

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 18, 2024

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

RE: Noble - Torres USX AB 35-09

Work Order #2411316

Enclosed are the results of analyses for samples received by Summit Scientific on 11/18/24 17:35. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Natalie Tessier". The signature is written in a cursive, flowing style.

Natalie Tessier For Paul Shrewsbury  
President



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

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN

Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-07@4'	2411316-01	Soil	11/18/24 12:49	11/18/24 17:35

### Case Narrative

The sample ID has been corrected to match COC on 12/18/24.

This is a revision of the report originally sent on 12/17/24 at 11:33 MT.



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

Lab ID	Page 1 of 1
2411316	

<b>Send Data To:</b>		<b>Send Invoice To:</b>	
Client: Tasman, Inc.	Project Manager: Daniel Simpson <sup>MR</sup> Mike Medina	Company: Noble Energy, Inc.	
Address: 6855 W. 119th Ave.	E-Mail: Tas-chevron-5@tasman-geo.com <sup>MR</sup> Tas-chevron-2@tasman-geo.com	Project Name/Location: TORRES-USX AB 35-9	
City/State/Zip: Broomfield / CO / 80020	rbweuf22@chevron.com, jason.davidson@chevron.com	AFE#: WPCWE-AM149-ABN	
Phone: 303-487-1228	Project Name: TORRES-USX AB 35-9	PO/Billing Codes:	
Sampler Name: McKenzie Reynolds	Project Number:	Contact: Mike Montoya <sup>MR</sup> Wade Firestein	

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	FL01-0704'	11/18/24	1249	2			X			X			X	X	X	X	X	X		SAR, EC, pH by saturated paste
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by:	Date/Time: 11/18/2024 1700	Received by: Tasman Lockbox	Date/Time: 11/18/2024 1700	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: 11/18/24 1735	Received by:	Date/Time: 11/18/24 1735	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 11.2	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:	Standard	<input checked="" type="checkbox"/> Field Turb.	

S<sub>2</sub>

Sample Receipt Checklist

S2 Work Order # 2411314

Client: Towman

Client Project ID: Towres-USX AB 35-9

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

Airbill #: \_\_\_\_\_

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

11.2

Thermometer #

1

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

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

AS

Custodian Printed Name

11/18/24  
Date/Time



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

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**FL01-07@4'**  
**2411316-01 (Soil)**

**Summit Scientific**

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

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHK1089	11/21/24	11/22/24	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0387	96.7 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %		50-150		"	"	"	"	

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHK1092	11/21/24	11/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	7.10	56.8 %		30-150		"	"	"	"	

**PAH by EPA Method 8270D SIM**

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**2411316-01 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270D SIM**

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHK1110	11/21/24	11/23/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0213	63.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0210	62.9 %	40-140		"	"	"	"	

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

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHL0172	12/04/24	12/10/24	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Reported:**  
12/18/24 08:36

**FL01-07@4'**  
**2411316-01 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.14	0.200	mg/kg dry	1	BHL0462	12/11/24	12/13/24	EPA 6020B
Barium	43.0	0.400	"	"	"	"	"	"
Cadmium	0.412	0.200	"	"	"	"	"	"
Copper	6.34	0.400	"	"	"	"	"	"
Lead	9.91	0.200	"	"	"	"	"	"
Nickel	5.01	0.400	"	"	"	"	"	"
Silver	0.0332	0.0200	"	"	"	"	"	"
Zinc	29.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: 11/18/24 12:49

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHL0153	12/04/24	12/04/24	EPA 7196A	

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

Date Sampled: 11/18/24 12:49

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.7	0.0500	mg/L dry	1	BHL0634	12/13/24	12/16/24	EPA 6020B	
Magnesium	19.2	0.0500	"	"	"	"	"	"	
Sodium	62.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: 11/18/24 12:49

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.18	0.00100	units	1	BHL0750	12/17/24	12/17/24	Calculation	

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

Date Sampled: 11/18/24 12:49

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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**Reported:**  
12/18/24 08:36

**FL01-07@4'**  
**2411316-01 (Soil)**

**Summit Scientific**

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

% Solids	78.4	%	1	BHL0027	12/02/24	12/03/24	Calculation
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**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.616</b>	0.0100	mmhos/cm	1	BHL0635	12/13/24	12/16/24	EPA 120.1	

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

Date Sampled: **11/18/24 12:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.79</b>		pH Units	1	BHL0636	12/13/24	12/16/24	EPA 9045D	

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**Reported:**  
12/18/24 08:36

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch BHK1089 - EPA 5030 Soil MS

##### Blank (BHK1089-BLK1)

Prepared & Analyzed: 11/21/24

Benzene	ND	0.0020	mg/kg								
Toluene	ND	0.0050	"								
Ethylbenzene	ND	0.0050	"								
Xylenes (total)	ND	0.010	"								
1,2,4-Trimethylbenzene	ND	0.0050	"								
1,3,5-Trimethylbenzene	ND	0.0050	"								
Naphthalene	ND	0.0038	"								
Gasoline Range Hydrocarbons	ND	0.50	"								
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	50-150				
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	50-150				
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.0	50-150				

##### LCS (BHK1089-BS1)

Prepared & Analyzed: 11/21/24

Benzene	0.117	0.0020	mg/kg	0.100		117	70-130				
Toluene	0.116	0.0050	"	0.100		116	70-130				
Ethylbenzene	0.123	0.0050	"	0.100		123	70-130				
m,p-Xylene	0.242	0.010	"	0.200		121	70-130				
o-Xylene	0.115	0.0050	"	0.100		115	70-130				
1,2,4-Trimethylbenzene	0.119	0.0050	"	0.100		119	70-130				
1,3,5-Trimethylbenzene	0.119	0.0050	"	0.100		119	70-130				
Naphthalene	0.114	0.0038	"	0.100		114	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150				
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150				
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	50-150				

##### Matrix Spike (BHK1089-MS1)

Source: 2411272-23

Prepared & Analyzed: 11/21/24

QM-01

Benzene	0.0986	0.0020	mg/kg	0.100	ND	98.6	70-130				
Toluene	0.119	0.0050	"	0.100	0.0699	49.2	70-130				
Ethylbenzene	0.112	0.0050	"	0.100	0.0735	38.5	70-130				
m,p-Xylene	0.781	0.010	"	0.200	1.72	NR	70-130				QM-4X
o-Xylene	0.354	0.0050	"	0.100	0.811	NR	70-130				QM-4X
1,2,4-Trimethylbenzene	0.658	0.0050	"	0.100	3.07	NR	70-130				QM-4X
1,3,5-Trimethylbenzene	0.524	0.0050	"	0.100	2.01	NR	70-130				QM-4X
Naphthalene	0.326	0.0038	"	0.100	0.686	NR	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0438		"	0.0400		110	50-150				
Surrogate: Toluene-d8	0.0401		"	0.0400		100	50-150				
Surrogate: 4-Bromofluorobenzene	0.0496		"	0.0400		124	50-150				

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Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

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

**Batch BHK1089 - EPA 5030 Soil MS**

Matrix Spike Dup (BHK1089-MSD1)	Source: 2411272-23			Prepared & Analyzed: 11/21/24						QM-01
Benzene	0.0981	0.0020	mg/kg	0.100	ND	98.1	70-130	0.549	30	
Toluene	0.112	0.0050	"	0.100	0.0699	41.6	70-130	6.58	30	
Ethylbenzene	0.105	0.0050	"	0.100	0.0735	31.2	70-130	6.70	30	
m,p-Xylene	0.616	0.010	"	0.200	1.72	NR	70-130	23.6	30	QM-4X
o-Xylene	0.299	0.0050	"	0.100	0.811	NR	70-130	16.7	30	
1,2,4-Trimethylbenzene	0.595	0.0050	"	0.100	3.07	NR	70-130	10.1	30	QM-4X
1,3,5-Trimethylbenzene	0.469	0.0050	"	0.100	2.01	NR	70-130	11.1	30	QM-4X
Naphthalene	0.303	0.0038	"	0.100	0.686	NR	70-130	7.39	30	
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0494		"	0.0400		124	50-150			

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**Reported:**  
12/18/24 08:36

**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 BHK1092 - EPA 3550A**

**Blank (BHK1092-BLK1)**

Prepared: 11/21/24 Analyzed: 11/25/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	4.22		"	12.5		33.7	30-150				

**LCS (BHK1092-BS1)**

Prepared: 11/21/24 Analyzed: 11/25/24

C10-C28 (DRO)	548	50	mg/kg	500		110	70-130				
Surrogate: <i>o</i> -Terphenyl	10.5		"	12.5		84.0	30-150				

**Matrix Spike (BHK1092-MS1)**

Source: 2411272-23

Prepared: 11/21/24 Analyzed: 11/25/24

C10-C28 (DRO)	924	50	mg/kg	500	434	98.0	70-130				
Surrogate: <i>o</i> -Terphenyl	13.3		"	12.5		106	30-150				

**Matrix Spike Dup (BHK1092-MSD1)**

Source: 2411272-23

Prepared: 11/21/24 Analyzed: 11/25/24

C10-C28 (DRO)	822	50	mg/kg	500	434	77.6	70-130	11.7	20		
Surrogate: <i>o</i> -Terphenyl	10.6		"	12.5		84.9	30-150				

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12/18/24 08:36

**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 BHK1110 - EPA 5030 Soil MS**

**Blank (BHK1110-BLK1)**

Prepared: 11/21/24 Analyzed: 11/23/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0242		"	0.0333		72.6	40-140			
Surrogate: Fluoranthene-d10	0.0231		"	0.0333		69.4	40-140			

**LCS (BHK1110-BS1)**

Prepared: 11/21/24 Analyzed: 11/23/24

Acenaphthene	0.0243	0.00500	mg/kg	0.0333		72.9	40-140			
Anthracene	0.0262	0.00500	"	0.0333		78.5	40-140			
Benzo (a) anthracene	0.0280	0.00500	"	0.0333		83.9	40-140			
Benzo (a) pyrene	0.0236	0.00500	"	0.0333		70.8	40-140			
Benzo (b) fluoranthene	0.0254	0.00500	"	0.0333		76.2	40-140			
Benzo (k) fluoranthene	0.0239	0.00500	"	0.0333		71.6	40-140			
Chrysene	0.0246	0.00500	"	0.0333		73.7	40-140			
Dibenz (a,h) anthracene	0.0227	0.00500	"	0.0333		68.2	40-140			
Fluoranthene	0.0260	0.00500	"	0.0333		78.0	40-140			
Fluorene	0.0255	0.00500	"	0.0333		76.4	40-140			
Indeno (1,2,3-cd) pyrene	0.0284	0.00500	"	0.0333		85.1	40-140			
Pyrene	0.0256	0.00500	"	0.0333		76.8	40-140			
1-Methylnaphthalene	0.0251	0.00500	"	0.0333		75.2	40-140			
2-Methylnaphthalene	0.0262	0.00500	"	0.0333		78.5	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0273		"	0.0333		81.8	40-140			
Surrogate: Fluoranthene-d10	0.0256		"	0.0333		76.9	40-140			

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

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHK1110 - EPA 5030 Soil MS**

<b>Matrix Spike (BHK1110-MS1)</b>	<b>Source: 2411299-01</b>			<b>Prepared: 11/21/24 Analyzed: 11/23/24</b>						
Acenaphthene	0.0173	0.00500	mg/kg	0.0333	ND	52.0	40-140			
Anthracene	0.0168	0.00500	"	0.0333	ND	50.3	40-140			
Benzo (a) anthracene	0.0173	0.00500	"	0.0333	ND	51.9	40-140			
Benzo (a) pyrene	0.0140	0.00500	"	0.0333	ND	42.0	40-140			
Benzo (b) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.4	40-140			
Benzo (k) fluoranthene	0.0140	0.00500	"	0.0333	ND	41.9	40-140			
Chrysene	0.0156	0.00500	"	0.0333	ND	46.9	40-140			
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	48.0	40-140			
Fluoranthene	0.0165	0.00500	"	0.0333	ND	49.5	40-140			
Fluorene	0.0180	0.00500	"	0.0333	ND	54.0	40-140			
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	ND	44.8	40-140			
Pyrene	0.0172	0.00500	"	0.0333	ND	51.7	40-140			
1-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.8	40-140			
2-Methylnaphthalene	0.0196	0.00500	"	0.0333	ND	58.7	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0199</i>		<i>"</i>	<i>0.0333</i>		<i>59.7</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0155</i>		<i>"</i>	<i>0.0333</i>		<i>46.6</i>	<i>40-140</i>			

<b>Matrix Spike Dup (BHK1110-MSD1)</b>	<b>Source: 2411299-01</b>			<b>Prepared: 11/21/24 Analyzed: 11/23/24</b>						
Acenaphthene	0.0175	0.00500	mg/kg	0.0333	ND	52.4	40-140	0.877	30	
Anthracene	0.0167	0.00500	"	0.0333	ND	50.1	40-140	0.305	30	
Benzo (a) anthracene	0.0174	0.00500	"	0.0333	ND	52.1	40-140	0.458	30	
Benzo (a) pyrene	0.0140	0.00500	"	0.0333	ND	42.0	40-140	0.131	30	
Benzo (b) fluoranthene	0.0141	0.00500	"	0.0333	ND	42.3	40-140	0.349	30	
Benzo (k) fluoranthene	0.0138	0.00500	"	0.0333	ND	41.4	40-140	1.03	30	
Chrysene	0.0156	0.00500	"	0.0333	ND	46.7	40-140	0.348	30	
Dibenz (a,h) anthracene	0.0156	0.00500	"	0.0333	ND	46.7	40-140	2.80	30	
Fluoranthene	0.0163	0.00500	"	0.0333	ND	49.0	40-140	1.09	30	
Fluorene	0.0177	0.00500	"	0.0333	ND	53.0	40-140	1.92	30	
Indeno (1,2,3-cd) pyrene	0.0161	0.00500	"	0.0333	ND	48.4	40-140	7.64	30	
Pyrene	0.0166	0.00500	"	0.0333	ND	49.7	40-140	3.95	30	
1-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.6	40-140	0.257	30	
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.3	40-140	4.13	30	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0192</i>		<i>"</i>	<i>0.0333</i>		<i>57.5</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0150</i>		<i>"</i>	<i>0.0333</i>		<i>44.9</i>	<i>40-140</i>			

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

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

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

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

**Batch BHL0172 - EPA 3050B**

<b>Blank (BHL0172-BLK1)</b>				Prepared: 12/04/24 Analyzed: 12/10/24						
Boron	ND	2.00	mg/L							
<b>LCS (BHL0172-BS1)</b>				Prepared: 12/04/24 Analyzed: 12/10/24						
Boron	5.50	2.00	mg/L	5.00	110	80-120				
<b>Duplicate (BHL0172-DUP1)</b>				Source: 2411313-01 Prepared: 12/04/24 Analyzed: 12/10/24						
Boron	0.292	2.00	mg/L	0.351	18.2	20				
<b>Matrix Spike (BHL0172-MS1)</b>				Source: 2411313-01 Prepared: 12/04/24 Analyzed: 12/10/24						
Boron	5.40	2.00	mg/L	4.95	0.351	102	75-125			
<b>Matrix Spike Dup (BHL0172-MSD1)</b>				Source: 2411313-01 Prepared: 12/04/24 Analyzed: 12/10/24						
Boron	5.40	2.00	mg/L	4.95	0.351	102	75-125	0.0304	25	

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Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHL0462 - EPA 3050B**

**Blank (BHL0462-BLK1)**

Prepared: 12/11/24 Analyzed: 12/13/24

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Cadmium	ND	0.200	"							
Copper	ND	0.400	"							
Lead	ND	0.200	"							
Nickel	ND	0.400	"							
Silver	ND	0.0200	"							
Zinc	ND	0.400	"							
Selenium	ND	0.260	"							

**LCS (BHL0462-BS1)**

Prepared: 12/11/24 Analyzed: 12/13/24

Arsenic	41.9	0.200	mg/kg wet	39.7		106	80-120			
Barium	42.4	0.400	"	39.7		107	80-120			
Cadmium	2.15	0.200	"	1.98		109	80-120			
Copper	46.3	0.400	"	39.7		117	80-120			
Lead	21.3	0.200	"	19.8		108	80-120			
Nickel	42.6	0.400	"	39.7		107	80-120			
Silver	2.07	0.0200	"	1.98		104	80-120			
Zinc	44.0	0.400	"	39.7		111	80-120			
Selenium	4.48	0.260	"	3.97		113	80-120			

**Duplicate (BHL0462-DUP1)**

Source: 2411315-01

Prepared: 12/11/24 Analyzed: 12/13/24

Arsenic	2.29	0.200	mg/kg dry		2.45		6.84	20		
Barium	46.0	0.400	"		33.1		32.6	20		QR-04
Cadmium	0.433	0.200	"		0.267		47.5	20		QR-01
Copper	6.35	0.400	"		6.68		5.15	20		
Lead	9.28	0.200	"		8.82		5.12	20		
Nickel	4.89	0.400	"		3.95		21.2	20		QR-04
Silver	0.0326	0.0200	"		0.0298		8.88	20		
Zinc	29.8	0.400	"		28.8		3.15	20		
Selenium	0.190	0.260	"		0.200		5.37	20		

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHL0462 - EPA 3050B**

**Matrix Spike (BHL0462-MS1)**

Source: 2411315-01

Prepared: 12/11/24 Analyzed: 12/13/24

Arsenic	52.4	0.200	mg/kg dry	50.1	2.45	99.7	75-125				
Barium	95.0	0.400	"	50.1	33.1	124	75-125				
Cadmium	3.01	0.200	"	2.50	0.267	109	75-125				
Copper	37.7	0.400	"	50.1	6.68	62.0	75-125				QM-05
Lead	35.1	0.200	"	25.0	8.82	105	75-125				
Nickel	33.8	0.400	"	50.1	3.95	59.6	75-125				QM-05
Silver	2.60	0.0200	"	2.50	0.0298	103	75-125				
Zinc	60.4	0.400	"	50.1	28.8	62.9	75-125				QM-05
Selenium	5.79	0.260	"	5.01	0.200	112	75-125				

**Matrix Spike Dup (BHL0462-MSD1)**

Source: 2411315-01

Prepared: 12/11/24 Analyzed: 12/13/24

Arsenic	49.5	0.200	mg/kg dry	47.7	2.45	98.6	75-125	5.60	25		
Barium	99.2	0.400	"	47.7	33.1	138	75-125	4.31	25		QM-05
Cadmium	2.85	0.200	"	2.39	0.267	108	75-125	5.22	25		
Copper	35.2	0.400	"	47.7	6.68	59.7	75-125	7.01	25		QM-05
Lead	32.6	0.200	"	23.9	8.82	99.9	75-125	7.34	25		
Nickel	31.3	0.400	"	47.7	3.95	57.4	75-125	7.49	25		QM-05
Silver	2.46	0.0200	"	2.39	0.0298	102	75-125	5.49	25		
Zinc	56.8	0.400	"	47.7	28.8	58.5	75-125	6.16	25		QM-05
Selenium	5.18	0.260	"	4.77	0.200	104	75-125	11.1	25		

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

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHL0153 - 3060A Mod**

**Blank (BHL0153-BLK1)**

Prepared & Analyzed: 12/04/24

Chromium, Hexavalent      ND      0.30    mg/kg wet

**LCS (BHL0153-BS1)**

Prepared & Analyzed: 12/04/24

Chromium, Hexavalent      25.4      0.30    mg/kg wet      25.0      102      80-120

**Duplicate (BHL0153-DUP1)**

**Source: 2411273-01**

Prepared & Analyzed: 12/04/24

Chromium, Hexavalent      ND      0.30    mg/kg dry      ND      20

**Matrix Spike (BHL0153-MS1)**

**Source: 2411273-01**

Prepared & Analyzed: 12/04/24

Chromium, Hexavalent      28.1      0.30    mg/kg dry      28.1      ND      100      75-125

**Matrix Spike Dup (BHL0153-MSD1)**

**Source: 2411273-01**

Prepared & Analyzed: 12/04/24

Chromium, Hexavalent      28.2      0.30    mg/kg dry      28.1      ND      100      75-125      0.399      20

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHL0634 - General Preparation**

**Blank (BHL0634-BLK1)**

Prepared: 12/13/24 Analyzed: 12/16/24

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

**LCS (BHL0634-BS1)**

Prepared: 12/13/24 Analyzed: 12/16/24

Calcium	5.35	0.0500	mg/L wet	5.00	107	70-130				
Magnesium	4.68	0.0500	"	5.00	93.7	70-130				
Sodium	4.80	0.0500	"	5.00	96.0	70-130				

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 6855 W. 119th Ave.  
 Broomfield CO, 80020

Project: Noble - Torres USX AB 35-09  
 Project Number: UWRWE-A4149-ABN  
 Project Manager: Jacob Whritenour

**Reported:**  
 12/18/24 08:36

**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 BHL0027 - General Preparation**

Duplicate (BHL0027-DUP1)	Source: 2411292-20			Prepared: 12/02/24 Analyzed: 12/03/24	
% Solids	97.0		%	97.2	0.148 20

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6855 W. 119th Ave.  
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Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHL0635 - General Preparation**

**Blank (BHL0635-BLK1)**

Prepared: 12/13/24 Analyzed: 12/16/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BHL0635-BS1)**

Prepared: 12/13/24 Analyzed: 12/16/24

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 102 95-105

**Duplicate (BHL0635-DUP1)**

**Source: 2411314-01**

Prepared: 12/13/24 Analyzed: 12/16/24

Specific Conductance (EC) 0.715 0.0100 mmhos/cm 0.733 2.49 20

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

**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 BHL0636 - General Preparation**

**LCS (BHL0636-BS1)**

Prepared: 12/13/24 Analyzed: 12/16/24

pH	9.10	pH Units	9.18	99.1	95-105
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**Duplicate (BHL0636-DUP1)**

Source: 2411314-01

Prepared: 12/13/24 Analyzed: 12/16/24

pH	8.62	pH Units	8.59	0.349	20
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Summit Scientific

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6855 W. 119th Ave.  
Broomfield CO, 80020

Project: Noble - Torres USX AB 35-09

Project Number: UWRWE-A4149-ABN  
Project Manager: Jacob Whritenour

**Reported:**  
12/18/24 08:36

### 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.
- QR-01 Analyses are not controlled on RPD values from sample concentrations below the reporting limit. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-4X The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference