

Prepared: 02/18/25 Analyzed: 02/19/25

Specific Conductance (EC) 1.39 0.0100 mmhos/cm 1.41 98.3 95-105

Duplicate (BIB0979-DUP1)

Source: 2501369-01

Prepared: 02/18/25 Analyzed: 02/19/25

Specific Conductance (EC) 0.217 0.0100 mmhos/cm 0.216 0.464 20

Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNW TB

Project Number: UWRWE-A4246-ABN 37837
Project Manager: Andy Sagen

Reported:
04/01/25 10:38

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 BIB0977 - General Preparation

LCS (BIB0977-BS1)

Prepared: 02/18/25 Analyzed: 02/19/25

pH	9.06	pH Units	9.18	98.7	95-105
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Duplicate (BIB0977-DUP1)

Source: 2501369-01

Prepared: 02/18/25 Analyzed: 02/19/25

pH	8.79	pH Units	8.81	0.247	20
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Summit Scientific

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

Project: Noble - Wade 68N59W 59NWNE TB

Project Number: UWRWE-A4246-ABN 37837

Project Manager: Andy Sagen

Reported:

04/01/25 10:38

Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- 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