

# MOSIER 23-12F

HISTORIC RELEASE

API #: 05-123-16330

Remediation Project #: 10158

Spill/Release Point ID #: 448998

## THIRD QUARTER 2018 Analytical Tables, Figures, and Laboratory Reports

August 22, 2018



Image: Google

PREPARED ON BEHALF OF

Noble Energy, Inc.  
2115 117th Avenue  
Greeley, CO 80631



PREPARED BY

Tasman Geosciences, Inc.  
6899 Pecos Street, Unit C  
Denver, CO 80221



**TABLE 1**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - MOSIER 23-12F OIL TANK RELEASE**

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	01/19/17	<b>Not Sampled - 3.92' LNAPL Present</b>			
BH01	02/21/17	Well Destroyed During Excavation			
BH02	01/19/17	<b>Not Sampled - 3.31' LNAPL Present</b>			
BH02	02/21/17	Well Destroyed During Excavation			
BH04	01/19/17	<b>Not Sampled - 4.12' LNAPL Present</b>			
BH04	02/21/17	Well Destroyed During Excavation			
BH07	01/19/17	<b>Not Sampled - 0.65' LNAPL Present</b>			
BH07	02/21/17	Well Destroyed During Excavation			
BH09	01/19/17	<b>Not Sampled - 0.08' LNAPL Present</b>			
BH09	02/21/17	Well Destroyed During Excavation			
BH13	10/20/17	<1.0	<1.0	<1.0	<2.0
BH13	01/19/18	<b>40</b>	<1.0	<1.0	<2.0
BH13	04/18/18	<b>55</b>	<1.0	<1.0	<2.0
BH13	07/09/18	<b>6.2</b>	<1.0	<1.0	<2.0
BH14	10/20/17	<1.0	<1.0	<1.0	<2.0
BH14	01/19/18	<1.0	<1.0	<1.0	<2.0
BH14	04/18/18	<b>18</b>	<1.0	<1.0	<2.0
BH14	07/09/18	4.5	<1.0	<1.0	<2.0
BH15	10/20/17	<b>5,900</b>	<b>5,800</b>	340	<b>2,900</b>
BH15	01/19/18	<b>6,800</b>	<b>4,300</b>	440	<b>5,200</b>
BH15	04/18/18	<b>7,100</b>	<b>3,000</b>	490	<b>5,900</b>
BH15	07/09/18	<b>11,000</b>	520	<b>710</b>	<b>7,200</b>
BH16	10/20/17	<b>1,600</b>	1.6	9.9	<2.0
BH16	01/19/18	<b>1,400</b>	<1.0	7.3	<2.0
BH16	04/18/18	<b>980</b>	<1.0	<1.0	<2.0
BH16	07/09/18	<b>900</b>	<1.0	<1.0	<2.0
BH17	10/20/17	<b>150</b>	<1.0	<1.0	<2.0
BH17	01/19/18	<b>270</b>	1.2	1.2	2.2
BH17	04/18/18	<b>210</b>	<1.0	<1.0	<2.0
BH17	07/09/18	<b>120</b>	<1.0	<1.0	<2.0
BH18	10/20/17	<1.0	<1.0	<1.0	640
BH18	01/19/18	<b>990</b>	15	67	<b>1,700</b>
BH18	04/18/18	<b>530</b>	1.1	2.0	21
BH18	07/09/18	<b>110</b>	<1.0	8.1	66
BH19	10/20/17	<b>51</b>	<1.0	<1.0	460
BH19	01/19/18	<b>470</b>	<b>990</b>	32	560
BH19	04/18/18	<b>87</b>	340	9.8	170
BH19	07/09/18	<b>51</b>	63	4.5	62
BH20	10/20/17	<1.0	<1.0	<1.0	<2.0
BH20	01/19/18	<1.0	<1.0	<1.0	<2.0
BH20	04/18/18	<1.0	<1.0	<1.0	<2.0
BH20	07/09/18	<1.0	<1.0	<1.0	<2.0

**TABLE 1**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - MOSIER 23-12F OIL TANK RELEASE**

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>
BH21	12/18/17	31	<1.0	<1.0	<2.0
BH21	01/19/18	4.0	<1.0	<1.0	<2.0
BH21	04/18/18	27	<1.0	<1.0	<2.0
BH21	07/09/18	7.4	<1.0	<1.0	<2.0
BH22	12/18/17	6800	15,000	510	8,000
BH22	01/19/18	5,100	8,400	320	4,500
BH22	04/18/18	5,900	7,000	340	4,200
BH22	07/09/18	2,100	1,900	110	6,000
BH23	12/18/17	510	4.2	<1.0	3.7
BH23	01/19/18	310	<1.0	210	420
BH23	04/18/18	21	3.8	<1.0	3.6
BH23	07/09/18	12	<1.0	<1.0	<2.0
BH24	12/18/17	<1.0	<1.0	<1.0	<2.0
BH24	01/19/18	<1.0	<1.0	<1.0	<2.0
BH24	04/18/18	<1.0	<1.0	<1.0	<2.0
BH24	07/09/18	<1.0	<1.0	<1.0	<2.0
BH25	12/18/17	29	<1.0	<1.0	<2.0
BH25	01/19/18	240	<1.0	<1.0	<2.0
BH25	04/18/18	1,100	<1.0	<1.0	<2.0
BH25	07/09/18	3,800	<1.0	<1.0	13
BH26	01/19/18	<1.0	<1.0	<1.0	<2.0
BH26	04/18/18	<1.0	<1.0	<1.0	<2.0
BH26	07/09/18	1.0	<1.0	<1.0	<2.0
BH27	01/19/18	<1.0	<1.0	<1.0	<2.0
BH27	04/18/18	14	<1.0	<1.0	<2.0
BH27	07/09/18	<1.0	<1.0	<1.0	<2.0
BH28	01/19/18	<1.0	<1.0	<1.0	<2.0
BH28	04/18/18	<1.0	<1.0	<1.0	<2.0
BH28	07/09/18	<1.0	<1.0	<1.0	<2.0
BH29	01/19/18	<1.0	<1.0	<1.0	<2.0
BH29	04/18/18	<1.0	<1.0	<1.0	<2.0
BH29	07/09/18	<1.0	<1.0	<1.0	<2.0
BH30	01/19/18	<1.0	<1.0	<1.0	<2.0
BH30	04/18/18	<1.0	<1.0	<1.0	<2.0
BH30	07/09/18	<1.0	<1.0	<1.0	<2.0
BH31	07/09/18	<1.0	<1.0	<1.0	<2.0
BH32	07/09/18	<1.0	<1.0	<1.0	<2.0
BH33	07/09/18	<1.0	<1.0	<1.0	<2.0

**TABLE 1**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - MOSIER 23-12F OIL TANK RELEASE**

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>

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**

Soil borings BH03, BH05, BH06, BH08, BH10-BH12 were not converted to monitoring wells.

**TABLE 2  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - MOSIER 23-12F OIL TANK RELEASE**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation* (ft. AMSL)</b>	
BH01	01/19/17	NM	13.57	12.57	8.65	3.92	NM	
BH01	02/21/17	Well Destroyed During Excavation						
BH02	01/19/17	NM	NM	14.47	11.16	3.31	NM	
BH02	02/21/17	Well Destroyed During Excavation						
BH04	01/19/17	NM	NM	15.53	11.41	4.12	NM	
BH04	02/21/17	Well Destroyed During Excavation						
BH07	01/19/17	NM	NM	11.36	10.71	0.65	NM	
BH07	02/21/17	Well Destroyed During Excavation						
BH09	01/19/17	NM	NM	11.65	11.57	0.08	NM	
BH09	02/21/17	Well Destroyed During Excavation						
BH13	10/20/17	4729.82	11.29	6.00	ND	ND	4723.82	
BH13	01/19/18	4729.82	11.24	7.40	ND	ND	4722.42	
BH13	04/18/18	4729.82	11.23	8.95	ND	ND	4720.87	
BH13	07/09/18	4729.82	11.32	8.28	ND	ND	4721.54	
BH14	10/20/17	4729.82	14.76	6.00	ND	ND	4723.82	
BH14	01/19/18	4729.82	14.64	7.40	ND	ND	4722.42	
BH14	04/18/18	4729.82	14.63	8.94	ND	ND	4720.88	
BH14	07/09/18	4729.82	14.48	8.28	ND	ND	4721.54	
BH15	10/20/17	4730.14	11.22	6.43	ND	ND	4723.71	
BH15	01/19/18	4730.14	11.20	7.85	ND	ND	4722.29	
BH15	04/18/18	4730.14	11.22	9.37	ND	ND	4720.77	
BH15	07/09/18	4730.14	11.26	8.69	ND	ND	4721.45	
BH16	10/20/17	4729.88	11.21	6.21	ND	ND	4723.67	
BH16	01/19/18	4729.88	11.13	7.57	ND	ND	4722.31	
BH16	04/18/18	4729.88	11.14	9.15	ND	ND	4720.73	
BH16	07/09/18	4729.88	11.30	8.46	ND	ND	4721.42	
BH17	10/20/17	4729.71	11.24	6.02	ND	ND	4723.69	
BH17	01/19/18	4729.71	11.20	7.39	ND	ND	4722.32	
BH17	04/18/18	4729.71	11.20	8.98	ND	ND	4720.73	
BH17	07/09/18	4729.71	11.23	8.27	ND	ND	4721.44	
BH18	10/20/17	4729.50	11.62	5.77	ND	ND	4723.73	
BH18	01/19/18	4729.50	11.47	7.15	ND	ND	4722.35	
BH18	04/18/18	4729.50	11.39	8.70	ND	ND	4720.80	
BH18	07/09/18	4729.50	11.53	8.03	ND	ND	4721.47	
BH19	10/20/17	4729.73	11.40	5.94	ND	ND	4723.79	
BH19	01/19/18	4729.73	11.35	7.32	ND	ND	4722.41	
BH19	04/18/18	4729.73	11.35	8.88	ND	ND	4720.85	
BH19	07/09/18	4729.73	11.60	8.19	ND	ND	4721.54	
BH20	10/20/17	4731.78	13.52	7.96	ND	ND	4723.82	
BH20	01/19/18	4731.78	13.44	9.34	ND	ND	4722.44	
BH20	04/18/18	4731.78	13.43	10.92	ND	ND	4720.86	
BH20	07/09/18	4731.78	13.64	10.23	ND	ND	4721.55	

**TABLE 2**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - MOSIER 23-12F OIL TANK RELEASE**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation* (ft. AMSL)</b>
BH21	12/18/17	4730.34	14.25	7.78	ND	ND	4722.56
BH21	01/19/18	4730.34	14.26	8.12	ND	ND	4722.22
BH21	04/18/18	4730.34	14.18	9.66	ND	ND	4720.68
BH21	07/09/18	4730.34	14.19	9.96	ND	ND	4720.38
BH22	12/18/17	4729.78	15.55	7.16	ND	ND	4722.62
BH22	01/19/18	4729.78	15.45	7.52	ND	ND	4722.26
BH22	04/18/18	4729.78	15.35	9.09	ND	ND	4720.69
BH22	07/09/18	4729.78	15.32	8.38	ND	ND	4721.40
BH23	12/18/17	4732.23	18.86	9.62	ND	ND	4722.61
BH23	01/19/18	4732.23	18.85	9.99	ND	ND	4722.24
BH23	04/18/18	4732.23	18.73	11.57	ND	ND	4720.66
BH23	07/09/18	4732.23	18.65	10.88	ND	ND	4721.35
BH24	12/18/17	4732.40	17.75	9.69	ND	ND	4722.71
BH24	01/19/18	4732.40	17.79	10.09	ND	ND	4722.31
BH24	04/18/18	4732.40	17.76	11.69	ND	ND	4720.71
BH24	07/09/18	4732.40	17.55	10.98	ND	ND	4721.42
BH25	12/18/17	4732.80	18.84	10.26	ND	ND	4722.54
BH25	01/19/18	4732.80	18.80	10.62	ND	ND	4722.18
BH25	04/18/18	4732.80	18.79	12.16	ND	ND	4720.64
BH25	07/09/18	4732.80	18.78	11.46	ND	ND	4721.34
BH26	01/19/18	4729.59	15.41	7.40	ND	ND	4722.19
BH26	04/18/18	4729.59	15.36	8.99	ND	ND	4720.60
BH26	07/09/18	4729.59	10.99	8.27	ND	ND	4721.32
BH27	01/19/18	4730.27	14.42	8.12	ND	ND	4722.15
BH27	04/18/18	4730.27	14.40	9.71	ND	ND	4720.56
BH27	07/09/18	4730.27	14.39	8.99	ND	ND	4721.28
BH28	01/19/18	4731.71	14.01	9.64	ND	ND	4722.07
BH28	04/18/18	4731.71	14.59	11.17	ND	ND	4720.54
BH28	07/09/18	4731.71	14.62	10.47	ND	ND	4721.24
BH29	01/19/18	4732.48	14.69	10.41	ND	ND	4722.07
BH29	04/18/18	4732.48	14.66	11.91	ND	ND	4720.57
BH29	07/09/18	4732.48	14.74	11.18	ND	ND	4721.30
BH30	01/19/18	4732.25	14.46	10.07	ND	ND	4722.18
BH30	04/18/18	4732.25	14.41	11.59	ND	ND	4720.66
BH30	07/09/18	4732.25	14.49	10.87	ND	ND	4721.38
BH31	07/09/18	4732.56	17.67	10.94	ND	ND	4721.62
BH32	07/09/18	4732.49	17.81	10.93	ND	ND	4721.56
BH33	07/09/18	4730.34	15.49	8.88	ND	ND	4721.46

**TABLE 2**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - MOSIER 23-12F OIL TANK RELEASE**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation* (ft. AMSL)</b>
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**NOTES:**

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

ND = Not Detected

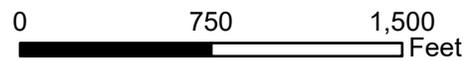
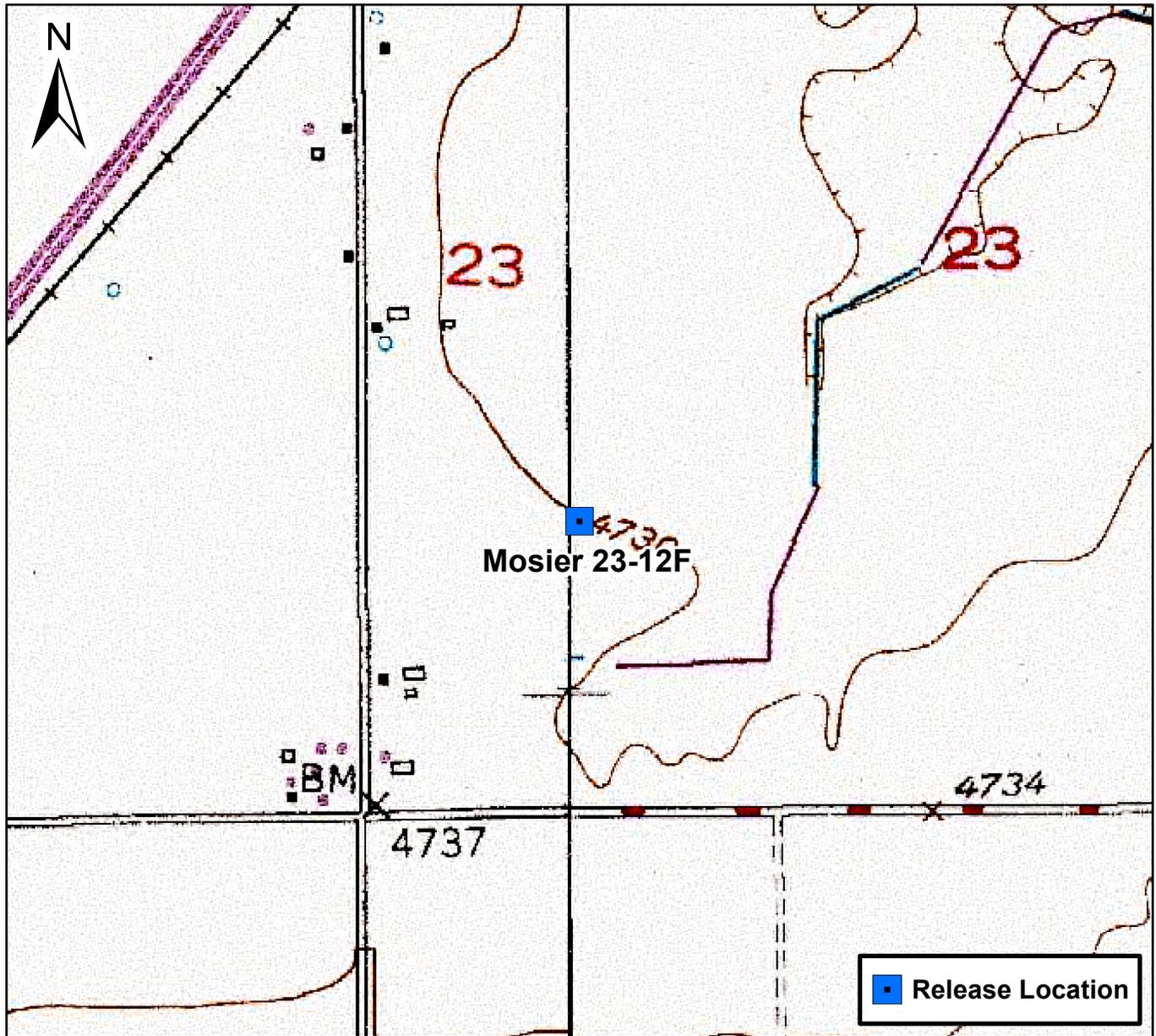
NM = Not Measured

Soil borings BH03, BH05, BH06, BH08, BH10-BH12 were not converted to monitoring wells.

\* Groundwater elevation was corrected for product thickness (when present) using the following calculation:

Groundwater elevation = (TOC Elevation - Measured Depth to Water)+(LNAPL Thickness in Well x LNAPL Relative Density)

LNAPL relative density was estimated to be 0.75



### Figure 1

Site Location Map  
 Mosier 23-12F Oil Tank Release  
 NWSW S23 T4N R66W  
 Weld County, Colorado





**Legend**

- X Release Location
- Excavation Extent (March 2017) - (Collected via Trimble GPS)
- ◆ Monitoring Well Location - (Collected via Trimble GPS)
- ◆ Monitoring Well – Destroyed

**Notes**

1) All locations are approximate unless otherwise noted.

GPS – Global Positioning System

0 ft.                      30 ft                      40 ft.

Image Source: Google Earth; 2016 Google  
Projection: WGS 84 UTM Zone 13 North

DATE:	08/21/2018
DESIGNED BY:	DA
DRAWN BY:	TL

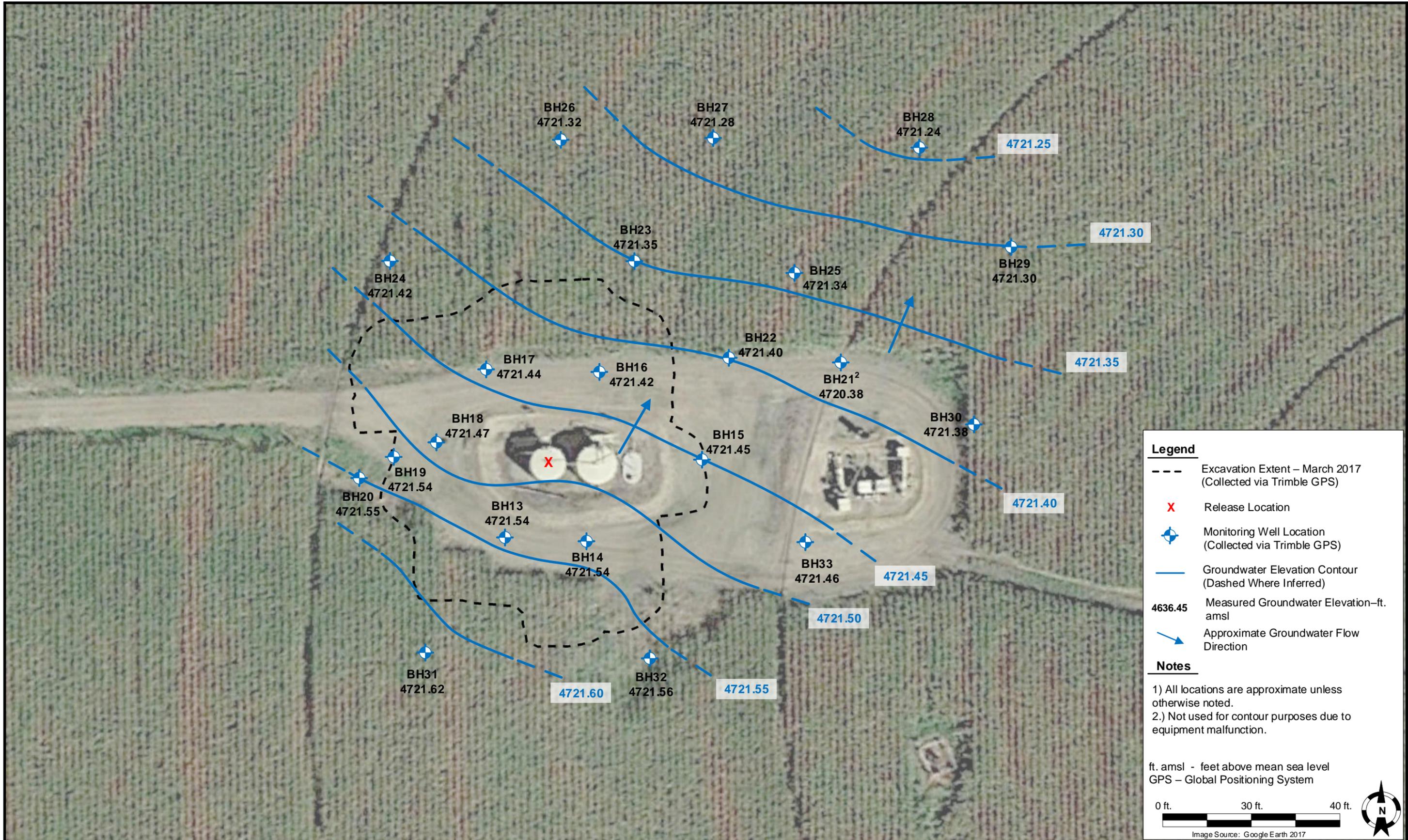
**TASMAN**  
GEOSCIENCES

Tasman Geosciences, Inc.  
6899 Pecos Street – Unit C  
Denver, CO 80221

**Noble Energy, Inc. – DJ Basin**  
**Mosier 23-12F Oil Tank Release**  
NWSW, Section 23, Township 4 North, Range 66 West  
Weld County, Colorado

Site Overview Map

FIGURE  
2



DATE:	08/21/2018
DESIGNED BY:	DA
DRAWN BY:	TL

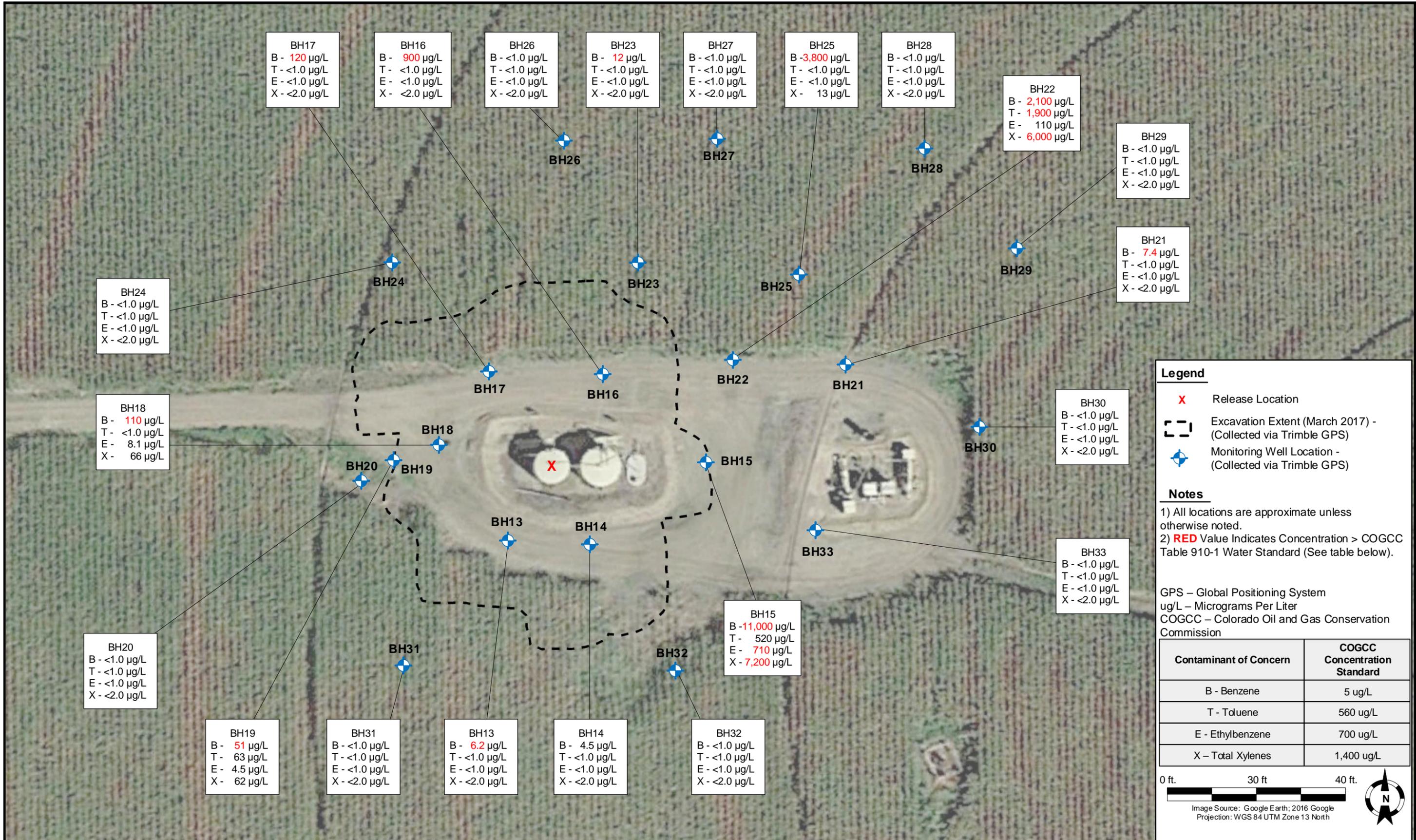


**TASMAN GEOSCIENCES**  
Tasman Geosciences, Inc.  
6899 Pecos Street – Unit C  
Denver, CO 80221

**Noble Energy, Inc. – DJ Basin  
Mosier 23-12F Oil Tank Release**  
NWSW, Section 23, Township 4 North, Range 66 West  
Weld County, Colorado

Groundwater Potentiometric  
Surface Contour Map  
(07/09/18)

FIGURE  
3



DATE: 08/21/2018

DESIGNED BY: B. Bruns

DRAWN BY: T. Lichtenberg

**TASMAN GEOSCIENCES**  
 Tasman Geosciences, Inc.  
 6899 Pecos Street – Unit C  
 Denver, CO 80221

**Noble Energy, Inc. – DJ Basin  
 Mosier 23-12F Oil Tank Release**  
 NWSW, Section 23, Township 4 North, Range 66 West  
 Weld County, Colorado

Groundwater Analytical  
 Results Figure  
 (07/09/18)

FIGURE  
 4

# Summit Scientific

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741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

July 13, 2018

Brandon Bruns  
Tasman Geosciences  
6899 Pecos St, Unit C  
Denver, CO 80221  
RE: Noble - Mosier 23-12F

Enclosed are the results of analyses for samples received by Summit Scientific on 07/09/18 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury For Ben Shrewsbury  
Laboratory Manager



Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH13	1807085-01	Water	07/09/18 13:15	07/09/18 17:00
BH14	1807085-02	Water	07/09/18 13:40	07/09/18 17:00
BH15	1807085-03	Water	07/09/18 14:08	07/09/18 17:00
BH16	1807085-04	Water	07/09/18 13:55	07/09/18 17:00
BH17	1807085-05	Water	07/09/18 13:58	07/09/18 17:00
BH18	1807085-06	Water	07/09/18 13:53	07/09/18 17:00
BH19	1807085-07	Water	07/09/18 13:27	07/09/18 17:00
BH20	1807085-08	Water	07/09/18 12:47	07/09/18 17:00
BH21	1807085-09	Water	07/09/18 14:20	07/09/18 17:00
BH22	1807085-10	Water	07/09/18 14:27	07/09/18 17:00
BH23	1807085-11	Water	07/09/18 14:18	07/09/18 17:00
BH24	1807085-12	Water	07/09/18 13:32	07/09/18 17:00
BH25	1807085-13	Water	07/09/18 14:40	07/09/18 17:00
BH26	1807085-14	Water	07/09/18 13:45	07/09/18 17:00
BH27	1807085-15	Water	07/09/18 14:28	07/09/18 17:00
BH28	1807085-16	Water	07/09/18 14:30	07/09/18 17:00
BH29	1807085-17	Water	07/09/18 13:30	07/09/18 17:00
BH30	1807085-18	Water	07/09/18 14:10	07/09/18 17:00
BH31	1807085-19	Water	07/09/18 13:05	07/09/18 17:00
BH32	1807085-20	Water	07/09/18 13:45	07/09/18 17:00
BH33	1807085-21	Water	07/09/18 14:50	07/09/18 17:00

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

741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933 Fax

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Client: Noble / Tasman  
Address: \_\_\_\_\_  
City/State/Zip: \_\_\_\_\_  
Phone: 970 461 6909 Fax: \_\_\_\_\_  
Sampler Name: \_\_\_\_\_

Project Manager: Brandon Bruns  
E-Mail: bbruns@tasman-geo.com  
Project Name: Mosier 23-12F MOSIER 23-12F  
Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:						Special Instructions		
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX							
BH 13	7/9/18	1315	3	X				X					X						
BH 14		1340		X															
BH 15		1408				X													
BH 16		1355		X															
BH 17		1358																	
BH 18		1353																	
BH 19		1327																	
BH 20		1247																	
BH 21		1420																	
BH 22		1427																	
Relinquished by: <u>[Signature]</u>		Date/Time: <u>17:00</u> <u>7/9/18</u>		Received by: <u>[Signature]</u>		Date/Time: <u>7-9-18</u> <u>17:00</u>		Turn Around Time (Check)			Notes:								
								Same Day <input type="checkbox"/>			72 Hours <input type="checkbox"/>								
								24 Hours <input type="checkbox"/>			Standard <input checked="" type="checkbox"/>								
								48 Hours <input type="checkbox"/>											
Relinquished by:		Date/Time:		Received in Lab by:		Date/Time:		Sample Integrity:			Temperature Upon Receipt: <u>1.8</u>								
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>											



# Summit Scientific

741 Corporate Circle Suite I ♦ Golden, Colorado 80401  
303-277-9310 ♦ 303-374-5933 Fax

Page 3 of 3

Client: Noble/Tasman  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Sampler Name: \_\_\_\_\_

Project Manager: \_\_\_\_\_  
 E-Mail: \_\_\_\_\_  
 Project Name: Mosler 23-12F  
 Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:						Special Instructions		
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)								
BH33	7/9/18	1450	3	X				X				X	BTEX						
Relinquished by: <u>[Signature]</u>		Date/Time: <u>7/9/18 17:00</u>		Received by: <u>[Signature]</u>		Date/Time: <u>7-9-18 17:00</u>		Turn Around Time (Check)						Notes:					
								Same Day <input type="checkbox"/>		72 Hours <input type="checkbox"/>		24 Hours <input type="checkbox"/>		Standard <input checked="" type="checkbox"/>					
Relinquished by:		Date/Time:		Received by:		Date/Time:		48 Hours <input type="checkbox"/>		Sample Integrity:									
										Temperature Upon Receipt: <u>1.8</u>		Intact: Yes <input checked="" type="checkbox"/>		No <input type="checkbox"/>					

1807085

Sample Receipt Checklist

S2 Work Order: \_\_\_\_\_

Client: Noble / Tasman

Client Project ID: Mosier 23-12F

Shipped Via: P.O.  
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Airbill #: \_\_\_\_\_

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

Temp (°C) 1.8

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> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are samples with holding times due within 48 hours sample due within 48 hours present?	<input checked="" type="checkbox"/>			
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?				
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		First page complete last two inc.
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		<input checked="" type="checkbox"/>		
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			HCL
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	

Additional Comments (if any):  
No sampler name

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

Mwi  
Custodian Printed Name or Initials

[Signature] 7-9-18  
Signature or Initials of Custodian

17:30  
Date/Time



Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH13**  
**1807085-01 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>6.2</b>	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		103 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH14**  
**1807085-02 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>4.5</b>	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.5 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH15**  
**1807085-03 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>11000</b>	100	ug/l	100	1807088	07/10/18	07/12/18	EPA 8260B	
<b>Toluene</b>	<b>520</b>	100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>710</b>	100	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>7200</b>	200	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		91.1 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		103 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH16**  
**1807085-04 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>900</b>	10	ug/l	10	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		96.8 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		103 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH17**  
**1807085-05 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>120</b>	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.4 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		105 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH18**  
**1807085-06 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>110</b>	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>8.1</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>66</b>	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		99.2 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		105 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH19**  
**1807085-07 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>51</b>	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
<b>Toluene</b>	<b>63</b>	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>4.5</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>62</b>	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.7 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		104 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH20**  
**1807085-08 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 12:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 12:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		105 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

Reported:  
07/13/18 07:43

**BH21**  
**1807085-09 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>7.4</b>	1.0	ug/l	1	1807088	07/10/18	07/11/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH22**  
**1807085-10 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>2100</b>	10	ug/l	10	1807088	07/10/18	07/11/18	EPA 8260B	
<b>Toluene</b>	<b>1900</b>	10	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>110</b>	1.0	"	1	"	"	"	"	
<b>Xylenes (total)</b>	<b>6000</b>	20	"	10	"	"	"	"	

Date Sampled: **07/09/18 14:27**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		127 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		106 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH23**  
**1807085-11 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>12</b>	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.9 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.5 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH24**  
**1807085-12 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.5 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH25**  
**1807085-13 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>3800</b>	100	ug/l	100	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	1	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>13</b>	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %		23-173	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %		20-170	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		21-167	"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH26**  
**1807085-14 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>1.0</b>	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.5 %	23-173		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.4 %	20-170		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	21-167		"	"	"	"	

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH27**  
**1807085-15 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:28**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.0 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH28**  
**1807085-16 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.7 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH29**  
**1807085-17 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.2 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH30**  
**1807085-18 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	21-167		"	"	"	"	

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH31**  
**1807085-19 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		98.1 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		96.9 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

Summit Scientific

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6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

**BH32**  
**1807085-20 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		100 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		101 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

**BH33**  
**1807085-21 (Water)**

**Summit Scientific**

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

Date Sampled: **07/09/18 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1807088	07/10/18	07/12/18	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **07/09/18 14:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		101 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	21-167		"	"	"	"	

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
07/13/18 07:43

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

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

**Batch 1807088 - EPA 5030 Water MS**

**Blank (1807088-BLK1)**

Prepared: 07/10/18 Analyzed: 07/11/18

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	12.5		"	13.2		94.4	23-173			
Surrogate: Toluene-d8	13.6		"	13.3		102	20-170			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	21-167			

**LCS (1807088-BS1)**

Prepared: 07/10/18 Analyzed: 07/11/18

Benzene	33.9	1.0	ug/l	33.3		102	70-130			
Toluene	33.8	1.0	"	33.3		102	70-130			
Ethylbenzene	39.5	1.0	"	33.3		119	70-130			
m,p-Xylene	67.8	2.0	"	66.7		102	70-130			
o-Xylene	34.4	1.0	"	33.3		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	12.8		"	13.2		96.9	23-173			
Surrogate: Toluene-d8	13.7		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	21-167			

**Matrix Spike (1807088-MS1)**

Source: 1807085-01

Prepared: 07/10/18 Analyzed: 07/11/18

Benzene	37.4	1.0	ug/l	33.3	6.15	93.8	70-130			
Toluene	32.8	1.0	"	33.3	ND	98.6	70-130			
Ethylbenzene	37.9	1.0	"	33.3	ND	114	70-130			
m,p-Xylene	65.0	2.0	"	66.7	ND	97.4	70-130			
o-Xylene	32.6	1.0	"	33.3	ND	97.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.2		99.2	23-173			
Surrogate: Toluene-d8	13.8		"	13.3		103	20-170			
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		107	21-167			

Summit Scientific

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Brunns

**Reported:**  
07/13/18 07:43

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

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

**Batch 1807088 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1807088-MSD1)</b>	<b>Source: 1807085-01</b>			Prepared: 07/10/18		Analyzed: 07/11/18				
Benzene	37.9	1.0	ug/l	33.3	6.15	95.3	70-130	1.30	30	
Toluene	34.3	1.0	"	33.3	ND	103	70-130	4.41	30	
Ethylbenzene	39.1	1.0	"	33.3	ND	117	70-130	3.04	30	
m,p-Xylene	66.6	2.0	"	66.7	ND	100	70-130	2.57	30	
o-Xylene	33.8	1.0	"	33.3	ND	101	70-130	3.56	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>13.7</i>		<i>"</i>	<i>13.2</i>		<i>104</i>	<i>23-173</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.9</i>		<i>"</i>	<i>13.3</i>		<i>104</i>	<i>20-170</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>14.4</i>		<i>"</i>	<i>13.3</i>		<i>108</i>	<i>21-167</i>			

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Tasman Geosciences  
6899 Pecos St, Unit C  
Denver CO, 80221

Project: Noble - Mosier 23-12F

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
07/13/18 07:43

### 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