

FIRST QUARTER 2024 SITE MONITORING DATA

THOMPSON 28-10

ECMC SPILL TRACKING # 483966
ECMC REMEDIATION # 25228

Prepared for:



2115 117th Avenue
Greeley, CO 80631

Prepared by:



6855 W. 119th Ave
Broomfield, CO 80020

TABLE 1
GROUNDWATER ELEVATION DATA
NOBLE ENERGY, INC. - THOMPSON 28-10 FACILITY



Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) ⁽¹⁾	Depth to LNAPL (ft.) ⁽¹⁾	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	06/19/23	4741.45	19.21	9.30	ND	ND	4732.28
BH01	09/01/23	4741.45	19.18	8.83	ND	ND	4732.75
BH01	12/06/23	4741.45	19.21	9.19	ND	ND	4732.39
BH01	03/11/24	4741.45	19.13	11.31	ND	ND	4731.27
BH02	06/19/23	4742.57	18.92	9.97	ND	ND	4732.86
BH02	09/01/23	4742.57	18.90	9.76	ND	ND	4733.07
BH02	12/06/23	4742.57	18.85	10.27	ND	ND	4732.56
BH02	03/11/24	4742.57	18.62	12.51	ND	ND	4731.32
BH03	06/19/23	4740.56	18.83	8.76	ND	ND	4731.97
BH03	09/01/23	4740.56	18.51	8.08	ND	ND	4732.65
BH03	12/06/23	4740.56	18.50	8.50	ND	ND	4732.23
BH03	03/11/24	4740.56	18.48	10.60	ND	ND	4731.13
BH04	06/19/23	4740.18	18.66	8.52	ND	ND	4731.82
BH04	09/01/23	4740.18	18.61	7.95	ND	ND	4732.39
BH04	12/06/23	4740.18	18.44	9.02	ND	ND	4731.32
BH04	03/11/24	4740.18	18.22	10.22	ND	ND	4731.12
BH05	06/19/23	4741.49	19.22	9.02	ND	ND	4732.63
BH05	09/01/23	4741.49	19.20	8.40	ND	ND	4733.25
BH05	12/06/23	4741.49	18.89	9.16	ND	ND	4732.49
BH05	03/11/24	4741.49	18.93	11.34	ND	ND	4731.31
BH06	06/19/23	4740.28	18.33	8.36	ND	ND	4732.15
BH06	09/01/23	4740.28	18.25	7.78	ND	ND	4732.73
BH06	12/06/23	4740.28	18.24	8.18	ND	ND	4732.33
BH06	03/11/24	4740.28	18.18	10.31	ND	ND	4731.20

Notes:

⁽¹⁾ Depth to water measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

* Groundwater elevation was corrected for product thickness (when present) using the following calculation:

Groundwater elevation = (TOC Elevation - Measured Depth to Water)+(LNAPL Thickness in Well x LNAPL Relative Density)

LNAPL relative density was estimated to be 0.75

Definitions:

ft. = Feet
 AMSL = Above mean sea level
 BTOC = Below top of casing
 BGS = Below ground surface
 LNAPL = Light non-aqueous phase liquid
 ND = No LNAPL detected

TABLE 2
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - THOMPSON 28-10 FACILITY

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4-TMB (µg/L)	1,3,5-TMB (µg/L)	2-M (µg/L)	TDS (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
ECMC Standard ⁽¹⁾		5	560	700	1,400	140	67	67	3.6 ⁽²⁾	<1.25 x Background	250 or <1.25 x Background	250 or <1.25 x Background
BH01	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	993	246	266
BH01	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,260	257	208
BH01	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	806	220	197
BH01	03/11/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	865	197	152
⁽³⁾ BH02	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,020	289	270
⁽³⁾ BH02	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,630	345	328
⁽³⁾ BH02	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	755	208	159
⁽³⁾ BH02	03/11/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	844	185	151
BH03	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	855	204	241
BH03	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,120	260	156
BH03	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	863	215	219
BH03	03/11/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	910	202	152
BH04	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	804	210	236
BH04	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,180	256	168
BH04	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	770	205	180
BH04	03/11/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	864	198	149
BH05	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	991	291	270
BH05	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,210	232	214
BH05	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	717	208	156
BH05	03/11/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	898	196	168
⁽³⁾ BH06	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,020	280	299
⁽³⁾ BH06	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,300	243	263
⁽³⁾ BH06	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	763	216	161
⁽³⁾ BH06	03/11/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	778	196	155

Notes:

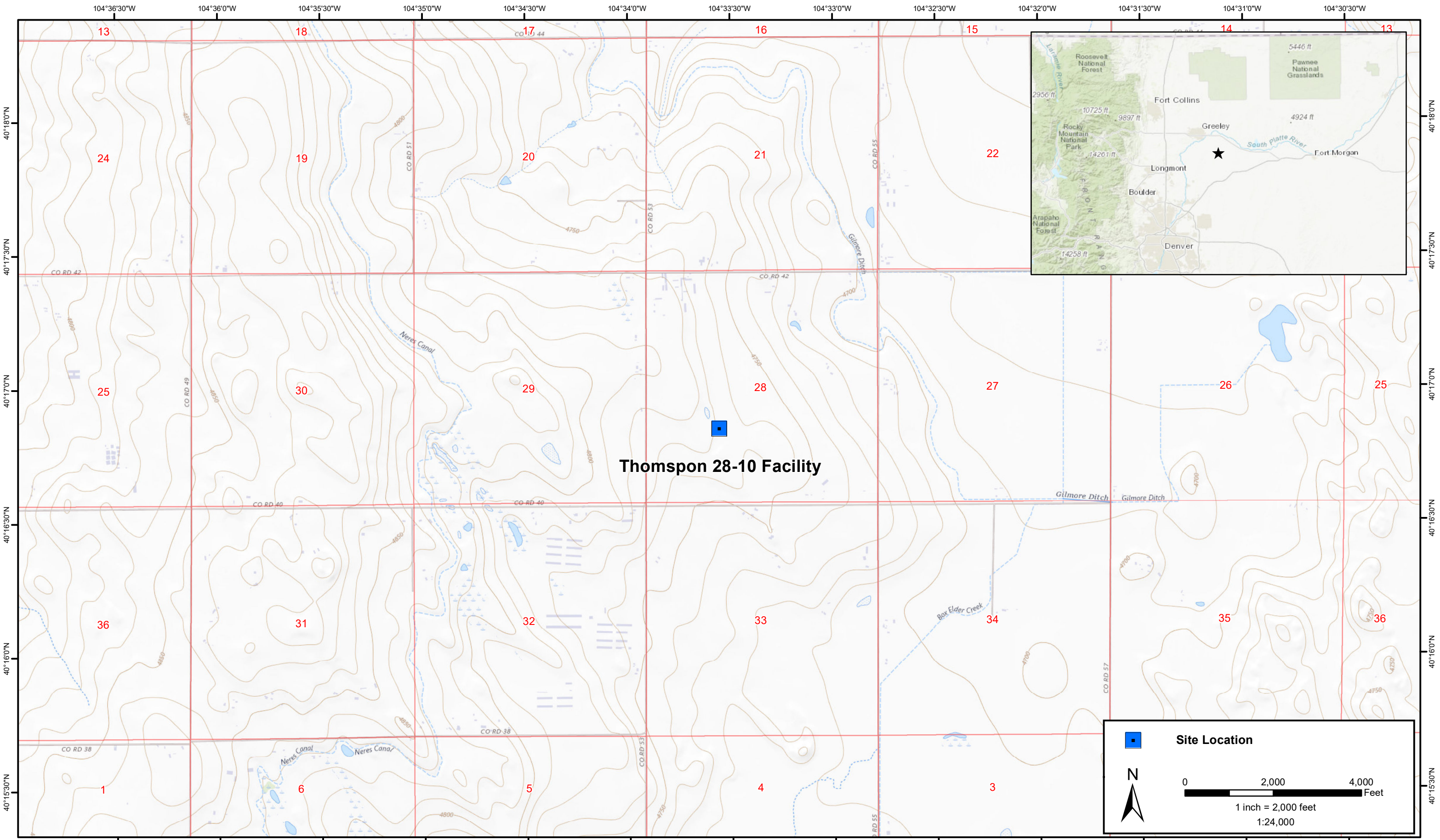
⁽¹⁾ Groundwater standards referenced from 2 CCR 404-1, Table 915-1 (January 15, 2021).

⁽²⁾ Groundwater standards referenced from USEPA Regional Screening Level (RSL) Resident Tapwater Table (TR=1E-06, HQ=0.1) November 2022.

⁽³⁾ Monitoring well used for inorganic background levels.

Definitions:

< = Analytical result is less than the indicated laboratory reporting limit
 ECMC = Energy and Carbon Management Commission
 USEPA = United States Environmental Protection Agency
 mg/L = Milligrams per liter
 µg/L = Micrograms per liter
 1,2,4 - TMB = 1,2,4 Trimethylbenzene
 1,3,5 - TMB = 1,3,5 Trimethylbenzene
 2-M = 2-Methylnaphthalene
 TDS = Total Dissolved Solids



DATE:	March 2023
DESIGNED BY:	S. Vogt
DRAWN BY:	L. Reed



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



Noble Energy, Inc - DJ Basin
Thomson 28-10 Facility
NESW Sec 28 T4N-R64W
Weld County, Colorado

Site Location Map

Figure
1



Legend

-  Monitoring Well Location (Collected via Trimble GPS)
-  Excavation Extent (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.

GPS – Global Positioning System

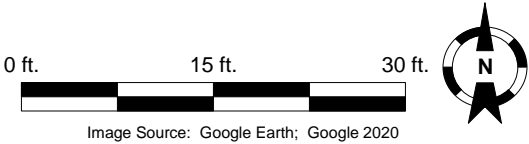



Image Source: Google Earth; Google 2020

DATE: 03/20/2024	 <div>Tasman, Inc. 6855 W 119th Avenue Broomfield, CO 80020</div>	Noble Energy, Inc. – DJ Basin Thompson 28-10 Facility NESW, Section 28, Township 4 North, Range 64 West Weld County, Colorado	Site Overview Map	FIGURE 2
DESIGNED BY: JW				
DRAWN BY: HM				





Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

April 16, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Thompson 28-10

Work Order #2403165

Enclosed are the results of analyses for samples received by Summit Scientific on 03/11/24 17:24. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, cursive script.

Paul Shrewsbury

President



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

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2403165-01	Water	03/11/24 15:17	03/11/24 17:24
BH02	2403165-02	Water	03/11/24 14:53	03/11/24 17:24
BH03	2403165-03	Water	03/11/24 14:45	03/11/24 17:24
BH04	2403165-04	Water	03/11/24 14:55	03/11/24 17:24
BH05	2403165-05	Water	03/11/24 15:20	03/11/24 17:24
BH06	2403165-06	Water	03/11/24 15:02	03/11/24 17:24

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client: Noble/Tasman		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company: Cherron	
City/State/Zip: Broomfield/CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: Thompson 28-10	
Phone: 3177445-0601		Project Name: Thompson 28-10		AFE#:	
Sampler Name: Luke Moran, Molly Parks		Project Number:		PO/Billing Codes:	
				Contact: Dan Peterson	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN	1,2,4 & 1,3,5-TMBs	TDS, Cl, SO4	PAHs *			
1	BH01	3/11/24	1517	6	3		3		X				X	X	X	X			
2	BH02		1453																
3	BH03		1445																
4	BH04		1455																
5	BH05		1520																
6	BH06		1502																
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: Luke Moran	Date/Time: 3/11/24 1700	Received by: Tasman Lock Box	Date/Time: 3/11/24 1700	TAT Business Days	Field DO	PAHs; Notes: * 2-M
Relinquished by: Tasman Lock Box	Date/Time: 3/12/24 1754	Received by: [Signature]	Date/Time: 3/12/24 1754	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: 7.6	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2403165Client: Noble GasmanClient Project ID: Thompson 28-10Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	--------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☒

Other

☐

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on 7.6
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 ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	HCl
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Custodian Printed Name

Date/Time

AB

3/11/24



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

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH01
2403165-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/24 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BHC0357	03/13/24	03/14/24	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	
Naphthalene	ND	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **03/11/24 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	9.92	74.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	12.8	96.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.6	79.9 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/24 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
2-Methylnaphthalene	ND	0.500		ug/l	1	BHC0362	03/13/24	03/15/24	EPA 8270D SIM	

Date Sampled: **03/11/24 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.65	82.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.75	87.4 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

Summit Scientific

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

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH01
2403165-01 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **03/11/24 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	197	12.0		mg/L	200	BHC0474	03/15/24	03/16/24	EPA 300.0	
Sulfate	152	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/11/24 15:17**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	865	10.0		mg/L	1	BHC0353	03/13/24	03/13/24	SM2540C	

Summit Scientific

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

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH02
2403165-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/24 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHC0357	03/13/24	03/14/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/11/24 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	10.4	78.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.8	96.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.9	81.6 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/24 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BHC0362	03/13/24	03/15/24	EPA 8270D SIM	

Date Sampled: **03/11/24 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.50	75.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.66	83.1 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

Summit Scientific

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

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH02
2403165-02 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **03/11/24 14:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	185	12.0		mg/L	200	BHC0474	03/15/24	03/16/24	EPA 300.0	
Sulfate	151	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/11/24 14:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	844	10.0		mg/L	1	BHC0353	03/13/24	03/13/24	SM2540C	

Summit Scientific

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

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH03
2403165-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/24 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHC0357	03/13/24	03/14/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/11/24 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	10.2	76.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.9	96.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.5	78.5 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/24 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BHC0362	03/13/24	03/15/24	EPA 8270D SIM	

Date Sampled: **03/11/24 14:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.45	72.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.58	79.2 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH03
2403165-03 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **03/11/24 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	202	12.0		mg/L	200	BHC0474	03/15/24	03/16/24	EPA 300.0	
Sulfate	152	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/11/24 14:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	910	10.0		mg/L	1	BHC0353	03/13/24	03/13/24	SM2540C	

Summit Scientific

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6855 W. 119th Ave.
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Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH04
2403165-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/24 14:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHC0357	03/13/24	03/14/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/11/24 14:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	10.0	75.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.9	96.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.5	78.8 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/24 14:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BHC0362	03/13/24	03/15/24	EPA 8270D SIM	

Date Sampled: **03/11/24 14:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.60	80.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.77	88.4 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

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Reported:
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BH04
2403165-04 (Water)

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Anions by EPA Method 300.0

Date Sampled: **03/11/24 14:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	198	12.0		mg/L	200	BHC0474	03/15/24	03/16/24	EPA 300.0	
Sulfate	149	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/11/24 14:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	864	10.0		mg/L	1	BHC0353	03/13/24	03/13/24	SM2540C	

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Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH05
2403165-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/24 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHC0357	03/13/24	03/14/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/11/24 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	9.98	74.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.8	95.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.7	80.6 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/24 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BHC0362	03/13/24	03/15/24	EPA 8270D SIM	

Date Sampled: **03/11/24 15:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.66	83.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.95	97.3 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

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BH05
2403165-05 (Water)

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Anions by EPA Method 300.0

Date Sampled: **03/11/24 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	196	12.0		mg/L	200	BHC0474	03/15/24	03/16/24	EPA 300.0	
Sulfate	168	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/11/24 15:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	898	10.0		mg/L	1	BHC0353	03/13/24	03/13/24	SM2540C	

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Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH06
2403165-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/11/24 15:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BHC0357	03/13/24	03/14/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **03/11/24 15:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	10.3	77.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.7	95.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	10.6	79.4 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **03/11/24 15:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BHC0362	03/13/24	03/15/24	EPA 8270D SIM	

Date Sampled: **03/11/24 15:02**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.49	74.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.77	88.4 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

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Reported:
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BH06
2403165-06 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **03/11/24 15:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	196	12.0		mg/L	200	BHC0474	03/15/24	03/16/24	EPA 300.0	
Sulfate	155	60.0		"	"	"	"	"	"	

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Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

BH06 2403165-06
(Water)

Summit Scientific

Total Dissolved Solids by SM2540C

Date Sampled: **03/11/24 15:02**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	778	10.0		mg/L	1	BHC0790	03/13/24	03/21/24	SM2540C	

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Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHC0357 - EPA 5030 Water MS

Blank (BHC0357-BLK1)

Prepared & Analyzed: 03/13/24

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Naphthalene	ND	1.0	"							
1,2,4-Trimethylbenzene	ND	1.0	"							
1,3,5-Trimethylbenzene	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	10.9		"	13.3		82.0	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.8	20-170			
Surrogate: 4-Bromofluorobenzene	11.5		"	13.3		86.5	21-167			

LCS (BHC0357-BS1)

Prepared & Analyzed: 03/13/24

Benzene	25.9	1.0	ug/l	33.3		77.6	51-132			
Toluene	26.4	1.0	"	33.3		79.2	51-138			
Ethylbenzene	34.6	1.0	"	33.3		104	58-146			
m,p-Xylene	70.6	2.0	"	66.7		106	57-144			
o-Xylene	34.8	1.0	"	33.3		104	53-146			
Naphthalene	26.9	1.0	"	33.3		80.7	70-130			
1,2,4-Trimethylbenzene	26.2	1.0	"	33.3		78.6	70-130			
1,3,5-Trimethylbenzene	25.6	1.0	"	33.3		76.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	15.6		"	13.3		117	23-173			
Surrogate: Toluene-d8	14.8		"	13.3		111	20-170			
Surrogate: 4-Bromofluorobenzene	17.4		"	13.3		130	21-167			

Matrix Spike (BHC0357-MS1)

Source: 2403165-01

Prepared & Analyzed: 03/13/24

Benzene	29.8	1.0	ug/l	33.3	ND	89.3	34-141			
Toluene	30.0	1.0	"	33.3	ND	89.9	27-151			
Ethylbenzene	39.0	1.0	"	33.3	ND	117	29-160			
m,p-Xylene	78.6	2.0	"	66.7	ND	118	20-166			
o-Xylene	34.4	1.0	"	33.3	ND	103	33-159			
Naphthalene	26.8	1.0	"	33.3	ND	80.4	70-130			
1,2,4-Trimethylbenzene	30.5	1.0	"	33.3	ND	91.6	70-130			
1,3,5-Trimethylbenzene	30.4	1.0	"	33.3	ND	91.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.3		99.2	23-173			
Surrogate: Toluene-d8	12.5		"	13.3		93.5	20-170			
Surrogate: 4-Bromofluorobenzene	18.8		"	13.3		141	21-167			

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Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

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

Batch BHC0357 - EPA 5030 Water MS

Matrix Spike Dup (BHC0357-MSD1)		Source: 2403165-01			Prepared & Analyzed: 03/13/24					
Benzene	29.5	1.0	ug/l	33.3	ND	88.5	34-141	0.844	30	
Toluene	29.6	1.0	"	33.3	ND	88.7	27-151	1.31	30	
Ethylbenzene	33.2	1.0	"	33.3	ND	99.6	29-160	15.9	30	
m,p-Xylene	69.3	2.0	"	66.7	ND	104	20-166	12.6	30	
o-Xylene	32.8	1.0	"	33.3	ND	98.6	33-159	4.46	30	
Naphthalene	27.5	1.0	"	33.3	ND	82.5	70-130	2.61	30	
1,2,4-Trimethylbenzene	25.8	1.0	"	33.3	ND	77.3	70-130	16.9	30	
1,3,5-Trimethylbenzene	26.3	1.0	"	33.3	ND	78.9	70-130	14.6	30	
<hr/>										
Surrogate: 1,2-Dichloroethane-d4	10.2		"	13.3		76.3	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.1	20-170			
Surrogate: 4-Bromofluorobenzene	12.1		"	13.3		90.5	21-167			

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Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHC0362 - EPA 5030 Water MS

Blank (BHC0362-BLK1)

Prepared: 03/13/24 Analyzed: 03/15/24

1-Methylnaphthalene	ND	0.500	ug/l							
2-Methylnaphthalene	ND	0.500	"							
Surrogate: 2-Methylnaphthalene-d10	1.92		"	2.00		95.8	40-150			
Surrogate: Fluoranthene-d10	1.91		"	2.00		95.5	40-150			

LCS (BHC0362-BS1)

Prepared: 03/13/24 Analyzed: 03/15/24

1-Methylnaphthalene	1.72	0.500	ug/l	2.00		85.8	30-120			
2-Methylnaphthalene	1.87	0.500	"	2.00		93.7	0-200			
Surrogate: 2-Methylnaphthalene-d10	1.97		"	2.00		98.7	40-150			
Surrogate: Fluoranthene-d10	1.94		"	2.00		96.8	40-150			

LCS Dup (BHC0362-BSD1)

Prepared: 03/13/24 Analyzed: 03/15/24

1-Methylnaphthalene	1.42	0.500	ug/l	2.00		71.2	30-120	18.6	30	
2-Methylnaphthalene	1.53	0.500	"	2.00		76.6	0-200	20.0	200	
Surrogate: 2-Methylnaphthalene-d10	1.72		"	2.00		86.0	40-150			
Surrogate: Fluoranthene-d10	1.78		"	2.00		88.8	40-150			

Summit Scientific

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Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BHC0474 - General Preparation

Blank (BHC0474-BLK1)

Prepared & Analyzed: 03/15/24

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BHC0474-BS1)

Prepared & Analyzed: 03/15/24

Chloride	3.00	0.0600	mg/L	3.00	99.8	90-110
Sulfate	15.0	0.300	"	15.0	100	90-110

Duplicate (BHC0474-DUP1)

Source: 2403151-01

Prepared & Analyzed: 03/15/24

Chloride	55.8	12.0	mg/L	59.4	6.25	20
Sulfate	663	60.0	"	676	1.91	20

Matrix Spike (BHC0474-MS1)

Source: 2403151-01

Prepared & Analyzed: 03/15/24

Chloride	654	12.0	mg/L	600	59.4	99.1	80-120
Sulfate	3680	60.0	"	3000	676	100	80-120

Matrix Spike (BHC0474-MS2)

Source: 2403169-01

Prepared & Analyzed: 03/15/24

Chloride	646	12.0	mg/L	600	47.8	99.7	80-120
Sulfate	3290	60.0	"	3000	316	99.0	80-120

Summit Scientific

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Project: Noble - Thompson 28-10
Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BHC0353 - General Preparation

Blank (BHC0353-BLK1)

Prepared & Analyzed: 03/13/24

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BHC0353-DUP1)

Source: 2403141-01

Prepared & Analyzed: 03/13/24

Total Dissolved Solids 1310 10.0 mg/L 1330 1.06 20

Batch BHC0790 - General Preparation

Blank (BHC0790-BLK1)

Prepared & Analyzed: 03/21/24

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BHC0790-DUP1)

Source: 2403165-06RE1

Prepared & Analyzed: 03/21/24

Total Dissolved Solids 782 10.0 mg/L 778 0.423 20

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Thompson 28-10

Project Number: UWRWE-A2396-ABN
Project Manager: Jacob Whritenour

Reported:
04/16/24 11:38

Notes and Definitions

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