

THIRD QUARTER 2022 SITE MONITORING DATA

WERNING 7-2 (WH)

COGCC SPILL TRACKING # 479589

COGCC REMEDIATION # 16540

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. - Werning 7-2 WH



Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.)	Depth to LNAPL (ft.)	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01_WH	11/15/21	4665.18	14.72	3.59	ND	ND	4658.31
BH01_WH	03/09/22	4665.18	14.65	4.27	ND	ND	4657.63
BH01_WH	07/29/22	4665.18	14.68	2.73	ND	ND	4659.17
BH02_WH	11/15/21	4665.20	14.84	3.40	ND	ND	4658.41
BH02_WH	03/09/22	4665.20	14.84	4.17	ND	ND	4657.64
BH02_WH	07/29/22	4665.20	14.84	2.62	ND	ND	4659.19
BH03_WH	11/15/21	4665.40	14.89	3.66	ND	ND	4658.27
BH03_WH	03/09/22	4665.40	14.93	4.29	ND	ND	4657.64
BH03_WH	07/29/22	4665.40	14.86	2.78	ND	ND	4659.15
BH04_WH	11/15/21	4665.22	14.83	3.29	ND	ND	4658.44
BH04_WH	03/09/22	4665.22	14.82	4.07	ND	ND	4657.66
BH04_WH	07/29/22	4665.22	14.83	2.56	ND	ND	4659.17
BH05_WH	11/15/21	4665.23	14.90	3.56	ND	ND	4658.38
BH05_WH	03/09/22	4665.23	14.85	4.29	ND	ND	4657.65
BH05_WH	07/29/22	4665.23	14.81	2.74	ND	ND	4659.20

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 approximately 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. - Werning 7-2 WH

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)	TDS (mg/L)	Chloride Ion (mg/L)	Sulfate Ion (mg/L)
COGCC Groundwater Standard ⁽¹⁾		5	560	700	1,400	140	67	67	<1.25 x Background	250 or <1.25 x Background	250 or <1.25 x Background
GW01	02/23/21	<1.0	<1.0	2.1	8.2	<1.0	150	51	NA	NA	NA
BH01_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	937	27.6	131
BH01_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	928	108	191
BH01_WH	07/29/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,110	117	199
BH02_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	889	51.4	173
BH02_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	855	92.0	99.2
BH02_WH	07/29/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,040	124	210
BH03_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	892	166	388
BH03_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	832	97.8	137
BH03_WH	07/29/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	990	115	235
BH04_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	841	153	364
BH04_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	844	107	142
BH04_WH	07/29/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	913	106	215
⁽²⁾ BH05_WH	11/15/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	879	16.4	99.0
⁽²⁾ BH05_WH	03/09/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	832	106	136
⁽²⁾ BH05_WH	07/29/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	953	106	220

Notes:

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

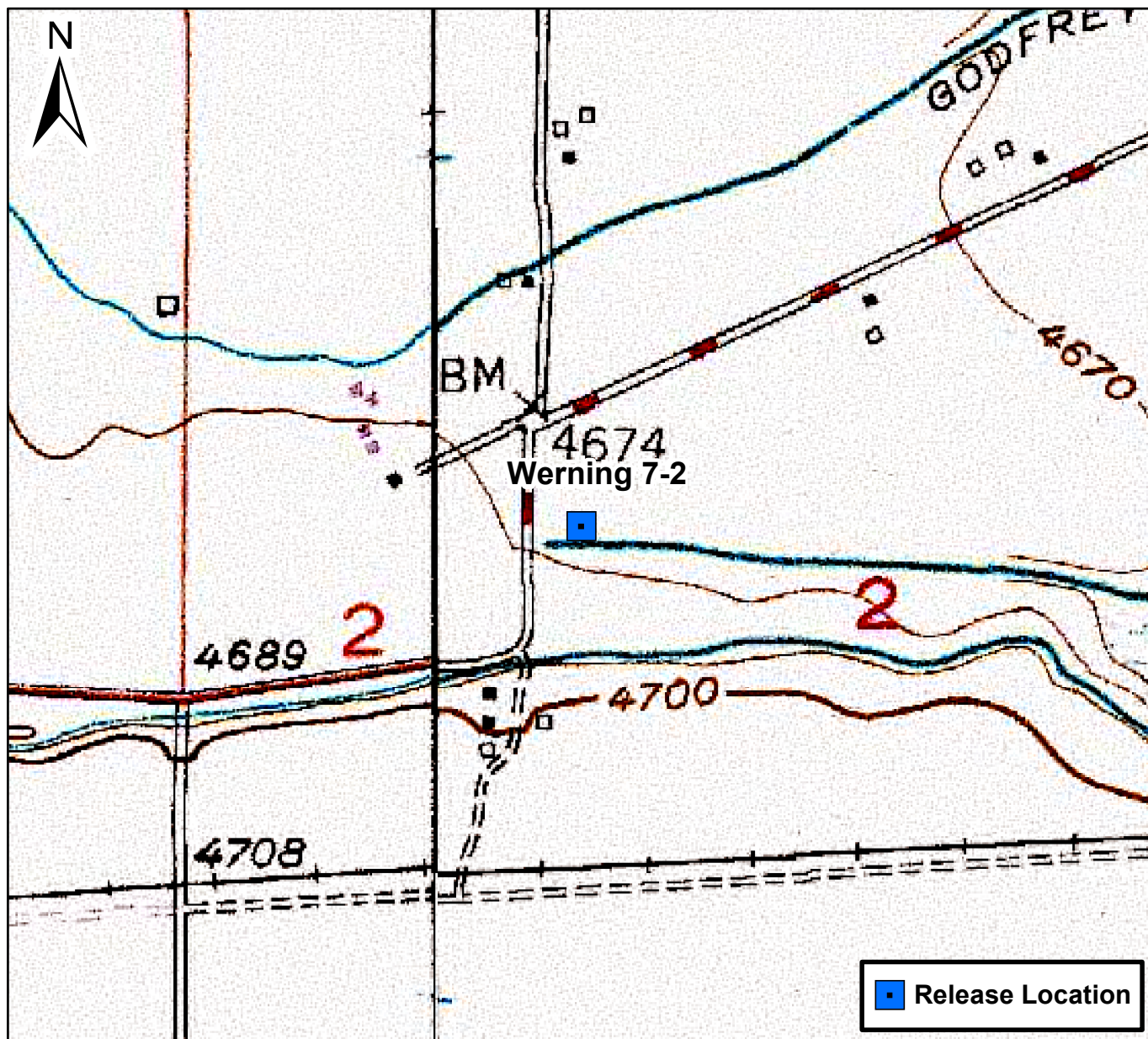
⁽²⁾ Monitoring well used to calculate inorganic background standards.

Definitions:

< = Analytical result is less than the indicated laboratory reporting limit
COGCC = Colorado Oil and Gas Conservation Commission
µg/L = Micrograms per liter
mg/L = Milligrams per liter
NA = Not analyzed
1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
TDS = Total Dissolved Solids

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

Bold results exceed the COGCC Table 915-1 standard for groundwater inorganic parameters, site-specific background assessment is on-going for groundwater inorganic constituents.



0 750 1,500 Feet

Figure 1

Site Location Map
Werning 7-2
SWNE S2 T4N R66W
Weld County, Colorado





DATE:	07/20/2022
DESIGNED BY:	JW
DRAWN BY:	DQ



TASMAN
GEOSCIENCES


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

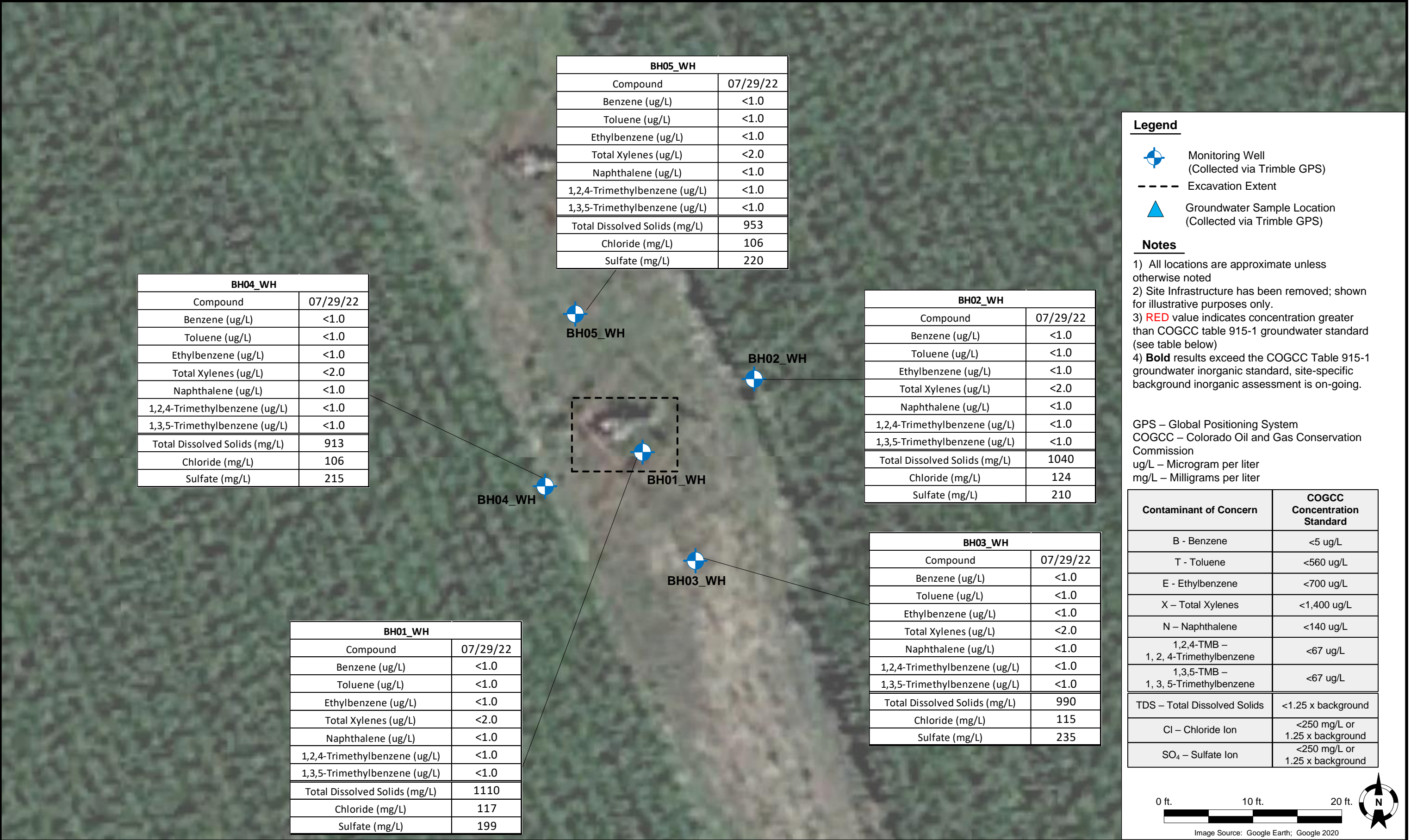
Noble Energy, Inc. – DJ Basin
Werning 7-2
SWNE, Section 2, Township 4 North, Range 66 West
Weld County, Colorado

Site Overview Map

FIGURE
2



DATE:	08/03/2022	 TASMAN Tasman, Inc. 6855 W 119 th Ave. Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Werning 7-2 SENW, Section 2, Township 4 North, Range 66 West Weld County, Colorado	Groundwater Potentiometric Surface Contour Map (07/29/2022)	FIGURE 3
DESIGNED BY:	JW				
DRAWN BY:	LR				



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 08, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Werning 7-2 WH

Work Order #2207435

Enclosed are the results of analyses for samples received by Summit Scientific on 07/29/22 17:51. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



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

Project: Noble - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01_WH	2207435-01	Water	07/29/22 11:33	07/29/22 17:51
BH02_WH	2207435-02	Water	07/29/22 11:18	07/29/22 17:51
BH03_WH	2207435-03	Water	07/29/22 11:06	07/29/22 17:51
BH04_WH	2207435-04	Water	07/29/22 11:09	07/29/22 17:51
BH05_WH	2207435-05	Water	07/29/22 11:19	07/29/22 17:51

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

2207435

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Noble / Tasman Geosciences

Project Manager: Jake Whritenauer

Address: 6855 W. 119th Ave.

E-Mail: JWhritenauer@tasman-geo.com

City/State/Zip: Broomfield / CO / 80020

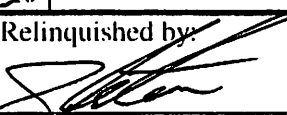
Phone: 303-487-1228

Project Name: Werning 7-2 WH

Sampler Name: Patrick Kline

Project Number: N/A

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	
1	BH01-WH	7/29/22	1133	4	3		1		X				X	X	X	X	X	X		
2	BH02-WH	I	1118	I	I		I		I				I	I	I	I	I	I		
3	BH03-WH	I	1106	I	I		I		I				I	I	I	I	I	I		
4	BH04-WH	I	1109	I	I		I		I				I	I	I	I	I	I		
5	BH05-WH	I	1119	I	I		I		I				I	I	I	I	I	I		
6																				
7																				
8																				
9																				
10																				

Relinquished by: 	Date/Time: 7/29/22 1415	Received by: Tasman's Lock Box	Date/Time: 7/29/22 1415	Turn Around Time (Check) ___ Same Day ___ 24 hours <input checked="" type="checkbox"/> ___ 48 hours Sample Integrity: " " Temperature Upon Receipt: <u>S.O</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 7/29/22 1751	Received by:	Date/Time: 7/29/22 1751		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

2207435

Sample Receipt Checklist

S2 Work Order#

Client: Noble Frasmann Client Project ID: Werning 7-2 WH

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

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☐ Water ☒ Other ☐Temp (°C) 5.0Thermometer # 1

	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.	-			on ICE
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
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			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		-		
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.	-			HCl
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	
Additional Comments (if any):				
(1) If NO, then contact the client before proceeding with analysis and note in case narrative.				


Custodian Printed Name

72922
Date/Time



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

Project: Noble - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

BH01_WH
2207435-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/29/22 11:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFH0020	08/01/22	08/01/22	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: **07/29/22 11:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		24.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		127 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		87.5 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/29/22 11:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	117	12.0	mg/L	200	BFH0110	08/04/22	08/05/22	EPA 300.0	
Sulfate	199	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/29/22 11:33**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	1110	10.0	mg/L	1	BFH0033	08/01/22	08/01/22	SM2540C	

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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

BH02_WH
2207435-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/29/22 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFH0020	08/01/22	08/01/22	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: **07/29/22 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		30.1 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		127 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.1 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/29/22 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	124	12.0		mg/L	200	BFH0110	08/04/22	08/05/22	EPA 300.0	
Sulfate	210	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/29/22 11:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1040	10.0		mg/L	1	BFH0033	08/01/22	08/01/22	SM2540C	

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 - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

BH03_WH
2207435-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/29/22 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFH0020	08/01/22	08/01/22	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: **07/29/22 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		28.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		130 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.5 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/29/22 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	115	12.0		mg/L	200	BFH0110	08/04/22	08/05/22	EPA 300.0	
Sulfate	235	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/29/22 11:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	990	10.0		mg/L	1	BFH0033	08/01/22	08/01/22	SM2540C	

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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

BH04_WH
2207435-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/29/22 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFH0020	08/01/22	08/01/22	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: **07/29/22 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		27.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		131 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.7 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/29/22 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	106	12.0		mg/L	200	BFH0110	08/04/22	08/05/22	EPA 300.0	
Sulfate	215	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/29/22 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	913	10.0		mg/L	1	BFH0033	08/01/22	08/01/22	SM2540C	

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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

08/08/22 09:49

BH05_WH
2207435-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/29/22 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFH0020	08/01/22	08/01/22	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: **07/29/22 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		25.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		128 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		88.4 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **07/29/22 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	106	12.0	mg/L	200	BFH0110	08/04/22	08/05/22	EPA 300.0	
Sulfate	220	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **07/29/22 11:19**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	953	10.0	mg/L	1	BFH0033	08/01/22	08/01/22	SM2540C	

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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

08/08/22 09:49

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 BFH0020 - EPA 5030 Water MS

Blank (BFH0020-BLK1)

Prepared & Analyzed: 08/01/22

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	10.2		"	13.3		76.4	23-173			
Surrogate: Toluene-d8	15.9		"	13.3		119	20-170			
Surrogate: 4-Bromofluorobenzene	12.2		"	13.3		91.6	21-167			

LCS (BFH0020-BS1)

Prepared & Analyzed: 08/01/22

Benzene	21.8	1.0	ug/l	25.0		87.1	51-132			
Toluene	27.4	1.0	"	25.0		110	51-138			
Ethylbenzene	26.2	1.0	"	25.0		105	58-146			
m,p-Xylene	51.3	2.0	"	50.0		103	57-144			
o-Xylene	24.3	1.0	"	25.0		97.3	53-146			
Naphthalene	30.8	1.0	"	25.0		123	70-130			
1,2,4-Trimethylbenzene	21.8	1.0	"	25.0		87.0	70-130			
1,3,5-Trimethylbenzene	22.9	1.0	"	25.0		91.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	9.17		"	13.3		68.8	23-173			
Surrogate: Toluene-d8	15.0		"	13.3		112	20-170			
Surrogate: 4-Bromofluorobenzene	11.9		"	13.3		89.2	21-167			

Matrix Spike (BFH0020-MS1)

Source: 2207423-01

Prepared & Analyzed: 08/01/22

Benzene	22.2	1.0	ug/l	25.0	ND	88.8	34-141			
Toluene	30.5	1.0	"	25.0	ND	122	27-151			
Ethylbenzene	31.0	1.0	"	25.0	ND	124	29-160			
m,p-Xylene	62.1	2.0	"	50.0	ND	124	20-166			
o-Xylene	28.1	1.0	"	25.0	ND	112	33-159			
Naphthalene	27.8	1.0	"	25.0	ND	111	70-130			
1,2,4-Trimethylbenzene	27.0	1.0	"	25.0	ND	108	70-130			
1,3,5-Trimethylbenzene	28.6	1.0	"	25.0	ND	115	70-130			
Surrogate: 1,2-Dichloroethane-d4	3.91		"	13.3		29.3	23-173			
Surrogate: Toluene-d8	15.6		"	13.3		117	20-170			
Surrogate: 4-Bromofluorobenzene	11.4		"	13.3		85.5	21-167			

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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

08/08/22 09:49

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 BFH0020 - EPA 5030 Water MS

Matrix Spike Dup (BFH0020-MSD1)	Source: 2207423-01			Prepared & Analyzed: 08/01/22						
Benzene	22.9	1.0	ug/l	25.0	ND	91.8	34-141	3.28	30	
Toluene	28.6	1.0	"	25.0	ND	114	27-151	6.36	30	
Ethylbenzene	28.8	1.0	"	25.0	ND	115	29-160	7.56	30	
m,p-Xylene	56.6	2.0	"	50.0	ND	113	20-166	9.20	30	
o-Xylene	26.4	1.0	"	25.0	ND	106	33-159	6.17	30	
Naphthalene	32.2	1.0	"	25.0	ND	129	70-130	14.4	30	
1,2,4-Trimethylbenzene	24.1	1.0	"	25.0	ND	96.4	70-130	11.3	30	
1,3,5-Trimethylbenzene	25.2	1.0	"	25.0	ND	101	70-130	12.7	30	
Surrogate: 1,2-Dichloroethane-d4	7.05		"	13.3		52.9	23-173			
Surrogate: Toluene-d8	15.1		"	13.3		113	20-170			
Surrogate: 4-Bromofluorobenzene	11.2		"	13.3		84.3	21-167			

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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

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 BFH0110 - General Preparation

Blank (BFH0110-BLK1)

Prepared: 08/04/22 Analyzed: 08/05/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFH0110-BS1)

Prepared: 08/04/22 Analyzed: 08/05/22

Chloride	3.07	0.0600	mg/L	3.00	102	90-110
Sulfate	15.3	0.300	"	15.0	102	90-110

Duplicate (BFH0110-DUP1)

Source: 2207435-01

Prepared: 08/04/22 Analyzed: 08/05/22

Chloride	115	12.0	mg/L	117	1.21	20
Sulfate	237	60.0	"	199	17.3	20

Matrix Spike (BFH0110-MS1)

Source: 2207435-01

Prepared: 08/04/22 Analyzed: 08/05/22

Chloride	724	12.0	mg/L	600	117	101	80-120
Sulfate	3450	60.0	"	3000	199	108	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 - Werning 7-2 WH

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

Total Dissolved Solids by SM2540C - Quality Control

Summit Scientific

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

Batch BFH0033 - General Preparation

Blank (BFH0033-BLK1)

Prepared & Analyzed: 08/01/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFH0033-DUP1)

Source: 2207410-01

Prepared & Analyzed: 08/01/22

Total Dissolved Solids 1070 10.0 mg/L 1050 2.45 20

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 - Werning 7-2 WH

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
08/08/22 09:49

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