

FIRST QUARTER 2022 SITE MONITORING DATA
HSR CHARLTON 08-20

COGCC SPILL TRACKING # 480746
COGCC REMEDIATION # 19600

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. - HSR CHARLTON 08-20



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	10/27/21	4786.35	10.70	1.63	ND	ND	4785.04
BH01	03/08/22	4786.35	10.45	3.36	ND	ND	4783.31
BH02	10/27/21	4786.51	10.32	1.98	ND	ND	4784.82
BH02	03/08/22	4786.51	10.30	3.75	ND	ND	4783.05
BH03	10/27/21	4786.75	11.92	1.80	ND	ND	4785.36
BH03	03/08/22	4786.75	11.71	3.57	ND	ND	4783.59
BH04	10/27/21	4786.98	13.55	1.96	ND	ND	4785.26
BH04	03/08/22	4786.98	13.29	3.68	ND	ND	4783.54
BH05	10/27/21	4786.32	10.38	1.94	ND	ND	4784.57
BH05	03/08/22	4786.32	10.45	3.58	ND	ND	4782.93

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. - HSR CHARLTON 08-20

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	09/13/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	NA	NA
BH01	10/27/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	728	203	273
BH01	03/08/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	664	93.8	29.8
BH02	10/27/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,280	348	634
BH02	03/08/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	945	192	93.6
BH03 ⁽²⁾	10/27/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,070	298	388
BH03 ⁽²⁾	03/08/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	1,370	292	314
BH04	10/27/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	836	212	374
BH04	03/08/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	780	151	103
BH05	10/27/21	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	816	215	365
BH05	03/08/22	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	640	111	57.8

Notes:

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

⁽²⁾ Monitoring well used to determine background concentration levels

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.

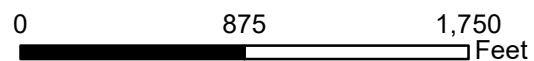
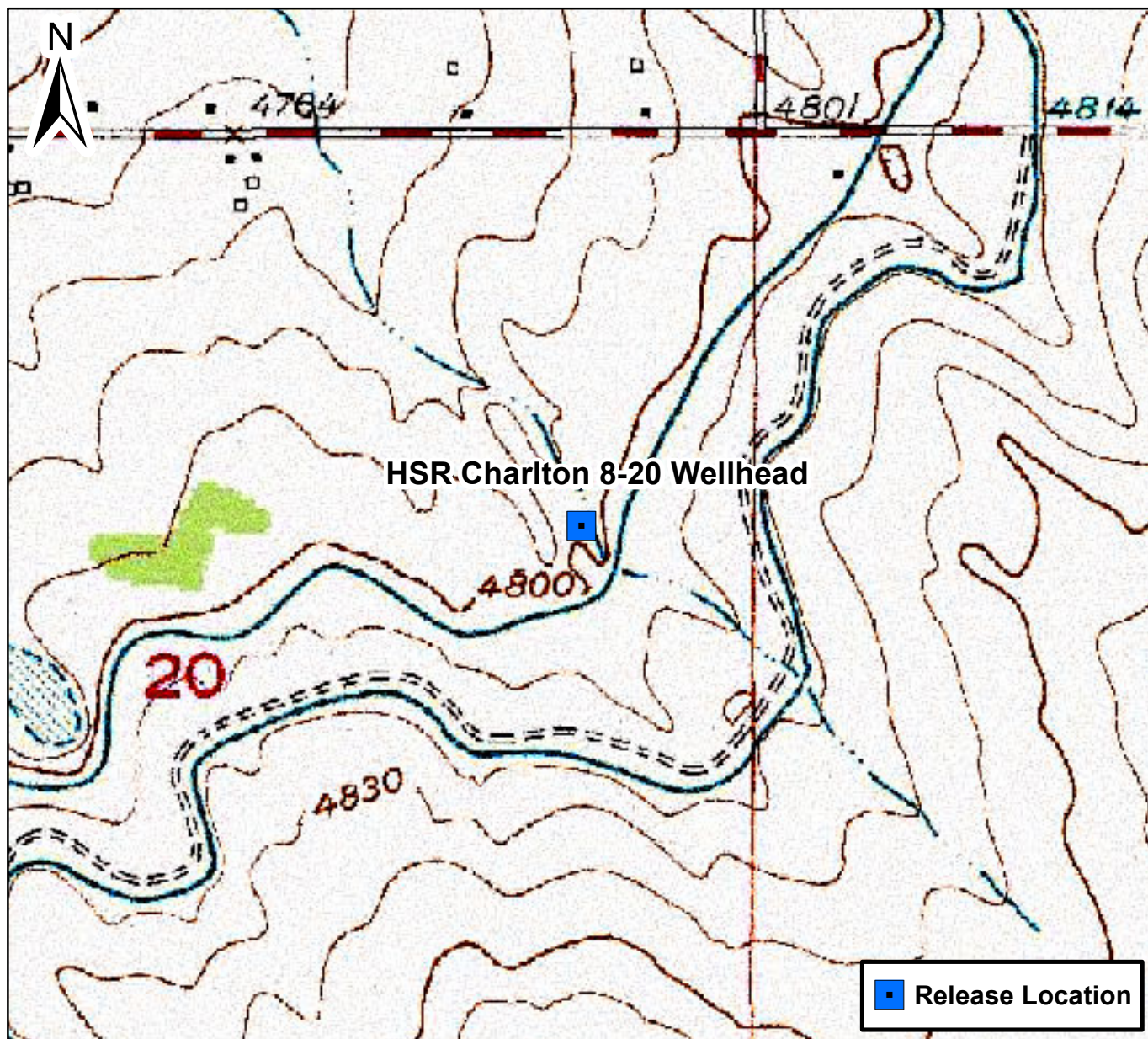


Figure 1

Site Location Map
 HSR Charlton 8-20 Wellhead
 SENE S20 T4N R65W
 Weld County, Colorado





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



TASMAN
GEOSCIENCES


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

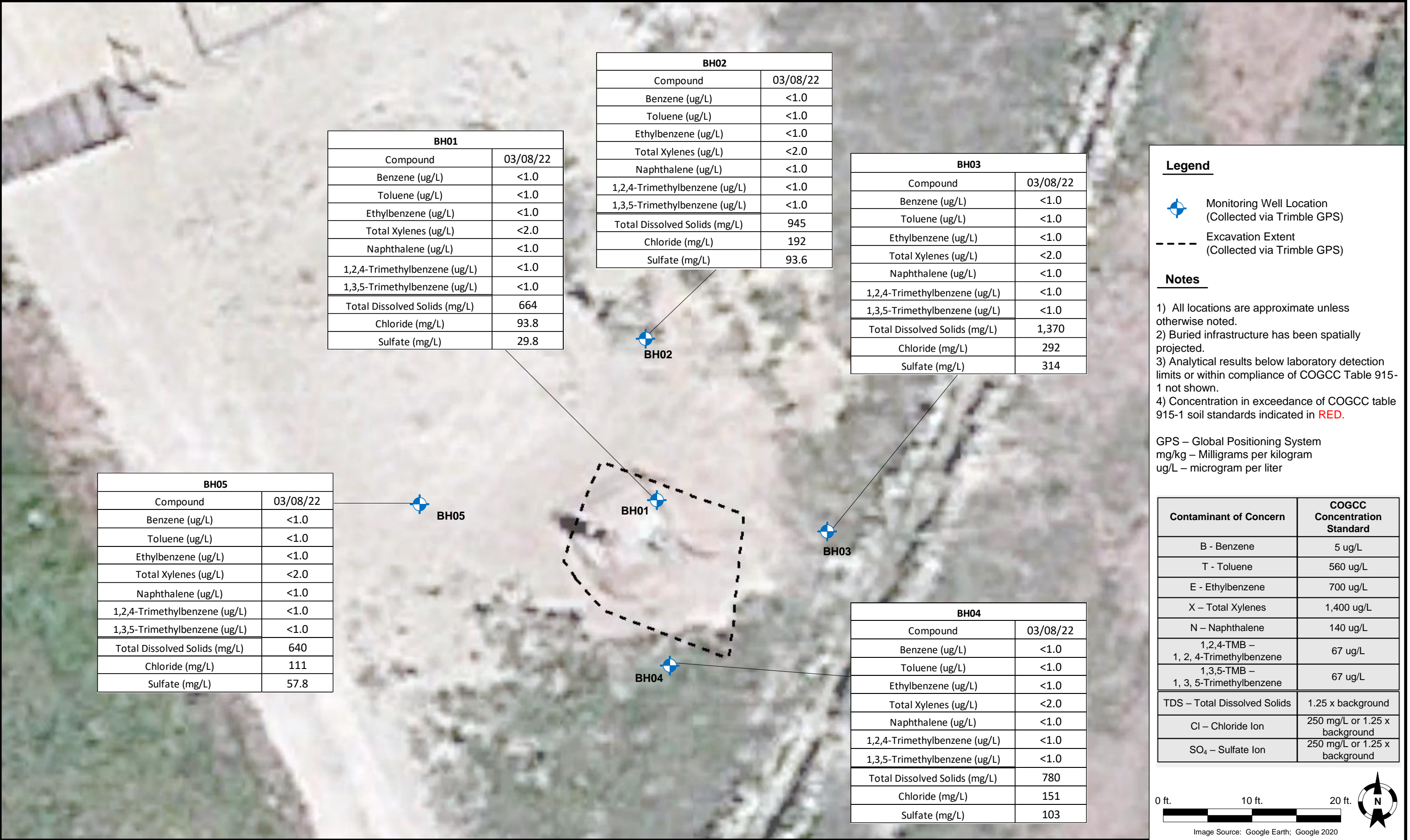
Noble Energy, Inc. – DJ Basin
HSR Charlton 08-20 Wellhead
SENE, Section 20, Township 4 North, Range 65 West
Weld County, Colorado

Site Overview Map

FIGURE
2



DATE:	03/15/2022	 TASMAN Tasman Geosciences, Inc. 6855 W 119 th Ave. Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin HSR Charlton 08-20 Wellhead SENE, Section 20, Township 4 North, Range 65 West Weld County, Colorado	Groundwater Potentiometric Surface Contour Map (03/08/2022)	FIGURE 3
DESIGNED BY:	JW				
DRAWN BY:	LR				



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 23, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Carlton 08-20

Work Order #2203128

Enclosed are the results of analyses for samples received by Summit Scientific on 03/08/22 16:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premer", is displayed on a light purple rectangular background.

Muri Premer For Paul Shrewsbury
President



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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2203128-01	Water	03/08/22 14:27	03/08/22 16:52
BH02	2203128-02	Water	03/08/22 14:39	03/08/22 16:52
BH03	2203128-03	Water	03/08/22 14:46	03/08/22 16:52
BH04	2203128-04	Water	03/08/22 14:53	03/08/22 16:52
BH05	2203128-05	Water	03/08/22 14:28	03/08/22 16:52

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 2203128

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

Page 1 of 1

Client: NOBLE / Tasman Geosciences

Project Manager: JAKE WHITENOUR INVOICE: JACOB EVANS

Address: 6855 W. 119th Ave.

E-Mail: jwhitenour@tasman-geo.com

City/State/Zip: Broomfield / CO / 80020

Phone: 303-487-1228

Project Name: Carlton 08-20

Sampler Name: Aaron Ohlson

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	3/8/22	1427	5	3		1		X				X	X	X	X	X	X	X	
2	BH02		1439																	
3	BH03		1446																	
4	BH04		1453																	
5	BH05		1428																	
6																				
7																				
8																				
9																				
10																				

Relinquished by:

Date/Time:

3/8/22 1652

Received by:

Tasman's Lock Box

Date/Time:

Turn Around Time

(Check)

Same Day

72 hours

24 hours

Standard

48 hours

Sample Integrity:

Temperature Upon Receipt:

5.2

Samples Intact:

Yes

No

Notes:

S₂

2203128

Sample Receipt Checklist

S2 Work Order#

Client: Noble/TasmanClient Project ID: Corlton 08-20Shipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

☐ Air☐ Soil/Solid☒ Water☐ Other:

(Describe)

Temp (°C)

5.2

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°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"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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 or Initials

 38:22
 Date/Time



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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH01
2203128-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		67.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	93.8	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	29.8	6.00	"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	664	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH02
2203128-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		66.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	192	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	93.6	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	945	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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6855 W. 119th Ave.
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Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH03
2203128-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		66.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	292	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	314	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1370	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH04
2203128-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		64.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.7 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	151	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	103	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	780	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH05
2203128-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		63.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	111	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	57.8	6.00		"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	640	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0154 - EPA 5030 Water MS

Blank (BFC0154-BLK1)

Prepared: 03/11/22 Analyzed: 03/13/22

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	12.1		"	13.3		90.8	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	21-167			

LCS (BFC0154-BS1)

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	20.1	1.0	ug/l	25.0		80.4	51-132			
Toluene	20.0	1.0	"	25.0		80.2	51-138			
Ethylbenzene	23.3	1.0	"	25.0		93.3	58-146			
m,p-Xylene	48.2	2.0	"	50.0		96.4	57-144			
o-Xylene	21.9	1.0	"	25.0		87.4	53-146			
Naphthalene	22.8	1.0	"	25.0		91.1	70-130			
1,2,4-Trimethylbenzene	22.0	1.0	"	25.0		87.8	70-130			
1,3,5-Trimethylbenzene	22.6	1.0	"	25.0		90.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.3	23-173			
Surrogate: Toluene-d8	12.6		"	13.3		94.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.6	21-167			

Matrix Spike (BFC0154-MS1)

Source: 2203129-01

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	19.6	1.0	ug/l	25.0	ND	78.4	34-141			
Toluene	20.5	1.0	"	25.0	ND	82.0	27-151			
Ethylbenzene	24.3	1.0	"	25.0	ND	97.1	29-160			
m,p-Xylene	50.2	2.0	"	50.0	ND	100	20-166			
o-Xylene	22.7	1.0	"	25.0	ND	90.7	33-159			
Naphthalene	21.0	1.0	"	25.0	ND	84.0	70-130			
1,2,4-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.5	70-130			
1,3,5-Trimethylbenzene	24.0	1.0	"	25.0	ND	95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	8.58		"	13.3		64.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.8	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 - Carlton 08-20

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0154 - EPA 5030 Water MS

Matrix Spike Dup (BFC0154-MSD1)

Source: 2203129-01

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	20.3	1.0	ug/l	25.0	ND	81.1	34-141	3.41	30	
Toluene	20.8	1.0	"	25.0	ND	83.4	27-151	1.74	30	
Ethylbenzene	24.3	1.0	"	25.0	ND	97.3	29-160	0.206	30	
m,p-Xylene	49.6	2.0	"	50.0	ND	99.1	20-166	1.18	30	
o-Xylene	22.8	1.0	"	25.0	ND	91.1	33-159	0.440	30	
Naphthalene	22.9	1.0	"	25.0	ND	91.5	70-130	8.57	30	
1,2,4-Trimethylbenzene	22.9	1.0	"	25.0	ND	91.6	70-130	3.05	30	
1,3,5-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.6	70-130	1.43	30	
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.0	21-167			

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0201 - General Preparation

Blank (BFC0201-BLK1)

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFC0201-BS1)

Prepared: 03/09/22 Analyzed: 03/11/22

Chloride	3.07	0.0600	mg/L	3.00	102	90-110
Sulfate	14.6	0.300	"	15.0	97.3	90-110

Duplicate (BFC0201-DUP1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	192	12.0	mg/L	171	11.7	20
Sulfate	31.0	0.300	"	31.4	1.36	20

Matrix Spike (BFC0201-MS1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L	3.00	171	NR	80-120	QM-02
Sulfate	45.9	0.300	"	15.0	31.4	96.3	80-120	

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0223 - General Preparation

Blank (BFC0223-BLK1)

Prepared & Analyzed: 03/11/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFC0223-DUP1)

Source: 2203128-01

Prepared & Analyzed: 03/11/22

Total Dissolved Solids 667 10.0 mg/L 664 0.436 20

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 23, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

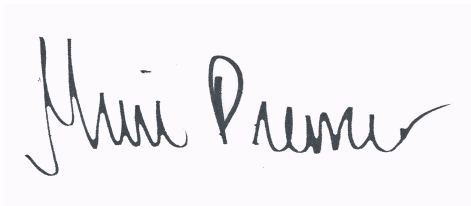
Broomfield, CO 80020

RE: Noble - HSR Carlton 08-20

Work Order #2203128

Enclosed are the results of analyses for samples received by Summit Scientific on 03/08/22 16:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, reading "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2203128-01	Water	03/08/22 14:27	03/08/22 16:52
BH02	2203128-02	Water	03/08/22 14:39	03/08/22 16:52
BH03	2203128-03	Water	03/08/22 14:46	03/08/22 16:52
BH04	2203128-04	Water	03/08/22 14:53	03/08/22 16:52
BH05	2203128-05	Water	03/08/22 14:28	03/08/22 16:52

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 2203128

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

Page 1 of 1

Client: NOBLE / Tasman Geosciences

Project Manager: JAKE WHITENOUR INVOICE: JACOB EVANS

Address: 6855 W. 119th Ave.

E-Mail: jwhitenour@tasman-geo.com

City/State/Zip: Broomfield / CO / 80020

Phone: 303-487-1228

Project Name: Carlton 08-20

Sampler Name: Aaron O'Hara

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	3/8/22	1427	5	3		1		X				X	X	X	X	X	X		
2	BH02		1439																	
3	BH03		1446																	
4	BH04		1453																	
5	BH05		1428																	
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>3/8/22 1652</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: _____	Turn Around Time (Check) ___ Same Day ___ 72 hours ___ 24 hours <u>X</u> Standard ___ 48 hours ___ Sample Integrity: Temperature Upon Receipt: <u>5.2</u> Samples Intact: <u>(Yes)</u> No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: _____	Received by: <u>[Signature]</u>	Date/Time: <u>3/8/22 1652</u>		
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____		

S₂

2203128

Sample Receipt Checklist

S2 Work Order#

Client: Noble/TasmanClient Project ID: Corlton 08-20Shipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

☐ Air☐ Soil/Solid☒ Water☐ Other:

(Describe)

Temp (°C)

5.2

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°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"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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 or Initials

Date/Time



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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH01
2203128-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		67.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	93.8	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	29.8	6.00	"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	664	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH02
2203128-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		66.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.9 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	192	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	93.6	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	945	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH03
2203128-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		66.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	292	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	314	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1370	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH04
2203128-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		64.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.7 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	151	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	103	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	780	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	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 - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH05
2203128-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		63.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	111	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	57.8	6.00		"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	640	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	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 - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0154 - EPA 5030 Water MS

Blank (BFC0154-BLK1)

Prepared: 03/11/22 Analyzed: 03/13/22

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	12.1		"	13.3		90.8	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	21-167			

LCS (BFC0154-BS1)

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	20.1	1.0	ug/l	25.0		80.4	51-132			
Toluene	20.0	1.0	"	25.0		80.2	51-138			
Ethylbenzene	23.3	1.0	"	25.0		93.3	58-146			
m,p-Xylene	48.2	2.0	"	50.0		96.4	57-144			
o-Xylene	21.9	1.0	"	25.0		87.4	53-146			
Naphthalene	22.8	1.0	"	25.0		91.1	70-130			
1,2,4-Trimethylbenzene	22.0	1.0	"	25.0		87.8	70-130			
1,3,5-Trimethylbenzene	22.6	1.0	"	25.0		90.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.3	23-173			
Surrogate: Toluene-d8	12.6		"	13.3		94.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.6	21-167			

Matrix Spike (BFC0154-MS1)

Source: 2203129-01

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	19.6	1.0	ug/l	25.0	ND	78.4	34-141			
Toluene	20.5	1.0	"	25.0	ND	82.0	27-151			
Ethylbenzene	24.3	1.0	"	25.0	ND	97.1	29-160			
m,p-Xylene	50.2	2.0	"	50.0	ND	100	20-166			
o-Xylene	22.7	1.0	"	25.0	ND	90.7	33-159			
Naphthalene	21.0	1.0	"	25.0	ND	84.0	70-130			
1,2,4-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.5	70-130			
1,3,5-Trimethylbenzene	24.0	1.0	"	25.0	ND	95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	8.58		"	13.3		64.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.8	21-167			

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0154 - EPA 5030 Water MS

Matrix Spike Dup (BFC0154-MSD1)	Source: 2203129-01			Prepared: 03/11/22 Analyzed: 03/13/22						
Benzene	20.3	1.0	ug/l	25.0	ND	81.1	34-141	3.41	30	
Toluene	20.8	1.0	"	25.0	ND	83.4	27-151	1.74	30	
Ethylbenzene	24.3	1.0	"	25.0	ND	97.3	29-160	0.206	30	
m,p-Xylene	49.6	2.0	"	50.0	ND	99.1	20-166	1.18	30	
o-Xylene	22.8	1.0	"	25.0	ND	91.1	33-159	0.440	30	
Naphthalene	22.9	1.0	"	25.0	ND	91.5	70-130	8.57	30	
1,2,4-Trimethylbenzene	22.9	1.0	"	25.0	ND	91.6	70-130	3.05	30	
1,3,5-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.6	70-130	1.43	30	
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.0	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 - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0201 - General Preparation

Blank (BFC0201-BLK1)

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFC0201-BS1)

Prepared: 03/09/22 Analyzed: 03/11/22

Chloride	3.07	0.0600	mg/L	3.00	102	90-110
Sulfate	14.6	0.300	"	15.0	97.3	90-110

Duplicate (BFC0201-DUP1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	192	12.0	mg/L	171	11.7	20
Sulfate	31.0	0.300	"	31.4	1.36	20

Matrix Spike (BFC0201-MS1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L	3.00	171	NR	80-120	QM-02
Sulfate	45.9	0.300	"	15.0	31.4	96.3	80-120	

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0223 - General Preparation

Blank (BFC0223-BLK1)

Prepared & Analyzed: 03/11/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFC0223-DUP1)

Source: 2203128-01

Prepared & Analyzed: 03/11/22

Total Dissolved Solids 667 10.0 mg/L 664 0.436 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 - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 23, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Carlton 08-20

Work Order #2203128

Enclosed are the results of analyses for samples received by Summit Scientific on 03/08/22 16:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2203128-01	Water	03/08/22 14:27	03/08/22 16:52
BH02	2203128-02	Water	03/08/22 14:39	03/08/22 16:52
BH03	2203128-03	Water	03/08/22 14:46	03/08/22 16:52
BH04	2203128-04	Water	03/08/22 14:53	03/08/22 16:52
BH05	2203128-05	Water	03/08/22 14:28	03/08/22 16:52

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 2203128

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

Page 1 of 1

Client: NOBLE / Tasman Geosciences

Project Manager: JAKE WHITENOUR

INVOICE: JACOB EVANS

Address: 6855 W. 119th Ave.

E-Mail: jwhitenour@tasman-geo.com

City/State/Zip: Broomfield / CO / 80020

Phone: 303-487-1228

Project Name: Carlton 08-20

Sampler Name: Aaron O'Hara

Project Number: N/A

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate			
1	BH01	3/8/22	1427	5	3		1		X				X	X	X	X	X	X	X	X		
2	BH02	—	1439	—	—		—		—				—	—	—	—	—	—	—	—		
3	BH03	—	1446	—	—		—		—				—	—	—	—	—	—	—	—		
4	BH04	—	1453	—	—		—		—				—	—	—	—	—	—	—	—		
5	BH05	—	1428	—	—		—		—				—	—	—	—	—	—	—	—		
6																						
7																						
8																						
9																						
10																						

Relinquished by: Aaron O'Hara

Date/Time: 3/8/22 1652

Received by: Tasman's Lock Box

Date/Time: 3/8/22 1652

Turn Around Time (Check)

Same Day

72 hours

24 hours ☒

Standard

48 hours

Sample Integrity:

Temperature Upon Receipt: 5.2

Samples Intact: ☒ Yes ☐ No

Notes:

Relinquished by: Tasman's Lock Box

Date/Time: 3/8/22 1652

Received by: Tasman's Lock Box

Date/Time: 3/8/22 1652

Relinquished by: Tasman's Lock Box

Date/Time: 3/8/22 1652

Received by: Tasman's Lock Box

Date/Time: 3/8/22 1652

S₂

2203128

Sample Receipt Checklist

S2 Work Order#

Client: Noble/TasmanClient Project ID: Corlton 08-20Shipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

☐ Air☐ Soil/Solid☒ Water☐ Other:

(Describe)

Temp (°C)

5.2

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°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"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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 or Initials

Date/Time



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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH01
2203128-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		67.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	93.8	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	29.8	6.00	"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	664	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH02
2203128-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		66.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	192	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	93.6	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	945	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH03
2203128-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		66.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	292	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	314	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1370	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	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 - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH04
2203128-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		64.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.7 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	151	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	103	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	780	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	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 - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

BH05
2203128-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		63.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	111	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	57.8	6.00		"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	640	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0154 - EPA 5030 Water MS

Blank (BFC0154-BLK1)

Prepared: 03/11/22 Analyzed: 03/13/22

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	12.1		"	13.3		90.8	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	21-167			

LCS (BFC0154-BS1)

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	20.1	1.0	ug/l	25.0		80.4	51-132			
Toluene	20.0	1.0	"	25.0		80.2	51-138			
Ethylbenzene	23.3	1.0	"	25.0		93.3	58-146			
m,p-Xylene	48.2	2.0	"	50.0		96.4	57-144			
o-Xylene	21.9	1.0	"	25.0		87.4	53-146			
Naphthalene	22.8	1.0	"	25.0		91.1	70-130			
1,2,4-Trimethylbenzene	22.0	1.0	"	25.0		87.8	70-130			
1,3,5-Trimethylbenzene	22.6	1.0	"	25.0		90.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.3	23-173			
Surrogate: Toluene-d8	12.6		"	13.3		94.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.6	21-167			

Matrix Spike (BFC0154-MS1)

Source: 2203129-01

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	19.6	1.0	ug/l	25.0	ND	78.4	34-141			
Toluene	20.5	1.0	"	25.0	ND	82.0	27-151			
Ethylbenzene	24.3	1.0	"	25.0	ND	97.1	29-160			
m,p-Xylene	50.2	2.0	"	50.0	ND	100	20-166			
o-Xylene	22.7	1.0	"	25.0	ND	90.7	33-159			
Naphthalene	21.0	1.0	"	25.0	ND	84.0	70-130			
1,2,4-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.5	70-130			
1,3,5-Trimethylbenzene	24.0	1.0	"	25.0	ND	95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	8.58		"	13.3		64.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.8	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 - Carlton 08-20

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0154 - EPA 5030 Water MS

Matrix Spike Dup (BFC0154-MSD1)

Source: 2203129-01

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	20.3	1.0	ug/l	25.0	ND	81.1	34-141	3.41	30	
Toluene	20.8	1.0	"	25.0	ND	83.4	27-151	1.74	30	
Ethylbenzene	24.3	1.0	"	25.0	ND	97.3	29-160	0.206	30	
m,p-Xylene	49.6	2.0	"	50.0	ND	99.1	20-166	1.18	30	
o-Xylene	22.8	1.0	"	25.0	ND	91.1	33-159	0.440	30	
Naphthalene	22.9	1.0	"	25.0	ND	91.5	70-130	8.57	30	
1,2,4-Trimethylbenzene	22.9	1.0	"	25.0	ND	91.6	70-130	3.05	30	
1,3,5-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.6	70-130	1.43	30	
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.0	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 - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0201 - General Preparation

Blank (BFC0201-BLK1)

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFC0201-BS1)

Prepared: 03/09/22 Analyzed: 03/11/22

Chloride	3.07	0.0600	mg/L	3.00	102	90-110
Sulfate	14.6	0.300	"	15.0	97.3	90-110

Duplicate (BFC0201-DUP1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	192	12.0	mg/L	171	11.7	20
Sulfate	31.0	0.300	"	31.4	1.36	20

Matrix Spike (BFC0201-MS1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L	3.00	171	NR	80-120	QM-02
Sulfate	45.9	0.300	"	15.0	31.4	96.3	80-120	

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

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 BFC0223 - General Preparation

Blank (BFC0223-BLK1)

Prepared & Analyzed: 03/11/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFC0223-DUP1)

Source: 2203128-01

Prepared & Analyzed: 03/11/22

Total Dissolved Solids 667 10.0 mg/L 664 0.436 20

Summit Scientific

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

Project: Noble - Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 14:31

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

March 23, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

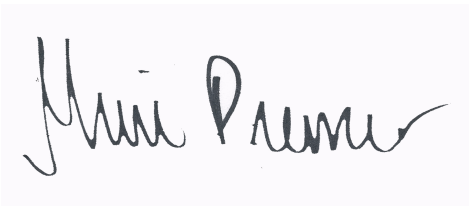
Broomfield, CO 80020

RE: Noble - HSR Carlton 08-20

Work Order #2203128

Enclosed are the results of analyses for samples received by Summit Scientific on 03/08/22 16:52. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Muri Premier", is displayed on a light purple rectangular background.

Muri Premier For Paul Shrewsbury
President



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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	2203128-01	Water	03/08/22 14:27	03/08/22 16:52
BH02	2203128-02	Water	03/08/22 14:39	03/08/22 16:52
BH03	2203128-03	Water	03/08/22 14:46	03/08/22 16:52
BH04	2203128-04	Water	03/08/22 14:53	03/08/22 16:52
BH05	2203128-05	Water	03/08/22 14:28	03/08/22 16:52

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 2203128

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

Page 1 of 1

Client: NOBLE / Tasman Geosciences

Project Manager: JAKE WHITENOUR INVOICE: JACOB EVANS

Address: 6855 W. 119th Ave.

E-Mail: jwhitenour@tasman-geo.com

City/State/Zip: Broomfield / CO / 80020

Phone: 303-487-1228

Project Name: Carlton 08-20

Sampler Name: Aaron Ohlson

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	3/8/22	1427	5	3		1		X				X	X	X	X	X	X	X	
2	BH02		1439																	
3	BH03		1446																	
4	BH04		1453																	
5	BH05		1428																	
6																				
7																				
8																				
9																				
10																				

Relinquished by: <u>[Signature]</u>	Date/Time: <u>3/8/22 1652</u>	Received by: <u>Tasman's Lock Box</u>	Date/Time: _____	Turn Around Time (Check) ___ Same Day 72 hours ___ 24 hours <input checked="" type="checkbox"/> Standard ___ 48 hours _____ Sample Integrity: Temperature Upon Receipt: <u>5.2</u> Samples Intact: <input checked="" type="radio"/> Yes No	Notes:
Relinquished by: <u>Tasman's Lock Box</u>	Date/Time: _____	Received by: <u>[Signature]</u>	Date/Time: <u>3/8/22 1652</u>		
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: _____		

S₂

2203128

Sample Receipt Checklist

S2 Work Order#

Client: Noble/TasmanClient Project ID: Corlton 08-20Shipped Via: ☐ H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

Matrix (check all that apply):

☐ Air☐ Soil/Solid☒ Water☐ Other:

(Describe)

Temp (°C)

5.2

Thermometer ID: G86A9201901378

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°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"/>	on ICE
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"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<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"/>	
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"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽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 or Initials

Date/Time



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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH01
2203128-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		67.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		90.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chloride	93.8	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	29.8	6.00	"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Total Dissolved Solids	664	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH02
2203128-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		66.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.9 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	192	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	93.6	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:39**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	945	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

Summit Scientific

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH03
2203128-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		66.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.0 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	292	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	314	60.0		"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	1370	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH04
2203128-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		64.9 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.0 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.7 %	21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Chloride	151	12.0	mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	103	60.0	"	"	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Total Dissolved Solids	780	10.0	mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

BH05
2203128-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BFC0154	03/11/22	03/13/22	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: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		63.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.1 %		21-167		"	"	"	"	

Anions by EPA Method 300.0

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Chloride	111	12.0		mg/L	200	BFC0201	03/10/22	03/10/22	EPA 300.0	
Sulfate	57.8	6.00		"	20	"	"	"	"	

Total Dissolved Solids by SM2540C

Date Sampled: **03/08/22 14:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Total Dissolved Solids	640	10.0		mg/L	1	BFC0223	03/11/22	03/11/22	SM2540C	

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Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0154 - EPA 5030 Water MS

Blank (BFC0154-BLK1)

Prepared: 03/11/22 Analyzed: 03/13/22

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	12.1		"	13.3		90.8	23-173			
Surrogate: Toluene-d8	12.9		"	13.3		96.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.0	21-167			

LCS (BFC0154-BS1)

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	20.1	1.0	ug/l	25.0		80.4	51-132			
Toluene	20.0	1.0	"	25.0		80.2	51-138			
Ethylbenzene	23.3	1.0	"	25.0		93.3	58-146			
m,p-Xylene	48.2	2.0	"	50.0		96.4	57-144			
o-Xylene	21.9	1.0	"	25.0		87.4	53-146			
Naphthalene	22.8	1.0	"	25.0		91.1	70-130			
1,2,4-Trimethylbenzene	22.0	1.0	"	25.0		87.8	70-130			
1,3,5-Trimethylbenzene	22.6	1.0	"	25.0		90.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	11.5		"	13.3		86.3	23-173			
Surrogate: Toluene-d8	12.6		"	13.3		94.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.6	21-167			

Matrix Spike (BFC0154-MS1)

Source: 2203129-01

Prepared: 03/11/22 Analyzed: 03/13/22

Benzene	19.6	1.0	ug/l	25.0	ND	78.4	34-141			
Toluene	20.5	1.0	"	25.0	ND	82.0	27-151			
Ethylbenzene	24.3	1.0	"	25.0	ND	97.1	29-160			
m,p-Xylene	50.2	2.0	"	50.0	ND	100	20-166			
o-Xylene	22.7	1.0	"	25.0	ND	90.7	33-159			
Naphthalene	21.0	1.0	"	25.0	ND	84.0	70-130			
1,2,4-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.5	70-130			
1,3,5-Trimethylbenzene	24.0	1.0	"	25.0	ND	95.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	8.58		"	13.3		64.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.3	20-170			
Surrogate: 4-Bromofluorobenzene	12.5		"	13.3		93.8	21-167			

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Project: Noble - HSR Carlton 08-20

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0154 - EPA 5030 Water MS

Matrix Spike Dup (BFC0154-MSD1)	Source: 2203129-01			Prepared: 03/11/22 Analyzed: 03/13/22						
Benzene	20.3	1.0	ug/l	25.0	ND	81.1	34-141	3.41	30	
Toluene	20.8	1.0	"	25.0	ND	83.4	27-151	1.74	30	
Ethylbenzene	24.3	1.0	"	25.0	ND	97.3	29-160	0.206	30	
m,p-Xylene	49.6	2.0	"	50.0	ND	99.1	20-166	1.18	30	
o-Xylene	22.8	1.0	"	25.0	ND	91.1	33-159	0.440	30	
Naphthalene	22.9	1.0	"	25.0	ND	91.5	70-130	8.57	30	
1,2,4-Trimethylbenzene	22.9	1.0	"	25.0	ND	91.6	70-130	3.05	30	
1,3,5-Trimethylbenzene	23.6	1.0	"	25.0	ND	94.6	70-130	1.43	30	
Surrogate: 1,2-Dichloroethane-d4	10.8		"	13.3		81.4	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.0	21-167			

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03/23/22 15:26

Anions by EPA Method 300.0 - Quality Control

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

Batch BFC0201 - General Preparation

Blank (BFC0201-BLK1)

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L
Sulfate	ND	0.300	"

LCS (BFC0201-BS1)

Prepared: 03/09/22 Analyzed: 03/11/22

Chloride	3.07	0.0600	mg/L	3.00	102	90-110
Sulfate	14.6	0.300	"	15.0	97.3	90-110

Duplicate (BFC0201-DUP1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	192	12.0	mg/L	171	11.7	20
Sulfate	31.0	0.300	"	31.4	1.36	20

Matrix Spike (BFC0201-MS1)

Source: 2203147-01

Prepared: 03/09/22 Analyzed: 03/10/22

Chloride	ND	0.0600	mg/L	3.00	171	NR	80-120	QM-02
Sulfate	45.9	0.300	"	15.0	31.4	96.3	80-120	

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Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

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 BFC0223 - General Preparation

Blank (BFC0223-BLK1)

Prepared & Analyzed: 03/11/22

Total Dissolved Solids ND 10.0 mg/L

Duplicate (BFC0223-DUP1)

Source: 2203128-01

Prepared & Analyzed: 03/11/22

Total Dissolved Solids 667 10.0 mg/L 664 0.436 20

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Broomfield CO, 80020

Project: Noble - HSR Carlton 08-20

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
03/23/22 15:26

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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