

FOURTH QUARTER 2023 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
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
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
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
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
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

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
⁽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
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
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
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
BH06	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,020	280	299
BH06	09/01/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	1,300	243	263
BH06	12/06/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<0.500	763	216	161

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

mg/L = Milligrams per liter

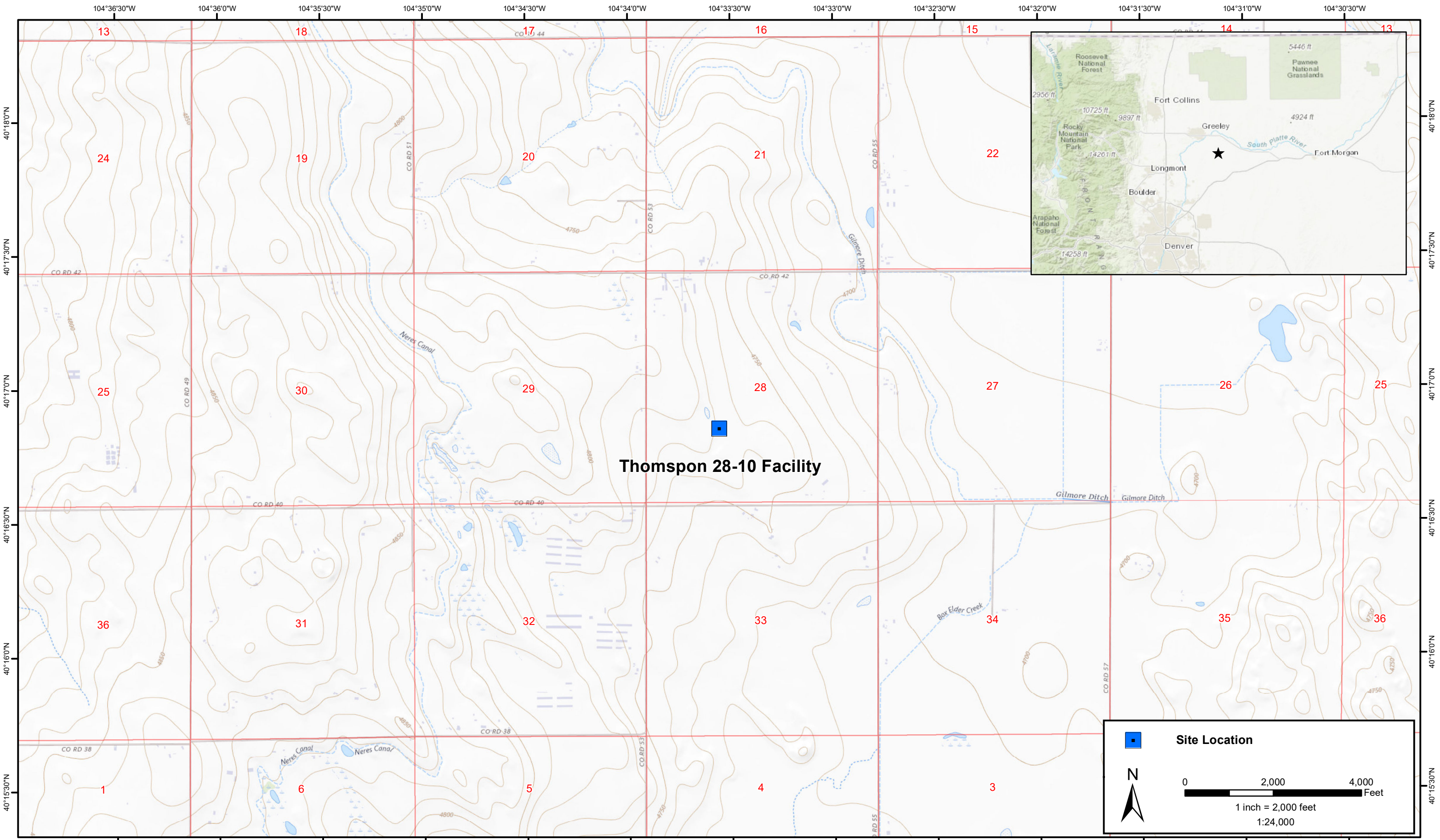
µg/L = Micrograms per liter

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

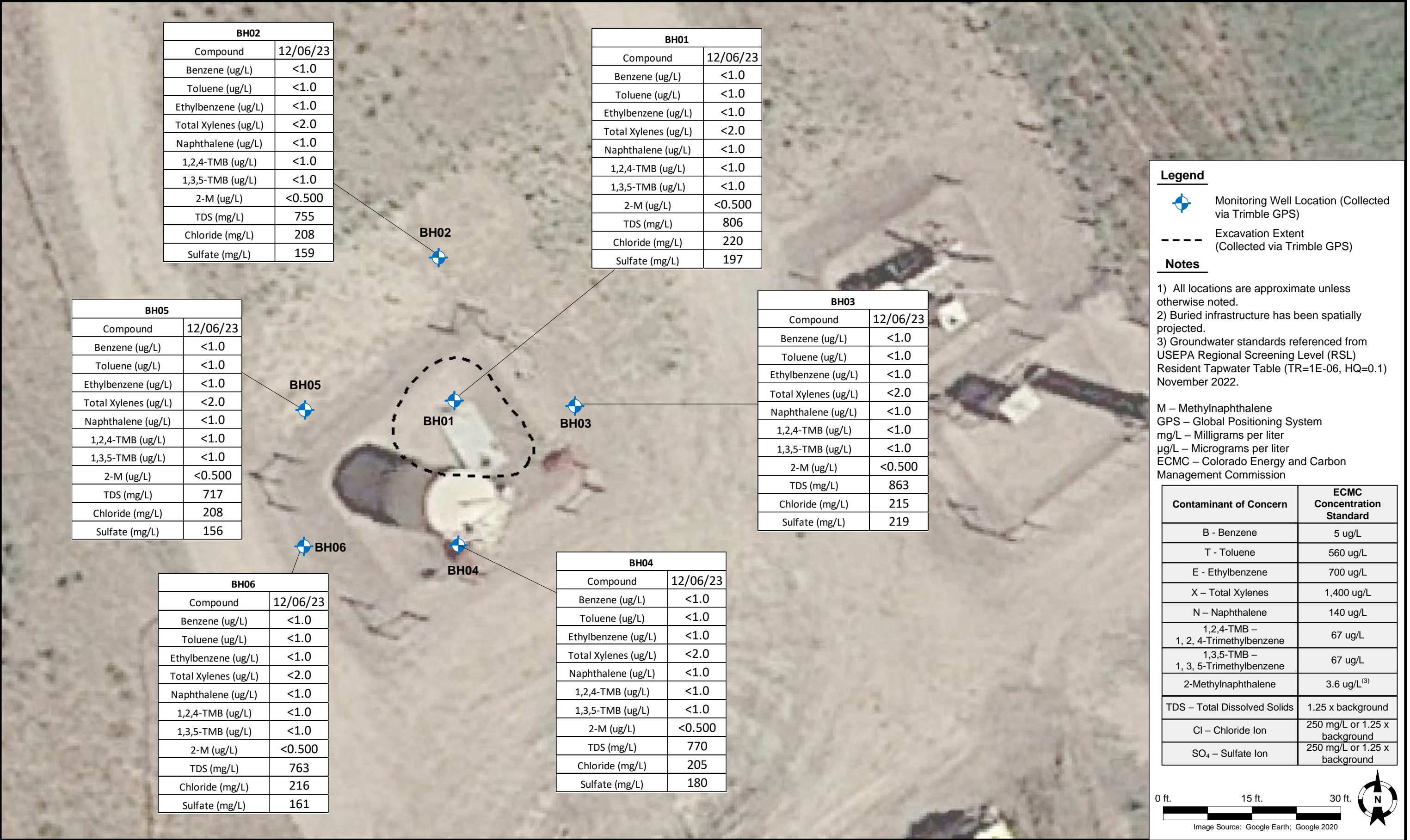
Site Location Map

Figure
1



DATE: 07/26/2023	 <div data-bbox="1028 1850 1271 1927">Tasman, Inc. 6855 W 119th Avenue Broomfield, CO 80020</div>	<div data-bbox="1470 1802 2209 1943">Noble Energy, Inc. – DJ Basin Thompson 28-10 Facility NESW, Section 28, Township 4 North, Range 64 West Weld County, Colorado</div>	Site Overview Map	FIGURE 2
DESIGNED BY: JW				
DRAWN BY: HM				





Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

December 15, 2023

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Thompson 28-10

Work Order #2312113

Enclosed are the results of analyses for samples received by Summit Scientific on 12/06/23 17:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For 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:
12/15/23 10:01

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2312113-01	Water	12/06/23 10:25	12/06/23 17:57
BH02	2312113-02	Water	12/06/23 09:50	12/06/23 17:57
BH03	2312113-03	Water	12/06/23 09:53	12/06/23 17:57
BH04	2312113-04	Water	12/06/23 10:09	12/06/23 17:57
BH05	2312113-05	Water	12/06/23 10:11	12/06/23 17:57
BH06	2312113-06	Water	12/06/23 10:23	12/06/23 17:57

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.


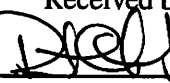
SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2312113	

Client: Noble / Tasman Inc.		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th. Ave.		Project Manager: Jake Whritenour		Company: Noble Energy, Inc.	
City/State/Zip: Broomfield / CO / 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: Thompson 28-10	
Phone: 303-487-1228		Project Name: Thompson 28-10		AFE#:	
Sampler Name: Dalton Hagen		Project Number: N/A		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	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate	PAH	
1	BH01	12/6/23	1025	6	3				X				X	X	X	X	X	X	X	X	** 1-MA, 2-M 2-M
2	BH02		0950																		
3	BH03		0953																		
4	BH04		1009																		
5	BH05		1011																		
6	BH06		1023																		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: 	Date/Time: 12/6/23 1500	Received by: Tasman Lockbox	Date/Time: 12/6/23 1500	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lockbox	Date/Time: 12/6/23 1757	Received by: 	Date/Time: 12/6/23 1757	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.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	Field Turb.	
Temperature Upon Receipt: 8.8		Corrected Temperature: 8		IR gun #: 1	HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2312113Client: Noble GasmanClient Project ID: Thompson 28-10Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐ Airbill #: ☐

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☒

Other

☐

Temp (°C)

8.8

Thermometer #

1

	Yes	No	N/A	Comments (If any)
If samples require cooling, is the temperature $< 6^{\circ}\text{C}$? ⁽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 ICE
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_2SO_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

AS

12/6/23



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

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

Reported:
12/15/23 10:01

BH01
2312113-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/06/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGL0349	12/09/23	12/10/23	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: **12/06/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	14.0	105 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	12.7	95.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.5	102 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **12/06/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
2-Methylnaphthalene	ND	0.500		ug/l	1	BGL0298	12/08/23	12/12/23	EPA 8270D SIM	

Date Sampled: **12/06/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.41	70.6 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.88	93.8 %		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:
12/15/23 10:01

BH01
2312113-01 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **12/06/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	220	12.0		mg/L	200	BGL0448	12/12/23	12/13/23	EPA 300.0	
Sulfate	197	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/06/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	806	10.0		mg/L	1	BGL0444	12/12/23	12/12/23	SM2540C	

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Tasman Geosciences
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Broomfield CO, 80020

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

Reported:
12/15/23 10:01

BH02
2312113-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/06/23 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGL0349	12/09/23	12/10/23	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: **12/06/23 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	14.0	105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.6	94.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.0	105 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **12/06/23 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BGL0298	12/08/23	12/12/23	EPA 8270D SIM	

Date Sampled: **12/06/23 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.60	80.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	2.00	100 %	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:
12/15/23 10:01

BH02
2312113-02 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **12/06/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	208	12.0		mg/L	200	BGL0448	12/12/23	12/13/23	EPA 300.0	
Sulfate	159	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/06/23 09:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	755	10.0		mg/L	1	BGL0444	12/12/23	12/12/23	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:
12/15/23 10:01

BH03
2312113-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/06/23 09:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGL0349	12/09/23	12/10/23	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: **12/06/23 09:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	14.2	107 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.7	95.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.0	105 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **12/06/23 09:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BGL0298	12/08/23	12/12/23	EPA 8270D SIM	

Date Sampled: **12/06/23 09:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.53	76.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.87	93.5 %	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:
12/15/23 10:01

BH03
2312113-03 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **12/06/23 09:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	215	12.0		mg/L	200	BGL0448	12/12/23	12/13/23	EPA 300.0	
Sulfate	219	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/06/23 09:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	863	10.0		mg/L	1	BGL0444	12/12/23	12/12/23	SM2540C	

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

Reported:
12/15/23 10:01

BH04
2312113-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/06/23 10:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGL0349	12/09/23	12/10/23	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: **12/06/23 10:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	14.4	108 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.6	94.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.9	104 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **12/06/23 10:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BGL0298	12/08/23	12/12/23	EPA 8270D SIM	

Date Sampled: **12/06/23 10:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.25	62.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.60	79.9 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

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Reported:
12/15/23 10:01

BH04
2312113-04 (Water)

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Anions by EPA Method 300.0

Date Sampled: **12/06/23 10:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	205	12.0		mg/L	200	BGL0448	12/12/23	12/13/23	EPA 300.0	
Sulfate	180	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/06/23 10:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	770	10.0		mg/L	1	BGL0444	12/12/23	12/12/23	SM2540C	

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Project: Noble - Thompson 28-10
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Project Manager: Jacob Whritenour

Reported:
12/15/23 10:01

BH05
2312113-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/06/23 10:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGL0349	12/09/23	12/10/23	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: **12/06/23 10:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	14.1	106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.7	95.2 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.0	105 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **12/06/23 10:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BGL0298	12/08/23	12/12/23	EPA 8270D SIM	

Date Sampled: **12/06/23 10:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.41	70.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.87	93.5 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

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Project Manager: Jacob Whritenour

Reported:
12/15/23 10:01

BH05
2312113-05 (Water)

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Anions by EPA Method 300.0

Date Sampled: **12/06/23 10:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	208	12.0		mg/L	200	BGL0448	12/12/23	12/13/23	EPA 300.0	
Sulfate	156	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/06/23 10:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	717	10.0		mg/L	1	BGL0444	12/12/23	12/12/23	SM2540C	

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

Reported:
12/15/23 10:01

BH06
2312113-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **12/06/23 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BGL0349	12/09/23	12/10/23	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: **12/06/23 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	14.1	106 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	12.8	96.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.9	104 %	21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **12/06/23 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
2-Methylnaphthalene	ND	0.500	ug/l	1	BGL0298	12/08/23	12/12/23	EPA 8270D SIM	

Date Sampled: **12/06/23 10:23**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	1.57	78.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.75	87.3 %	40-150		"	"	"	"	

Anions by EPA Method 300.0

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Reported:
12/15/23 10:01

BH06
2312113-06 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **12/06/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	216	12.0		mg/L	200	BGL0448	12/12/23	12/13/23	EPA 300.0	
Sulfate	161	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **12/06/23 10:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	763	10.0		mg/L	1	BGL0444	12/12/23	12/12/23	SM2540C	

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Project Manager: Jacob Whritenour

Reported:
12/15/23 10:01

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BGL0349 - EPA 5030 Water MS

Blank (BGL0349-BLK1)

Prepared: 12/09/23 Analyzed: 12/10/23

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	14.0		"	13.3		105	23-173			
Surrogate: Toluene-d8	12.6		"	13.3		94.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

LCS (BGL0349-BS1)

Prepared: 12/09/23 Analyzed: 12/10/23

Benzene	34.6	1.0	ug/l	33.3		104	51-132			
Toluene	26.5	1.0	"	33.3		79.5	51-138			
Ethylbenzene	28.0	1.0	"	33.3		84.0	58-146			
m,p-Xylene	51.1	2.0	"	66.7		76.7	57-144			
o-Xylene	23.8	1.0	"	33.3		71.5	53-146			
Naphthalene	29.5	1.0	"	33.3		88.5	70-130			
1,2,4-Trimethylbenzene	29.8	1.0	"	33.3		89.3	70-130			
1,3,5-Trimethylbenzene	24.7	1.0	"	33.3		74.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	10.6		"	13.3		79.2	23-173			
Surrogate: Toluene-d8	16.2		"	13.3		122	20-170			
Surrogate: 4-Bromofluorobenzene	16.0		"	13.3		120	21-167			

Matrix Spike (BGL0349-MS1)

Source: 2312107-01

Prepared: 12/09/23 Analyzed: 12/10/23

Benzene	30.9	1.0	ug/l	33.3	ND	92.6	34-141			
Toluene	24.3	1.0	"	33.3	ND	72.9	27-151			
Ethylbenzene	30.1	1.0	"	33.3	ND	90.4	29-160			
m,p-Xylene	57.3	2.0	"	66.7	ND	86.0	20-166			
o-Xylene	25.7	1.0	"	33.3	ND	77.0	33-159			
Naphthalene	28.6	1.0	"	33.3	ND	86.0	70-130			
1,2,4-Trimethylbenzene	26.4	1.0	"	33.3	ND	79.1	70-130			
1,3,5-Trimethylbenzene	26.9	1.0	"	33.3	ND	80.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.2		"	13.3		91.7	23-173			
Surrogate: Toluene-d8	11.4		"	13.3		85.8	20-170			
Surrogate: 4-Bromofluorobenzene	18.2		"	13.3		136	21-167			

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Project: Noble - Thompson 28-10
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Project Manager: Jacob Whritenour

Reported:
12/15/23 10:01

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 BGL0349 - EPA 5030 Water MS

Matrix Spike Dup (BGL0349-MSD1)	Source: 2312107-01			Prepared: 12/09/23 Analyzed: 12/10/23						
Benzene	30.6	1.0	ug/l	33.3	ND	91.8	34-141	0.813	30	
Toluene	25.0	1.0	"	33.3	ND	75.2	27-151	3.00	30	
Ethylbenzene	30.0	1.0	"	33.3	ND	89.9	29-160	0.599	30	
m,p-Xylene	56.2	2.0	"	66.7	ND	84.3	20-166	1.97	30	
o-Xylene	25.4	1.0	"	33.3	ND	76.1	33-159	1.18	30	
Naphthalene	24.2	1.0	"	33.3	ND	72.5	70-130	17.0	30	
1,2,4-Trimethylbenzene	26.1	1.0	"	33.3	ND	78.2	70-130	1.03	30	
1,3,5-Trimethylbenzene	27.0	1.0	"	33.3	ND	80.9	70-130	0.335	30	
Surrogate: 1,2-Dichloroethane-d4	10.4		"	13.3		77.8	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.4	21-167			

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Project Manager: Jacob Whritenour

Reported:
12/15/23 10:01

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 BGL0298 - EPA 5030 Water MS

Blank (BGL0298-BLK1)

Prepared: 12/08/23 Analyzed: 12/12/23

2-Methylnaphthalene	ND	0.500	ug/l							
Surrogate: 2-Methylnaphthalene-d10	1.23		"	2.00		61.6	40-150			
Surrogate: Fluoranthene-d10	2.04		"	2.00		102	40-150			

LCS (BGL0298-BS1)

Prepared: 12/08/23 Analyzed: 12/12/23

2-Methylnaphthalene	2.25	0.500	ug/l	2.00		112	0-200			
Surrogate: 2-Methylnaphthalene-d10	1.87		"	2.00		93.3	40-150			
Surrogate: Fluoranthene-d10	2.05		"	2.00		102	40-150			

LCS Dup (BGL0298-BSD1)

Prepared: 12/08/23 Analyzed: 12/12/23

2-Methylnaphthalene	2.24	0.500	ug/l	2.00		112	0-200	0.363	200	
Surrogate: 2-Methylnaphthalene-d10	1.95		"	2.00		97.6	40-150			
Surrogate: Fluoranthene-d10	2.22		"	2.00		111	40-150			

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

Reported:
12/15/23 10:01

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 BGL0448 - General Preparation

Blank (BGL0448-BLK1)

Prepared: 12/12/23 Analyzed: 12/13/23

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BGL0448-BS1)

Prepared: 12/12/23 Analyzed: 12/13/23

Chloride	3.03	0.0600	mg/L	3.00	101	90-110
Sulfate	15.2	0.300	"	15.0	101	90-110

Duplicate (BGL0448-DUP1)

Source: 2312107-01

Prepared: 12/12/23 Analyzed: 12/14/23

Chloride	352	12.0	mg/L	339	3.82	20
Sulfate	468	60.0	"	457	2.29	20

Matrix Spike (BGL0448-MS1)

Source: 2312107-01

Prepared: 12/12/23 Analyzed: 12/13/23

Chloride	937	12.0	mg/L	600	339	99.7	80-120
Sulfate	3490	60.0	"	3000	457	101	80-120

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Broomfield CO, 80020

Project: Noble - Thompson 28-10

Project Number: UWRWE-A2396-ABN

Project Manager: Jacob Whritenour

Reported:
12/15/23 10:01

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BGL0444 - General Preparation

Blank (BGL0444-BLK1)

Prepared & Analyzed: 12/12/23

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BGL0444-DUP1)

Source: 2312107-01

Prepared & Analyzed: 12/12/23

Total Dissolved Solids 1550 10.0 mg/L 1550 0.258 20

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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:
12/15/23 10:01

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