

# **FOURTH QUARTER 2019 SITE MONITORING REPORT**

**BEEBE DRAW RG 26-9, 23**

COGCC SPILL TRACKING # 455231  
COGCC REMEDIATION # 11925

Prepared for:



2115 117th Avenue  
Greeley, CO 80631

Prepared by:



6855 W 119th St.  
Broomfield, CO 80020

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9, 23**

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) <sup>(2)</sup>	Depth to LNAPL (ft.) <sup>(2)</sup>	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH01	11/06/18	4774.24	NM	12.33	ND	ND	4761.91
BH01	01/10/19	4774.24	27.75	12.57	ND	ND	4761.67
BH01	04/18/19	4774.24	27.52	12.84	ND	ND	4761.40
BH01	07/10/19	4774.24	27.19	11.12	ND	ND	4763.12
BH01	10/02/19	4774.24	26.80	6.61	ND	ND	4764.76
BH02	11/06/18	4772.28	NM	11.83	ND	ND	4760.45
BH02	01/10/19	4772.28	32.65	11.88	ND	ND	4760.40
BH02	04/18/19	4772.28	32.64	12.27	ND	ND	4760.01
BH02	07/10/19	4772.28	32.64	10.68	ND	ND	4761.60
BH02 <sup>(3)</sup>	10/02/19	NM	15.55	NM	ND	ND	NM
BH03	11/06/18	4770.72	NM	11.76	ND	ND	4758.96
BH03	01/10/19	4770.72	31.41	11.44	ND	ND	4759.28
BH03	04/18/19	4770.72	27.95	11.69	ND	ND	4759.03
BH03	07/10/19	4770.72	31.91	10.31	ND	ND	4760.41
BH03	10/02/19	4770.72	32.24	6.22	ND	ND	4761.52
BH04	11/06/18	4773.76	NM	14.11	ND	ND	4759.65
BH04	01/10/19	4773.76	29.58	14.19	ND	ND	4759.57
BH04	04/18/19	4773.76	29.14	14.38	ND	ND	4759.38
BH04	07/10/19	4773.76	29.06	13.15	ND	ND	4760.61
BH04	10/02/19	4773.76	28.75	10.34	ND	ND	4761.53
BH05	11/06/18	4770.06	NM	11.55	ND	ND	4758.51
BH05	01/10/19	4770.06	27.91	11.17	ND	ND	4758.89
BH05	04/18/19	4770.06	27.57	11.21	ND	ND	4758.85
BH05	07/10/19	4770.06	27.56	9.92	ND	ND	4760.14
BH05 <sup>(3)</sup>	10/02/19	NM	26.94	NM	ND	ND	NM
BH06	11/06/18	4772.62	NM	14.42	ND	ND	4758.20
BH06	01/10/19	4772.62	33.62	14.33	ND	ND	4758.29
BH06	04/18/19	4772.62	33.59	14.53	ND	ND	4758.09
BH06	07/10/19	4772.62	33.61	13.29	ND	ND	4759.33
BH06	10/02/19	Unable to locate - Well Destroyed					
BH07	11/06/18	4768.79	NM	10.60	ND	ND	4758.19
BH07	01/10/19	4768.79	27.85	10.89	ND	ND	4757.90
BH07	04/18/19	4768.79	27.83	10.92	ND	ND	4757.87
BH07	07/10/19	4768.79	27.84	9.56	ND	ND	4759.23
BH07	10/02/19	4768.79	26.86	5.24	ND	ND	4760.49
BH08	11/06/18	4769.60	NM	9.68	ND	ND	4759.92
BH08	01/10/19	4769.60	21.63	9.95	ND	ND	4759.65
BH08	04/18/19	4769.60	21.12	9.68	ND	ND	4759.92
BH08	07/10/19	4769.60	20.79	8.70	ND	ND	4760.90
BH08	10/02/19	4769.60	19.65	3.85	ND	ND	4762.66
BH09	11/06/18	4771.81	NM	9.95	ND	ND	4761.86

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**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9, 23**

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) <sup>(2)</sup>	Depth to LNAPL (ft.) <sup>(2)</sup>	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH09	01/10/19	4771.81	22.97	10.52	ND	ND	4761.29
BH09	04/18/19	4771.81	22.39	10.34	ND	ND	4761.47
BH09	07/10/19	4771.81	22.16	8.92	ND	ND	4762.89
BH09	10/02/19	4771.81	22.08	3.80	ND	ND	4764.94
BH10	11/06/18	4775.10	27.30	12.42	ND	ND	4762.68
BH10	01/10/19	4775.10	27.15	12.89	ND	ND	4762.21
BH10	04/18/19	4775.10	26.71	13.22	ND	ND	4761.88
BH10	07/10/19	4775.10	26.66	11.25	ND	ND	4763.85
BH10	10/02/19	4775.10	26.21	6.78	ND	ND	4765.34
BH11	11/06/18	4775.53	27.21	14.04	ND	ND	4761.49
BH11	01/10/19	4775.53	26.94	14.27	ND	ND	4761.26
BH11	04/18/19	4775.53	26.44	14.60	ND	ND	4760.93
BH11	07/10/19	4775.53	26.05	13.04	ND	ND	4762.49
BH11 <sup>(3)</sup>	10/02/19	NM	12.20	NM	ND	ND	NM
BH12	11/06/18	4775.39	27.50	13.06	ND	ND	4762.33
BH12	01/10/19	4775.39	27.10	13.34	ND	ND	4762.05
BH12	04/18/19	4775.39	26.62	13.73	ND	ND	4761.66
BH12	07/10/19	4775.39	26.52	11.95	ND	ND	4763.44
BH12	10/02/19	4775.39	25.88	7.80	ND	ND	4765.07
BH13	11/06/18	4775.22	25.60	14.72	ND	ND	4760.50
BH13	01/10/19	4775.22	24.87	15.02	ND	ND	4760.20
BH13	04/18/19	4775.22	24.48	15.24	ND	ND	4759.98
BH13	07/10/19	4775.22	24.38	14.00	ND	ND	4761.22
BH13	10/02/19	4775.22	23.68	10.07	ND	ND	4762.07
BH14	11/06/18	4774.89	26.00	15.80	ND	ND	4759.09
BH14	01/10/19	4774.89	25.66	15.89	ND	ND	4759.00
BH14	04/18/19	4774.89	24.94	16.02	ND	ND	4758.87
BH14 <sup>1</sup>	07/10/19	4774.89	24.80	14.82	ND	ND	4760.07
BH14	10/02/19	4774.89	22.08	10.93	ND	ND	4760.73
BH15	01/10/19	4773.89	25.00	11.49	ND	ND	4762.40
BH15	04/18/19	4773.89	24.55	11.64	ND	ND	4762.25
BH15	07/10/19	4773.89	24.34	9.67	ND	ND	4764.22
BH15	10/02/19	4773.89	19.93	5.84	ND	ND	4765.96
BH16	01/10/19	4776.93	27.87	13.94	ND	ND	4762.99
BH16	04/18/19	4776.93	26.75	14.56	ND	ND	4762.37
BH16	07/10/19	4776.93	26.80	12.38	ND	ND	4764.55
BH16	10/02/19	4776.93	26.18	7.69	ND	ND	4766.11
BH17	01/10/19	4778.81	28.27	15.24	ND	ND	4763.57
BH17	04/18/19	4778.81	27.99	15.94	ND	ND	4762.87
BH17	07/10/19	4778.81	27.91	13.44	ND	ND	4765.37
BH17	10/02/19	4778.81	27.82	8.70	ND	ND	4766.88

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**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9, 23**

Monitoring Well ID	Date	Top of Casing Elevation (ft. AMSL)	Total Depth (ft. BTOC)	Depth to Water (ft.) <sup>(2)</sup>	Depth to LNAPL (ft.) <sup>(2)</sup>	LNAPL Thickness (ft.)	Groundwater Elevation* (ft. AMSL)
BH18	01/10/19	4777.44	30.00	15.72	ND	ND	4761.72
BH18	04/18/19	4777.44	29.18	16.15	ND	ND	4761.29
BH18	07/10/19	4777.44	29.02	14.58	ND	ND	4762.86
BH18	10/02/19	4777.44	28.69	11.00	ND	ND	4764.30

Notes:

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

ND = No LNAPL detected

NM = Not Measured

1. Trace LNAPL observed

2. Depth to water measurements collected prior to third quarter 2019 were measured from top of well casing. Subsequent measurements were collected from top of casing and adjusted using survey data to reflect depth of water from ground surface.

3. Well casing was damaged and wells were sampled before casing repair, therefore elevation control lost

\* 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

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9,23**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
BH01	10/22/18	210	1.5	240	3,300
BH01	01/10/19	140	<1.0	380	3,500
BH01	04/18/19	96	<1.0	140	1,900
BH01	07/10/19	78	<1.0	200	2,300
BH01	10/02/19	28	<1.0	<1.0	130
BH02	10/22/18	<1.0	<1.0	1.1	7.9
BH02	01/10/19	<1.0	<1.0	<1.0	<2.0
BH02	04/18/19	<1.0	<1.0	<1.0	<2.0
BH02	07/10/19	<1.0	<1.0	<1.0	<2.0
BH02	10/02/19	<1.0	<1.0	<1.0	<2.0
BH03	10/22/18	<1.0	<1.0	<1.0	<2.0
BH03	01/10/19	<1.0	<1.0	<1.0	<2.0
BH03	04/18/19	<1.0	<1.0	<1.0	<2.0
BH03	07/10/19	<1.0	<1.0	<1.0	<2.0
BH03	10/02/19	<1.0	<1.0	<1.0	<2.0
BH04	10/22/18	48	<1.0	150	590
BH04	01/10/19	16	<1.0	21	130
BH04	04/18/19	3.6	<1.0	3.5	26
BH04	07/10/19	17	<1.0	28	170
BH04	10/02/19	2.6	<1.0	<1.0	62
BH05	10/22/18	<1.0	<1.0	<1.0	2.9
BH05	01/10/19	<1.0	<1.0	<1.0	<2.0
BH05	04/18/19	<1.0	<1.0	<1.0	<2.0
BH05	07/10/19	<1.0	<1.0	<1.0	<2.0
BH05	10/02/19	<1.0	<1.0	<1.0	<2.0
BH06	10/22/18	<1.0	<1.0	6.1	19.0
BH06	01/10/19	<1.0	<1.0	<1.0	<2.0
BH06	04/18/19	<1.0	<1.0	1.9	<2.0
BH06	07/10/19	<1.0	<1.0	<1.0	<2.0
BH06	10/02/19	Unable to locate - Well Destroyed			
BH07	10/22/18	<1.0	<1.0	<1.0	<2.0
BH07	01/10/19	<1.0	<1.0	<1.0	<2.0
BH07	04/18/19	<1.0	<1.0	<1.0	<2.0
BH07	07/10/19	<1.0	<1.0	<1.0	<2.0
BH07	10/02/19	<1.0	<1.0	<1.0	<2.0
BH08	10/22/18	<1.0	<1.0	<1.0	<2.0
BH08	01/10/19	<1.0	<1.0	<1.0	<2.0
BH08	04/18/19	<1.0	<1.0	<1.0	<2.0
BH08	07/10/19	<1.0	<1.0	<1.0	<2.0
BH08	10/02/19	<1.0	<1.0	<1.0	<2.0
BH09	10/22/18	<1.0	<1.0	16	130

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9,23**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
BH09	01/10/19	<1.0	<1.0	<1.0	<2.0
BH09	04/18/19	<1.0	<1.0	<1.0	<2.0
BH09	07/10/19	<1.0	<1.0	<1.0	<2.0
BH09	10/02/19	<1.0	<1.0	<1.0	<2.0
BH10	11/06/18	8.6	<1.0	120	990
BH10	01/10/19	1.3	<1.0	1.8	16
BH10	04/18/19	1.2	<1.0	1.6	13
BH10	07/10/19	2.9	<1.0	11	120
BH10	10/02/19	<1.0	<1.0	<1.0	<2.0
BH11	11/06/18	9.4	<1.0	23	110
BH11	01/10/19	9.7	<1.0	18	77
BH11	04/18/19	11	<1.0	23	98
BH11	07/10/19	17	<1.0	39	180
BH11	10/02/19	<1.0	<1.0	<1.0	<2.0
BH12	11/06/18	4.2	<1.0	51	250
BH12	01/10/19	1.6	<1.0	<1.0	<2.0
BH12	04/18/19	2.5	<1.0	1.8	11
BH12	07/10/19	1.6	<1.0	<1.0	<2.0
BH12	10/02/19	<1.0	<1.0	<1.0	<2.0
BH13	11/06/18	<1.0	<1.0	<1.0	<2.0
BH13	01/10/19	<1.0	<1.0	<1.0	<2.0
BH13	04/18/19	<1.0	<1.0	<1.0	<2.0
BH13	07/10/19	<1.0	<1.0	<1.0	<2.0
BH13	10/02/19	<1.0	<1.0	<1.0	<2.0
BH14	11/06/18	<1.0	<1.0	42	220
BH14	01/10/19	<1.0	<1.0	<1.0	21
BH14	04/18/19	<1.0	<1.0	130	3.2
BH14	07/10/19	2.4	<1.0	130	1,300
BH14	10/02/19	1.3	<1.0	1.9	300
BH15	01/10/19	<1.0	<1.0	<1.0	<2.0
BH15	04/18/19	<1.0	<1.0	<1.0	<2.0
BH15	07/10/19	<1.0	<1.0	<1.0	<2.0
BH15	10/02/19	<1.0	<1.0	<1.0	<2.0
BH16	01/10/19	2.2	<1.0	22	150
BH16	04/18/19	1.4	<1.0	<1.0	5.6
BH16	07/10/19	<1.0	<1.0	<1.0	<2.0
BH16	10/02/19	<1.0	<1.0	<1.0	<2.0
BH17	01/10/19	<1.0	<1.0	<1.0	<2.0
BH17	04/18/19	<1.0	<1.0	<1.0	<2.0
BH17	07/10/19	<1.0	<1.0	<1.0	<2.0
BH17	10/02/19	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - BEEBE DRAW RG 26-9,23**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
<b>COGCC Standard</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>
BH18	01/10/19	<b>58</b>	<1.0	25	350
BH18	04/18/19	2.4	<1.0	<1.0	<2.0
BH18	07/10/19	<b>16</b>	<1.0	<1.0	<2.0
BH18	10/02/19	<1.0	<1.0	<1.0	<2.0

Notes:

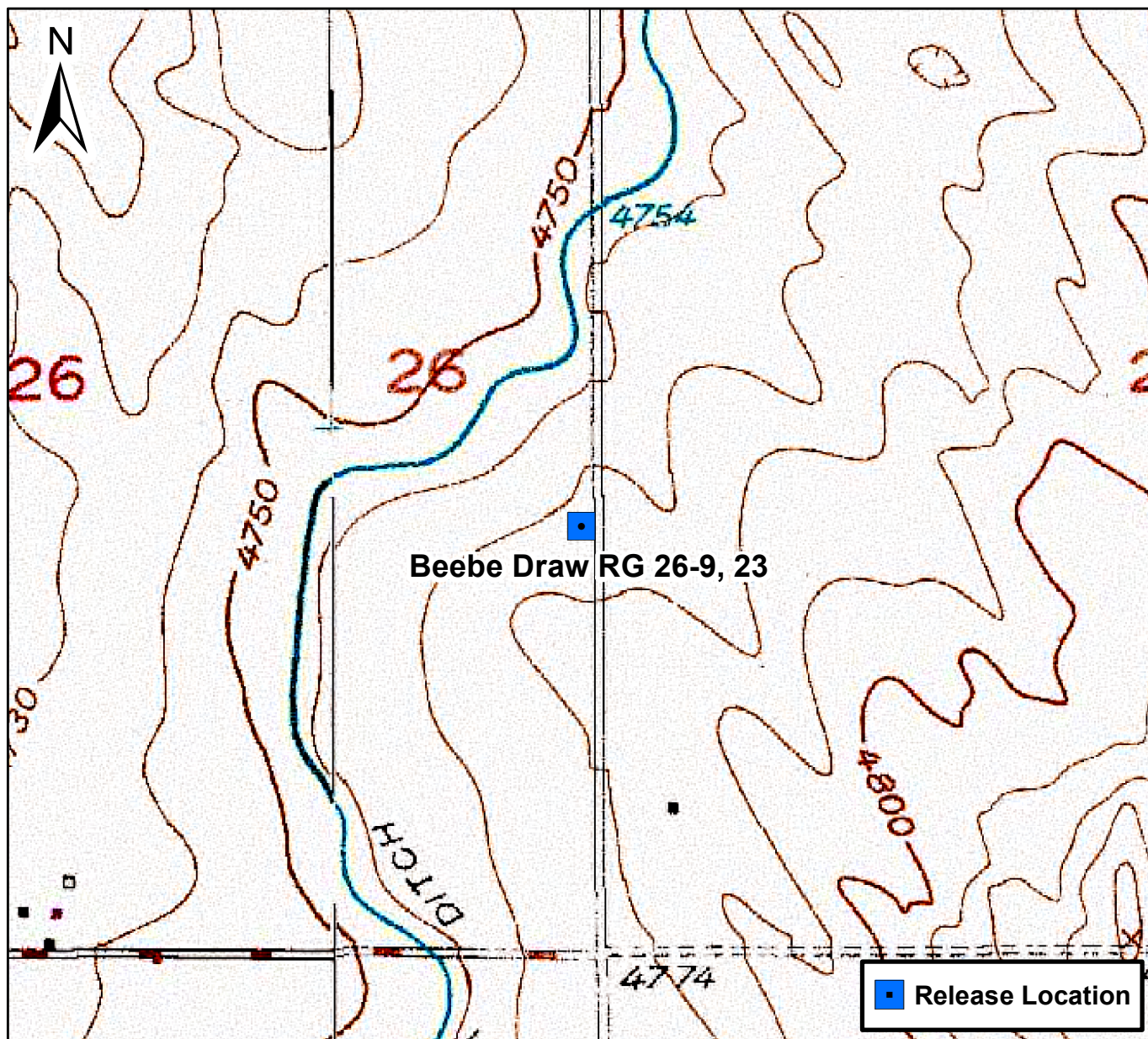
COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

< = Analytical result is less than the indicated laboratory reporting limit

Groundwater standards referenced from COGCC Table 910-1

**Highlighted results are equal to or exceed the COGCC Table 910-1 standard**



0 750 1,500 Feet

## Figure 1

Site Location Map  
Beebe Draw RG 26-9, 23  
NESE Sec. 26-T4N-R65W  
Weld County, Colorado







DATE:	10/15/2019
DESIGNED BY:	JW
DRAWN BY:	KC



**TASMAN**  
GEOSCIENCES

Tasman Geosciences, Inc.  
6855 W 119<sup>th</sup> Ave.  
Broomfield, CO 80020

**Noble Energy, Inc. – DJ Basin**  
**Beebe Draw RG 26-9, 23**  
NESE, Section 26, Township 4 North, Range 65 West  
Weld County, Colorado

Site Overview Map

**FIGURE**  
**2**







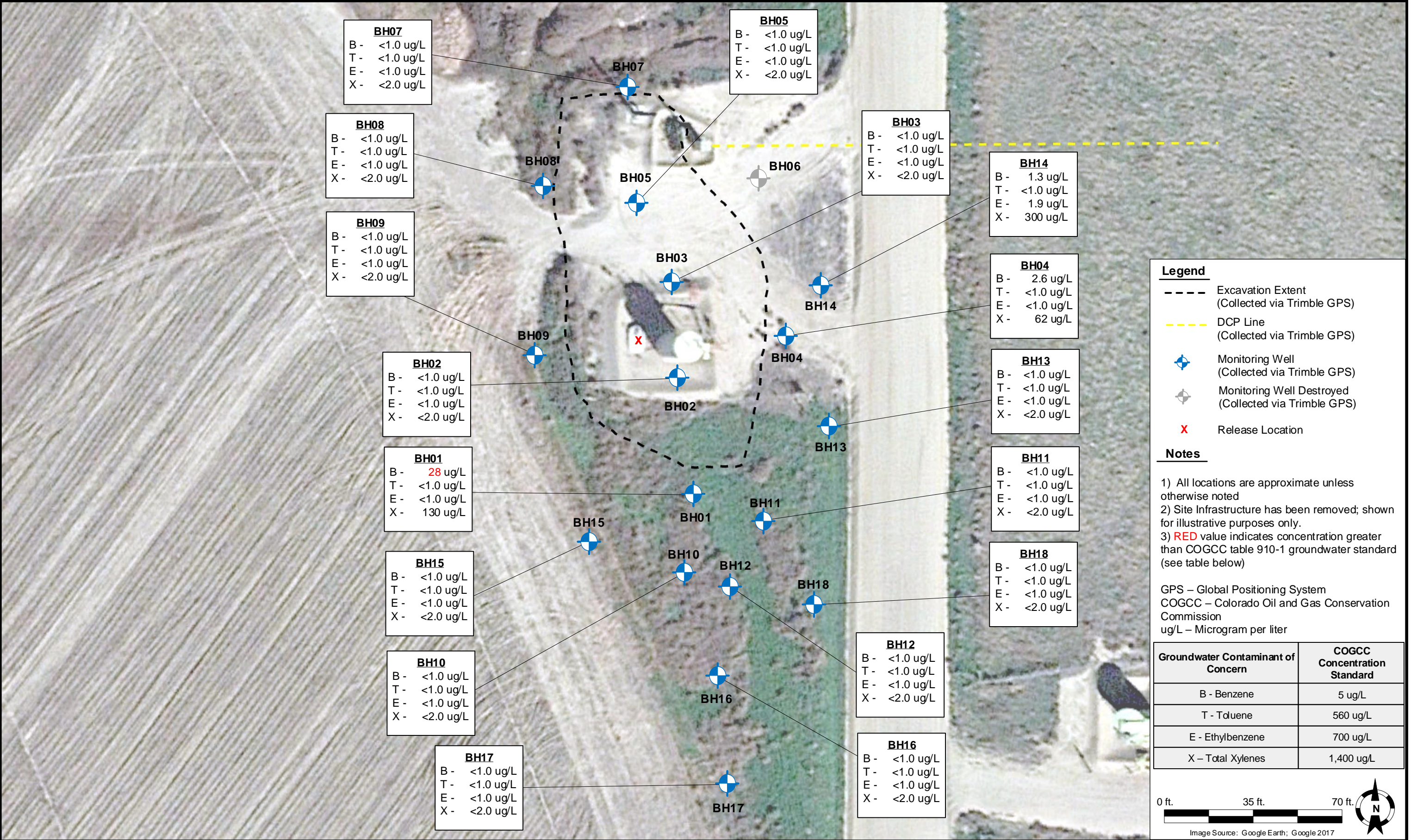
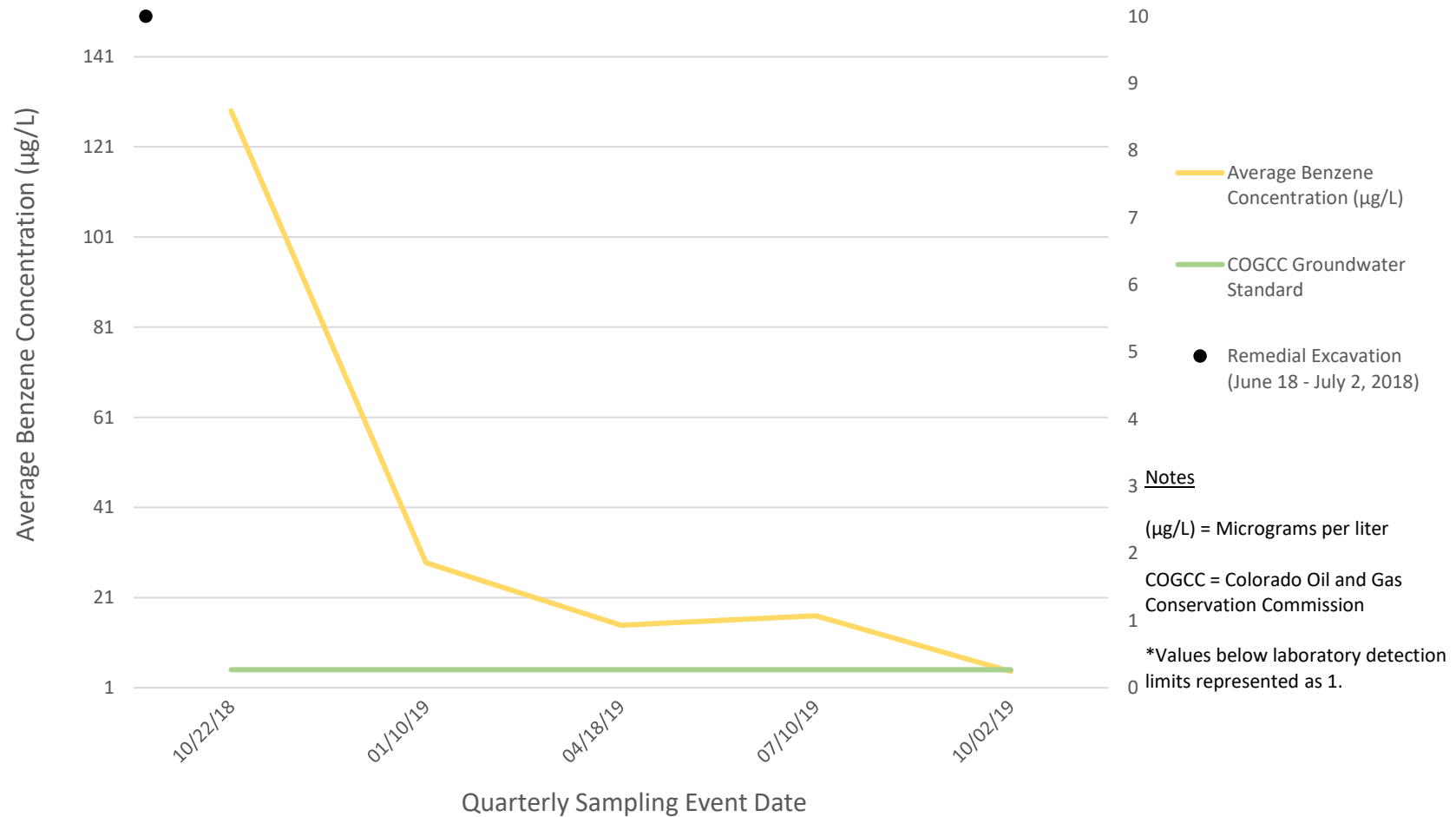




Figure 5  
Beebe Draw RG 26-9, 23  
Average Benzene Concentration VS Quarterly Sampling Event Date



# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 10, 2019

Brandon Bruns

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Beebe Draw RG 26-9,23

Work Order # 1910037

Enclosed are the results of analyses for samples received by Summit Scientific on 10/02/19 18:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink on a light blue background. The signature is cursive and reads "Muri Premier".

Muri Premier For Ben Shrewsbury

Laboratory Manager



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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1910037-01	Water	10/02/19 11:43	10/02/19 18:00
BH02	1910037-02	Water	10/02/19 10:48	10/02/19 18:00
BH03	1910037-03	Water	10/02/19 10:20	10/02/19 18:00
BH04	1910037-04	Water	10/02/19 11:10	10/02/19 18:00
BH05	1910037-05	Water	10/02/19 10:20	10/02/19 18:00
BH07	1910037-06	Water	10/02/19 10:18	10/02/19 18:00
BH08	1910037-07	Water	10/02/19 10:09	10/02/19 18:00
BH09	1910037-08	Water	10/02/19 10:37	10/02/19 18:00
BH10	1910037-09	Water	10/02/19 11:51	10/02/19 18:00
BH11	1910037-10	Water	10/02/19 11:54	10/02/19 18:00
BH12	1910037-11	Water	10/02/19 11:37	10/02/19 18:00
BH13	1910037-12	Water	10/02/19 11:33	10/02/19 18:00
BH14	1910037-13	Water	10/02/19 10:51	10/02/19 18:00
BH15	1910037-14	Water	10/02/19 12:03	10/02/19 18:00
BH16	1910037-15	Water	10/02/19 11:21	10/02/19 18:00
BH17	1910037-16	Water	10/02/19 11:07	10/02/19 18:00
BH18	1910037-17	Water	10/02/19 12:11	10/02/19 18:00

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

S<sub>2</sub>

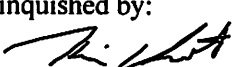
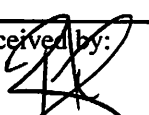
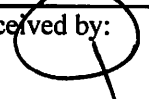
1910037.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933 (f)

Page 1 of 2

Client: Noble Enegry Project Manager: Brandon Bruns, Invoice: Jacob Evans  
Address: 6855 W 119th Ave E-Mail: bbruns@tasman-geo.com  
City/State/Zip: Broomfield, CO 80020  
Phone: 303-487-1228 Project Name: Beebe Draw RG 26-9, 23  
Sampler Name: Kevin Chrzt Project Number:

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								
1	BH01	10/2/2019	11:43	3			X		X					X							
2	BH02	10/2/2019	10:48	3			X		X					X							
3	BH03	10/2/2019	10:20	3			X		X					X							
4	BH04	10/2/2019	11:10	3			X		X					X							
5	BH05	10/2/2019	10:20	3			X		X					X							
6	BH07	10/2/2019	10:18	3			X		X					X							
7	BH08	10/2/2019	10:09	3			X		X					X							
8	BH09	10/2/2019	10:37	3			X		X					X							
9	BH10	10/2/2019	11:51	3			X		X					X							
10	BH11	10/2/2019	11:54	3			X		X					X							

Relinquished by: 	Date/Time: 10/2/2019 14:40	Received by: Tasman Box	Date/Time: 10/2/2019 14:40	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman Box	Date/Time: 10/2/2019 1806	Received by: 	Date/Time: 10/02/19 1800	Sample Integrity:	
Relinquished by:	Date/Time:	Received by: 	Date/Time:	Temperature Upon Receipt: 3.6 Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

# Summit Scientific

S<sub>2</sub>


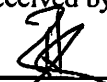
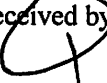
1910037.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403  
303-277-9310 ♦ 303-374-5933 (f)

Page 2 of 2

Client: Noble Enegry Project Manager: Brandon Bruns, Invoice: Jacob Evans  
Address: 6855 W. 119th Ave E-Mail: bbruns@tasman-geo.com  
City/State/Zip: Broomfield, CO 80020  
Phone: 303-487-1228 Project Name: ~~Perkins 31-7~~ Beebe Draw RG 26-9; 23 PS 10-03-19  
Sampler Name: Kevin Chritz Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	STEX								
1	BH12	10/2/2019	11:37	3			X		X					X							
2	BH13	10/2/2019	11:33	3			X		X					X							
3	BH14	10/2/2019	10:51	3			X		X					X							
4	BH15	10/2/2019	12:03	3	X				X					X							
5	BH16	10/2/2019	11:21	3	X				X					X							
6	BH17	10/2/2019	11:07	3	X				X					X							
7	BH18	10/2/2019	12:11	3	X				X					X							
8																					
9																					
10																					

Relinquished by: 	Date/Time: 10/2/2019 14:43	Received by: Tasman Box	Date/Time: 10/2/2019 14:43	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/>	Notes:
Relinquished by: Tasman Box	Date/Time: 10/2/2019 18:06	Received by: 	Date/Time: 10/2/19 1800	Sample Integrity:	
Relinquished by:	Date/Time:	Received by: 	Date/Time:	Temperature Upon Receipt: 3.6 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	



# Sample Receipt Checklist

S2 Work Order 1910037

Client: Noble Energy Client Project ID: Beebe Draw RG 26-9, 23

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

Matrix (check all that apply):    Air    Soil/Solid    X Water    Other: \_\_\_\_\_  
(Describe)

Temp (°C)	<u>3.6</u>
-----------	------------

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C <sup>(1)</sup> ? NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	<u>X</u>			
Were all samples received intact <sup>(1)</sup> ?	<u>X</u>			
Was adequate sample volume provided <sup>(1)</sup> ?	<u>X</u>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<u>X</u>	
Are samples with holding times due within 48 hours sample due within 48 hours present?		<u>X</u>		
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<u>X</u>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<u>X</u>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<u>X</u>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<u>X</u>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<u>X</u>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ? Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect	<u>X</u>			<u>HCL</u>
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ? Record the pH in Comments.			<u>X</u>	
If dissolved metals are requested, were samples field filtered?			<u>X</u>	

Additional Comments (if any):

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

Custodian Printed Name or Initials KE

Signature of Custodian [Signature]

Date/Time 10/02/19 1834



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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH01**  
**1910037-01 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>28</b>	1.0		ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>130</b>	2.0		"	"	"	"	"	"	

Date Sampled: **10/02/19 11:43**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		92.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		91.7 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH02**  
**1910037-02 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		91.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.1 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/10/19 12:11

**BH03**  
**1910037-03 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		76.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.8 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/10/19 12:11

**BH04**  
**1910037-04 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2.6</b>	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>62</b>	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		46.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.4 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH05**  
**1910037-05 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:20**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		90.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.2 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH07**  
**1910037-06 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:18**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		89.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.7 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH08**  
**1910037-07 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:09**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		92.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.3 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH09**  
**1910037-08 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		92.3 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		80.9 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/10/19 12:11

**BH10**  
**1910037-09 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		93.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		92.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		82.1 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH11**  
**1910037-10 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:54**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		94.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		90.5 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		83.3 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH12**  
**1910037-11 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:37**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		80.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH13**  
**1910037-12 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:33**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		80.4 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		91.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/10/19 12:11

**BH14**  
**1910037-13 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
<b>Benzene</b>	<b>1.3</b>	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1.9</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>300</b>	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 10:51**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		111 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		87.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		160 %	21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH15**  
**1910037-14 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 12:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 12:03**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		82.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		88.1 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	21-167		"	"	"	"	

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Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH16**  
**1910037-15 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:21**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		72.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		82.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %	21-167		"	"	"	"	

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Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/10/19 12:11

**BH17**  
**1910037-16 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 11:07**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		79.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		89.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	21-167		"	"	"	"	

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Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

**BH18**  
**1910037-17 (Water)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **10/02/19 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	1.0	ug/l	1	1910103	10/07/19	10/09/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **10/02/19 12:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		81.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		87.4 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.4 %	21-167		"	"	"	"	

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Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

## 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 1910103 - EPA 5030 Water MS

##### Blank (1910103-BLK1)

Prepared: 10/07/19 Analyzed: 10/09/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.0		"	13.3		90.2	23-173			
Surrogate: Toluene-d8	12.2		"	13.3		91.9	20-170			
Surrogate: 4-Bromofluorobenzene	10.4		"	13.3		78.4	21-167			

##### LCS (1910103-BS1)

Prepared: 10/07/19 Analyzed: 10/09/19

Benzene	22.0	1.0	ug/l	33.3		65.9	51-132			
Toluene	22.8	1.0	"	33.3		68.5	51-138			
Ethylbenzene	23.4	1.0	"	33.3		70.4	58-146			
m,p-Xylene	45.0	2.0	"	66.7		67.5	57-144			
o-Xylene	22.7	1.0	"	33.3		68.1	53-146			
Surrogate: 1,2-Dichloroethane-d4	12.6		"	13.3		94.8	23-173			
Surrogate: Toluene-d8	12.1		"	13.3		90.9	20-170			
Surrogate: 4-Bromofluorobenzene	11.2		"	13.3		83.7	21-167			

##### Matrix Spike (1910103-MS1)

Source: 1910031-01

Prepared: 10/07/19 Analyzed: 10/09/19

Benzene	40.2	1.0	ug/l	33.3	ND	121	34-141			
Toluene	24.0	1.0	"	33.3	ND	72.1	27-151			
Ethylbenzene	24.3	1.0	"	33.3	ND	72.8	29-160			
m,p-Xylene	81.0	2.0	"	66.7	ND	121	20-166			
o-Xylene	23.8	1.0	"	33.3	ND	71.3	33-159			
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.3		107	23-173			
Surrogate: Toluene-d8	12.7		"	13.3		95.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.3	21-167			

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Project: Noble - Beebe Draw RG 26-9,23

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
10/10/19 12:11

**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 1910103 - EPA 5030 Water MS**

**Matrix Spike Dup (1910103-MSD1)**

Source: 1910031-01

Prepared: 10/07/19 Analyzed: 10/09/19

Benzene	42.5	1.0	ug/l	33.3	ND	128	34-141	5.56	30	
Toluene	22.6	1.0	"	33.3	ND	67.9	27-151	6.09	30	
Ethylbenzene	22.9	1.0	"	33.3	ND	68.6	29-160	5.94	30	
m,p-Xylene	103	2.0	"	66.7	ND	154	20-166	23.5	30	
o-Xylene	22.6	1.0	"	33.3	ND	67.8	33-159	5.00	30	
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.3		99.7	23-173			
Surrogate: Toluene-d8	12.2		"	13.3		91.2	20-170			
Surrogate: 4-Bromofluorobenzene	12.3		"	13.3		92.5	21-167			

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Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
10/10/19 12:11

### 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