

THIRD 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

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
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
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
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
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
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

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**

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)	1-M (µg/L)	2-M (µg/L)	TDS (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Standard		5	560	700	1,400	140	67	67	1.1 ⁽²⁾	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	NA	<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	<0.500	1,260	257	208
⁽³⁾ BH02	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	<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	<0.500	1,630	345	328
BH03	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	<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	<0.500	1,120	260	156
BH04	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	<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	<0.500	1,180	256	168
BH05	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	<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	<0.500	1,210	232	214
BH06	06/19/23	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	<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	<0.500	1,300	243	263

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.

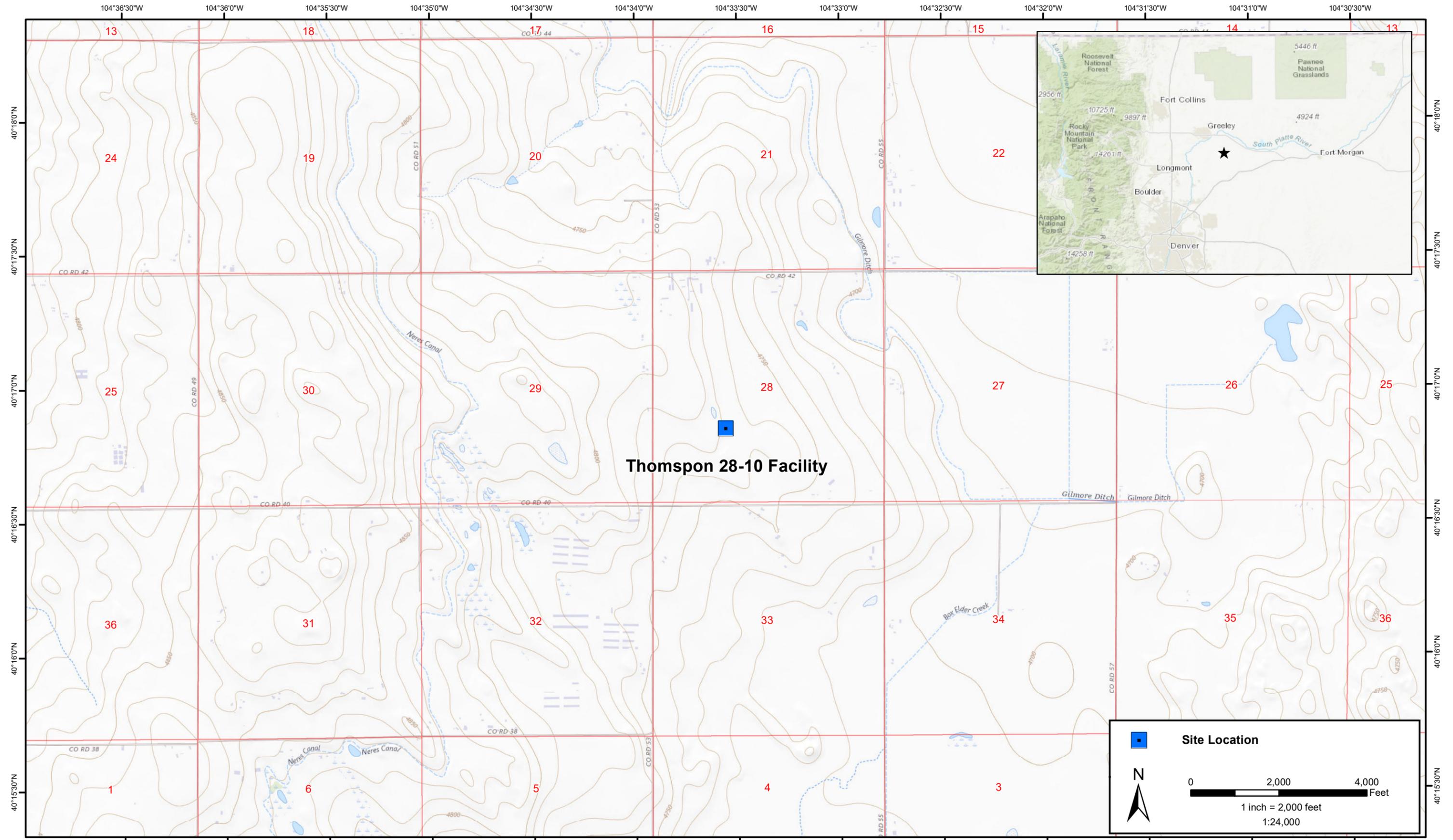
⁽³⁾ Monitoring well used for inorganic background levels.

Definitions:

- < = Analytical result is less than the indicated laboratory reporting limit
- ECMC = Energy and Carbon Management Commission
- mg/L = Milligrams per liter
- NS = No standard
- µg/L = Micrograms per liter
- 1,2,4 - TMB = 1,2,4 Trimethylbenzene
- 1,3,5 - TMB = 1,3,5 Trimethylbenzene
- Benz(a) = Benzanthracene
- 1-M = 1-Methylnaphthalene
- 2-M = 2-Methylnaphthalene
- TDS = Total Dissolved Solids
- NA = Not Analyzed

Highlighted results are equal to or exceed the ECMC Table 915-1 standard

The site-specific background assessment is on-going for groundwater inorganic constituents.



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

0 ft. 15 ft. 30 ft. 

Image Source: Google Earth; Google 2020

DATE:	07/26/2023
DESIGNED BY:	JW
DRAWN BY:	HM



TASMAN Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Thompson 28-10 FAC
 NESW, Section 28, Township 4 North, Range 64 West
 Weld County, Colorado

Site Overview Map

FIGURE
2



Legend

- Monitoring Well Location (Collected via Trimble GPS)
- Excavation Extent (Collected via Trimble GPS)
- Groundwater Elevation Contour (Dashed where Inferred)
- 4717.44** Measured Groundwater Elevation – (ft. amsl)
- Approximate Groundwater Flow Direction

Notes

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

GPS – Global Positioning System
Ft. amsl – Feet above mean sea level

0 ft. 15 ft. 30 ft.

Image Source: Google Earth; Google 2020

DATE:	10/12/2023
DESIGNED BY:	JW
DRAWN BY:	MK



TASMAN Tasman Geosciences, Inc.
6855 W 119th Avenue
Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Thompson 28-10 FAC
NESW, Section 28, Township 4 North, Range 64 West
Weld County, Colorado

Groundwater Potentiometric
Surface Contour Map
(09/01/2023)

FIGURE
3

BH02	
Compound	09/01/23
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-TMB (ug/L)	<1.0
1,3,5-TMB (ug/L)	<1.0
1-M (ug/L)	<0.500
2-M (ug/L)	<0.500
TDS (mg/L)	1,630
Chloride (mg/L)	345
Sulfate (mg/L)	328

BH01	
Compound	09/01/23
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-TMB (ug/L)	<1.0
1,3,5-TMB (ug/L)	<1.0
1-M (ug/L)	<0.500
2-M (ug/L)	<0.500
TDS (mg/L)	1,260
Chloride (mg/L)	257
Sulfate (mg/L)	208

BH05	
Compound	09/01/23
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-TMB (ug/L)	<1.0
1,3,5-TMB (ug/L)	<1.0
1-M (ug/L)	<0.500
2-M (ug/L)	<0.500
TDS (mg/L)	1,210
Chloride (mg/L)	232
Sulfate (mg/L)	214

BH03	
Compound	09/01/23
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-TMB (ug/L)	<1.0
1,3,5-TMB (ug/L)	<1.0
1-M (ug/L)	<0.500
2-M (ug/L)	<0.500
TDS (mg/L)	1,120
Chloride (mg/L)	260
Sulfate (mg/L)	156

BH06	
Compound	09/01/23
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-TMB (ug/L)	<1.0
1,3,5-TMB (ug/L)	<1.0
1-M (ug/L)	<0.500
2-M (ug/L)	<0.500
TDS (mg/L)	1,300
Chloride (mg/L)	243
Sulfate (mg/L)	263

BH04	
Compound	09/01/23
Benzene (ug/L)	<1.0
Toluene (ug/L)	<1.0
Ethylbenzene (ug/L)	<1.0
Total Xylenes (ug/L)	<2.0
Naphthalene (ug/L)	<1.0
1,2,4-TMB (ug/L)	<1.0
1,3,5-TMB (ug/L)	<1.0
1-M (ug/L)	<0.500
2-M (ug/L)	<0.500
TDS (mg/L)	1,180
Chloride (mg/L)	256
Sulfate (mg/L)	168

Legend

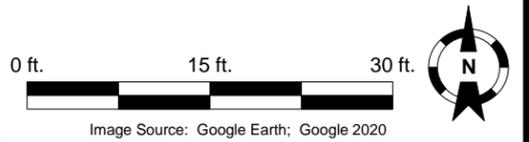
-  Monitoring Well Location (Collected via Trimble GPS)
-  Excavation Extent (Collected via Trimble GPS)

Notes

- 1) All locations are approximate unless otherwise noted.
- 2) Buried infrastructure has been spatially projected.
- 3) Laboratory organic analytical results shown for samples with any concentration above detection limits.
- 4) **RED** value indicates organics concentration > ECMC Table 915-1 groundwater Standard
- 5) Groundwater standards referenced from USEPA Regional Screening Level (RSL) Resident Tapwater Table (TR=1E-06, HQ=0.1) November 2022.

M – Methylnaphthalene
 GPS – Global Positioning System
 mg/L – Milligrams per liter
 ug/L – Micrograms per liter

Contaminant of Concern	ECMC Concentration Standard
B - Benzene	5 ug/L
T - Toluene	560 ug/L
E - Ethylbenzene	700 ug/L
X – Total Xylenes	1,400 ug/L
N – Naphthalene	140 ug/L
1,2,4-TMB – 1, 2, 4-Trimethylbenzene	67 ug/L
1,3,5-TMB – 1, 3, 5-Trimethylbenzene	67 ug/L
1-Methylnaphthalene	1.1 ug/L ⁽⁵⁾
2-Methylnaphthalene	3.6 ug/L ⁽⁵⁾
TDS – Total Dissolved Solids	1.25 x background
Cl – Chloride Ion	250 mg/L or 1.25 x background
SO ₄ – Sulfate Ion	250 mg/L or 1.25 x background



DATE: 09/25/2023
 DESIGNED BY: JW
 DRAWN BY: HM



Tasman Geosciences, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. – DJ Basin
Thompson 28-10 FAC
 NESW, Section 28, Township 4 North, Range 64 West
 Weld County, Colorado

Groundwater Analytical
 Results Map
 (09/01/2023)

FIGURE
 4

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

September 14, 2023

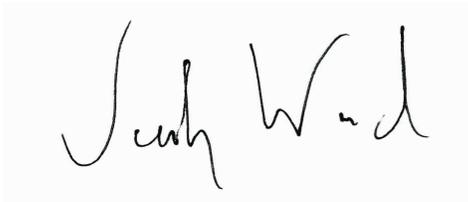
Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020

RE: Noble - Thompson 28-10

Work Order #2309020

Enclosed are the results of analyses for samples received by Summit Scientific on 09/01/23 17:41. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial 'J' and a long horizontal stroke at the end.

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:
09/14/23 11:07

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2309020-01	Water	09/01/23 09:57	09/01/23 17:41
BH02	2309020-02	Water	09/01/23 09:35	09/01/23 17:41
BH03	2309020-03	Water	09/01/23 09:36	09/01/23 17:41
BH04	2309020-04	Water	09/01/23 09:46	09/01/23 17:41
BH05	2309020-05	Water	09/01/23 09:46	09/01/23 17:41
BH06	2309020-06	Water	09/01/23 09:57	09/01/23 17:41

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.

Send Data To:		Send Invoice To:
Client: Noble/Tasman	Project Manager: Jake Whritenour	Company: Noble
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Thompson 28-10
City/State/Zip: Broomfield/CO/ 80020		AFE#:
Phone: 602-881-5716	Project Name: Thompson 28-10	PO/Billing Codes:
Sampler Name: McKenzie Reynolds	Project Number: N/A	Contact:

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	Napthalene	1,2,4 TMB	1,3,5 TMB	TDS	Chlorine		Sulfate	Mn, Ni, Mn2
1	BH01	9/11/23	09:57	6	3		3		X				X	X	X	X	X	X	X		SAR, EC, pH by saturated paste
2	BH02		09:35																		
3	BH03		09:36																		
4	BH04		09:46																		
5	BH05		09:46																		
6	BH06		09:57																		
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: Aiden Franklin Aidan Quinn	Date/Time: 9/11/23 14:14	Received by: Tasman Lock Box	Date/Time: 9/11/23 14:14	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 9/12/23 1741	Received by: [Signature]	Date/Time: 9/12/23 1741	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 13.1	Corrected Temperature: 0	IR gun #:		HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2309020

Client: Noble Frisman Client Project ID: Thompson 28-10

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

Five empty boxes for shipping options

Matrix (Check all that apply) Air Soil/Solid Water Other

Temp (°C) 13.1

Thermometer # 1

Table with 5 columns: Yes, No, N/A, Comments (if any). Rows include questions about cooling, custody seals, sample volume, and preservation.

AS Custodian Printed Name

9/1/23 Date/Time

4445



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

Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH01
2309020-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGI0093	09/05/23	09/06/23	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: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	12.0	89.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.4	101 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.0	105 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
1-Methylnaphthalene	ND	0.500		ug/l	1	BGI0075	09/05/23	09/05/23	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.60	80.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.54	77.2 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

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.



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

Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH01
2309020-01 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	257	12.0		mg/L	200	BGI0268	09/11/23	09/12/23	EPA 300.0	
Sulfate	208	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1260	10.0		mg/L	1	BGI0083	09/05/23	09/05/23	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:
09/14/23 11:07

BH02
2309020-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/23 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGI0093	09/05/23	09/06/23	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: **09/01/23 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	12.6	94.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.6	102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.9	104 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **09/01/23 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
1-Methylnaphthalene	ND	0.500		ug/l	1	BGI0075	09/05/23	09/05/23	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **09/01/23 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.33	66.4 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.09	54.6 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

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.



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

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

Reported:
09/14/23 11:07

BH02
2309020-02 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **09/01/23 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	345	12.0		mg/L	200	BGI0268	09/11/23	09/13/23	EPA 300.0	
Sulfate	328	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **09/01/23 09:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1630	10.0		mg/L	1	BGI0083	09/05/23	09/05/23	SM2540C	

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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:
09/14/23 11:07

BH03
2309020-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/23 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGI0093	09/05/23	09/06/23	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: **09/01/23 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	12.5	93.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.6	102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.9	104 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **09/01/23 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
1-Methylnaphthalene	ND	0.500		ug/l	1	BGI0075	09/05/23	09/05/23	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **09/01/23 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.57	78.3 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.48	73.8 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

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Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH03
2309020-03 (Water)

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Anions by EPA Method 300.0

Date Sampled: **09/01/23 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	260	12.0		mg/L	200	BGI0268	09/11/23	09/13/23	EPA 300.0	
Sulfate	156	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **09/01/23 09:36**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1120	10.0		mg/L	1	BGI0083	09/05/23	09/05/23	SM2540C	

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Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH04
2309020-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGI0093	09/05/23	09/06/23	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: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	12.2	91.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.5	101 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.6	102 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
1-Methylnaphthalene	ND	0.500		ug/l	1	BGI0075	09/05/23	09/05/23	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.46	72.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.48	74.2 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

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

Reported:
09/14/23 11:07

BH04
2309020-04 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	256	12.0	mg/L	200	BGI0268	09/11/23	09/13/23	EPA 300.0	
Sulfate	168	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	1180	10.0	mg/L	1	BGI0083	09/05/23	09/05/23	SM2540C	

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Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH05
2309020-05 (Water)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGI0093	09/05/23	09/06/23	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: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	12.3	92.0 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.6	102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.7	103 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
1-Methylnaphthalene	ND	0.500		ug/l	1	BGI0075	09/05/23	09/05/23	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.44	72.0 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.50	75.1 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

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

Reported:
09/14/23 11:07

BH05
2309020-05 (Water)

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Anions by EPA Method 300.0

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	232	12.0		mg/L	200	BGI0268	09/11/23	09/13/23	EPA 300.0	
Sulfate	214	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **09/01/23 09:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1210	10.0		mg/L	1	BGI0083	09/05/23	09/05/23	SM2540C	

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Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH06
2309020-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BGI0093	09/05/23	09/06/23	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: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	12.5	93.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.8	103 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.0	105 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
1-Methylnaphthalene	ND	0.500		ug/l	1	BGI0075	09/05/23	09/06/23	EPA 8270D SIM	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.43	71.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.33	66.6 %		40-150		"	"	"	"	

Anions by EPA Method 300.0

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Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

BH06
2309020-06 (Water)

Summit Scientific

Anions by EPA Method 300.0

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	243	12.0		mg/L	200	BGI0268	09/11/23	09/13/23	EPA 300.0	
Sulfate	263	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **09/01/23 09:57**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1300	10.0		mg/L	1	BGI0083	09/05/23	09/05/23	SM2540C	

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

Reported:
09/14/23 11:07

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGI0093 - EPA 5030 Water MS

Blank (BGI0093-BLK1)

Prepared & Analyzed: 09/05/23

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.7		"	13.3		95.4	23-173			
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		101	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.3		"	13.3		107	21-167			

LCS (BGI0093-BS1)

Prepared & Analyzed: 09/05/23

Benzene	58.9	1.0	ug/l	50.0		118	51-132			
Toluene	63.3	1.0	"	50.0		127	51-138			
Ethylbenzene	57.3	1.0	"	50.0		115	58-146			
m,p-Xylene	111	2.0	"	100		111	57-144			
o-Xylene	57.0	1.0	"	50.0		114	53-146			
Naphthalene	47.4	1.0	"	50.0		94.7	70-130			
1,2,4-Trimethylbenzene	52.7	1.0	"	50.0		105	70-130			
1,3,5-Trimethylbenzene	53.2	1.0	"	50.0		106	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.6		"	13.3		94.7	23-173			
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3		100	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.0		"	13.3		105	21-167			

Matrix Spike (BGI0093-MS1)

Source: 2308694-01

Prepared & Analyzed: 09/05/23

Benzene	43.2	1.0	ug/l	50.0	ND	86.4	34-141			
Toluene	47.9	1.0	"	50.0	ND	95.8	27-151			
Ethylbenzene	41.5	1.0	"	50.0	ND	83.0	29-160			
m,p-Xylene	121	2.0	"	100	ND	121	20-166			
o-Xylene	42.1	1.0	"	50.0	ND	84.1	33-159			
Naphthalene	45.8	1.0	"	50.0	ND	91.7	70-130			
1,2,4-Trimethylbenzene	46.6	1.0	"	50.0	ND	93.1	70-130			
1,3,5-Trimethylbenzene	47.6	1.0	"	50.0	ND	95.1	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.8		"	13.3		96.0	23-173			
<i>Surrogate: Toluene-d8</i>	13.3		"	13.3		100	20-170			
<i>Surrogate: 4-Bromofluorobenzene</i>	14.2		"	13.3		106	21-167			

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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:
09/14/23 11:07

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

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

Batch BGI0093 - EPA 5030 Water MS

Matrix Spike Dup (BGI0093-MSD1)	Source: 2308694-01			Prepared & Analyzed: 09/05/23						
Benzene	44.2	1.0	ug/l	50.0	ND	88.4	34-141	2.29	30	
Toluene	47.3	1.0	"	50.0	ND	94.6	27-151	1.24	30	
Ethylbenzene	43.9	1.0	"	50.0	ND	87.8	29-160	5.60	30	
m,p-Xylene	125	2.0	"	100	ND	125	20-166	2.95	30	
o-Xylene	43.7	1.0	"	50.0	ND	87.4	33-159	3.78	30	
Naphthalene	44.2	1.0	"	50.0	ND	88.3	70-130	3.73	30	
1,2,4-Trimethylbenzene	40.5	1.0	"	50.0	ND	80.9	70-130	14.0	30	
1,3,5-Trimethylbenzene	41.0	1.0	"	50.0	ND	82.0	70-130	14.8	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>14.2</i>		<i>"</i>	<i>13.3</i>		<i>106</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.4</i>		<i>"</i>	<i>13.3</i>		<i>100</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.1</i>		<i>"</i>	<i>13.3</i>		<i>106</i>	<i>21-167</i>			

Summit Scientific

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Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGI0075 - EPA 5030 Water MS

Blank (BGI0075-BLK1)

Prepared & Analyzed: 09/05/23

1-Methylnaphthalene	ND	0.500	ug/l							
2-Methylnaphthalene	ND	0.500	"							
Surrogate: 2-Methylnaphthalene-d10	2.00		"	2.00		100	40-150			
Surrogate: Fluoranthene-d10	2.27		"	2.00		113	40-150			

LCS (BGI0075-BS1)

Prepared & Analyzed: 09/05/23

1-Methylnaphthalene	1.80	0.500	ug/l	2.00		90.2	30-120			
2-Methylnaphthalene	1.84	0.500	"	2.00		92.1	0-200			
Surrogate: 2-Methylnaphthalene-d10	1.88		"	2.00		94.2	40-150			
Surrogate: Fluoranthene-d10	1.75		"	2.00		87.3	40-150			

LCS Dup (BGI0075-BSD1)

Prepared & Analyzed: 09/05/23

1-Methylnaphthalene	1.94	0.500	ug/l	2.00		97.0	30-120	7.27	30	
2-Methylnaphthalene	1.97	0.500	"	2.00		98.6	0-200	6.79	200	
Surrogate: 2-Methylnaphthalene-d10	1.98		"	2.00		99.2	40-150			
Surrogate: Fluoranthene-d10	1.77		"	2.00		88.4	40-150			

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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:
09/14/23 11:07

Anions by EPA Method 300.0 - Quality Control
Summit Scientific

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

Batch BGI0268 - General Preparation

Blank (BGI0268-BLK1)

Prepared: 09/11/23 Analyzed: 09/12/23

Chloride	ND	0.0600	mg/L							
Sulfate	ND	0.300	"							

LCS (BGI0268-BS1)

Prepared: 09/11/23 Analyzed: 09/12/23

Chloride	2.88	0.0600	mg/L	3.00	96.0	90-110				
Sulfate	13.9	0.300	"	15.0	92.5	90-110				

Duplicate (BGI0268-DUP1)

Source: 2309015-01

Prepared: 09/11/23 Analyzed: 09/12/23

Chloride	51.2	12.0	mg/L		57.0		10.7	20		
Sulfate	529	60.0	"		567		6.90	20		

Matrix Spike (BGI0268-MS1)

Source: 2309015-01

Prepared: 09/11/23 Analyzed: 09/12/23

Chloride	618	12.0	mg/L	600	57.0	93.6	80-120			
Sulfate	3440	60.0	"	3000	567	95.7	80-120			

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.



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

Project: Noble - Thompson 28-10

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

Reported:
09/14/23 11:07

Total Dissolved Solids by SM2540C - Quality Control
Summit Scientific

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

Batch BGI0083 - General Preparation

Blank (BGI0083-BLK1)

Prepared & Analyzed: 09/05/23

Total Dissolved Solids ND 10.0 mg/L

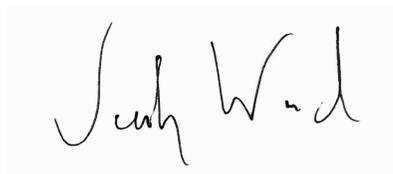
Duplicate (BGI0083-DUP1)

Source: 2308694-01

Prepared & Analyzed: 09/05/23

Total Dissolved Solids 1650 10.0 mg/L 1540 6.59 20

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:
09/14/23 11:07

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