

# **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**

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**PREPARED BY**

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**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) |
|--------------------|------|----------------|----------------|---------------------|----------------------|
| COGCC Standard     |      | 5              | 560            | 700                 | 1,400                |

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**

| Monitoring Well ID | Date     | Top of Casing Elevation (ft. AMSL) | Total Depth (ft. BTOC) | Depth to Water (ft. BTOC) | Depth to LNAPL (ft. BTOC) | LNAPL Thickness (ft.) | Groundwater Elevation* (ft. AMSL) |
|--------------------|----------|------------------------------------|------------------------|---------------------------|---------------------------|-----------------------|-----------------------------------|
| 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**

| Monitoring Well ID | Date     | Top of Casing Elevation (ft. AMSL) | Total Depth (ft. BTOC) | Depth to Water (ft. BTOC) | Depth to LNAPL (ft. BTOC) | LNAPL Thickness (ft.) | Groundwater Elevation* (ft. AMSL) |
|--------------------|----------|------------------------------------|------------------------|---------------------------|---------------------------|-----------------------|-----------------------------------|
| 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**

| Monitoring Well ID | Date | Top of Casing Elevation (ft. AMSL) | Total Depth (ft. BTOC) | Depth to Water (ft. BTOC) | Depth to LNAPL (ft. BTOC) | LNAPL Thickness (ft.) | Groundwater Elevation* (ft. AMSL) |
|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|-----------------------|-----------------------------------|
|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|-----------------------|-----------------------------------|

**NOTES:**

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

ND = Not Detected

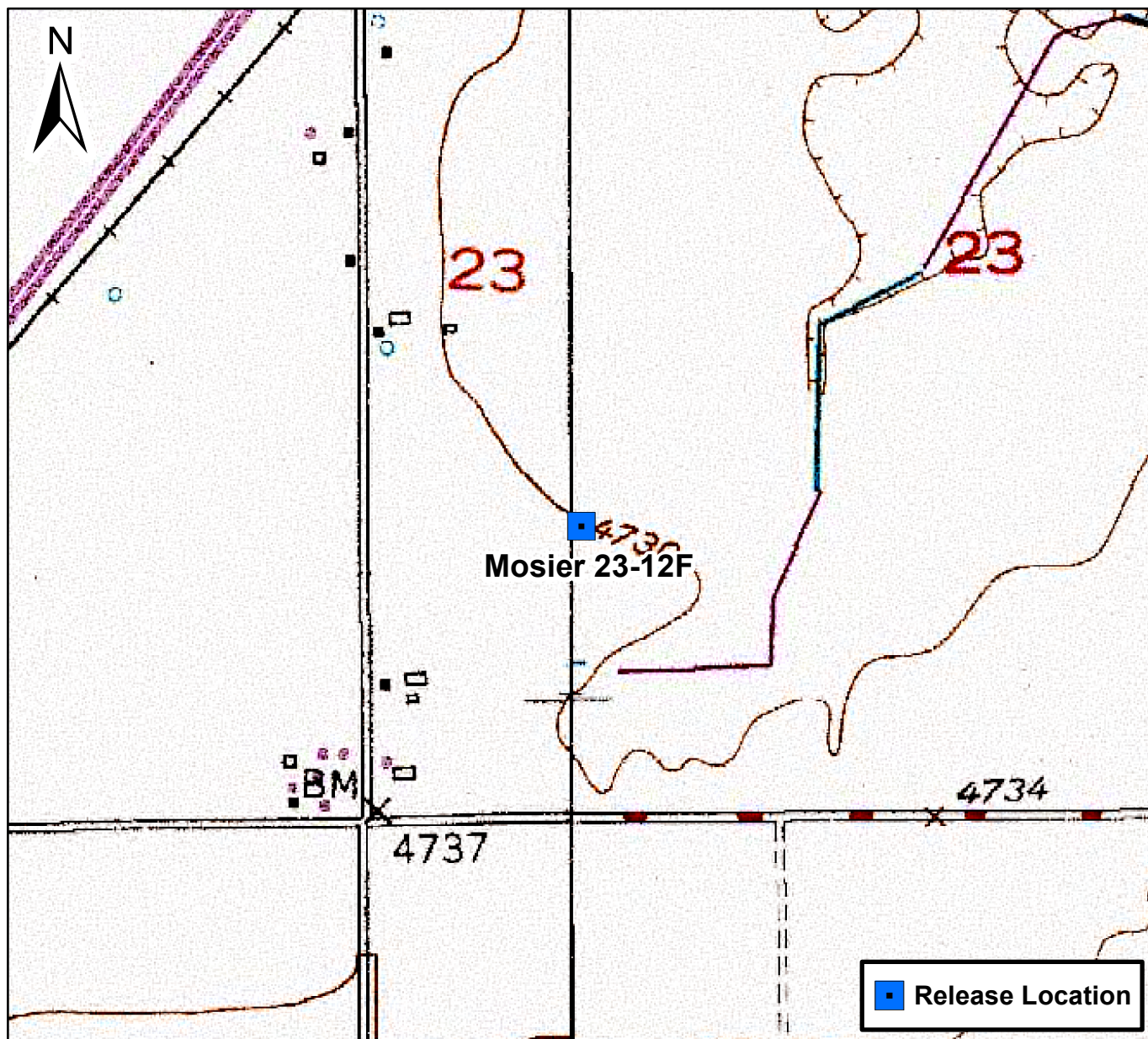
NM = Not Measured

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



0 750 1,500 Feet

## Figure 1

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







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



**TASMAN**  
GEOSCIENCES

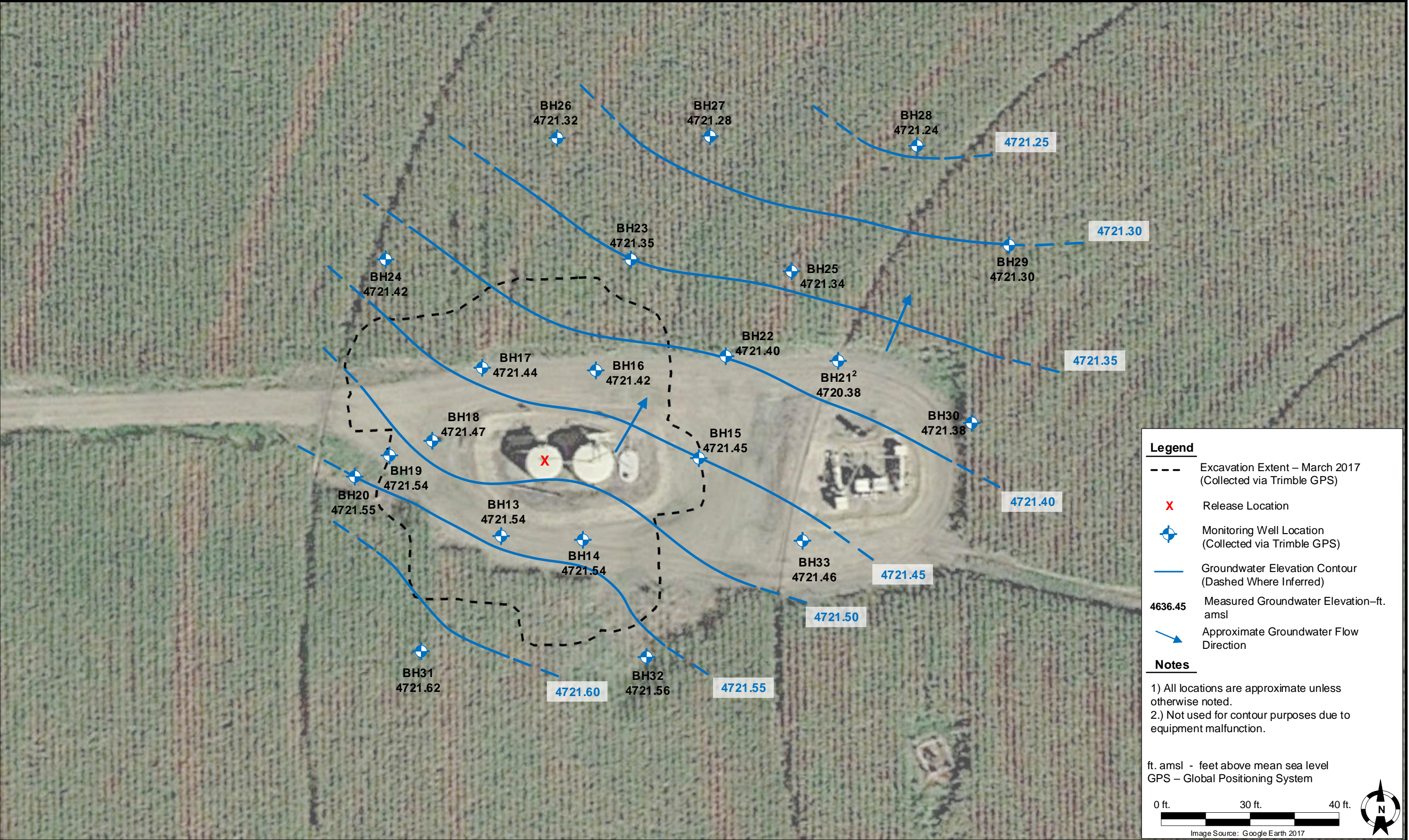
Tasman Geosciences, Inc.  
6899 Pecos Street – Unit C  
Denver, CO 80221

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

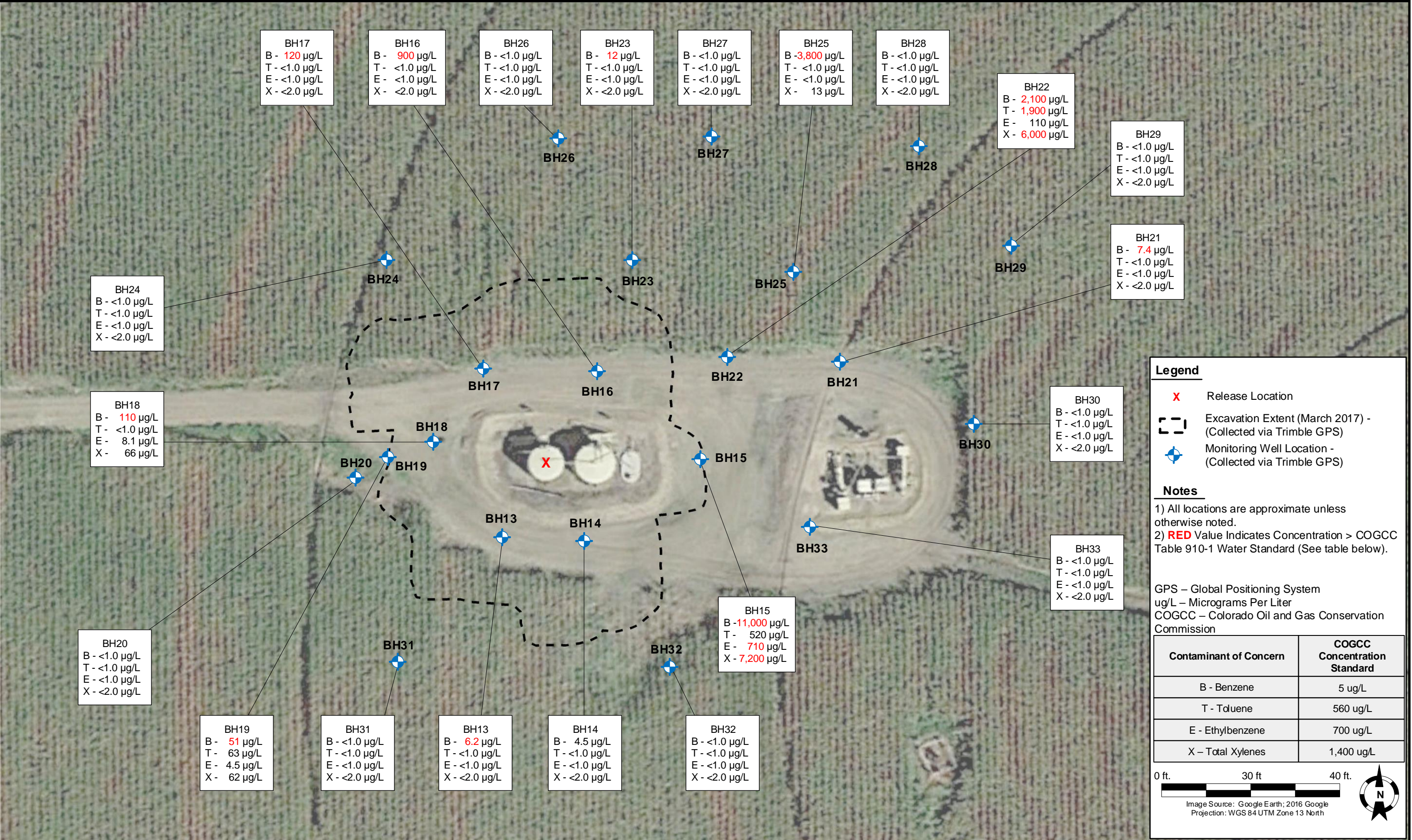
Site Overview Map

FIGURE  
2









|              |                |
|--------------|----------------|
| DATE:        | 08/21/2018     |
| DESIGNED BY: | 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

---

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,

A handwritten signature in black ink, appearing to be 'P. Shrewsbury', written in a cursive style.

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

Page 1 of 23

Client: Noble / Tasman

Address:

City/State/Zip:

Phone: 970 481 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: | Date/Time:                    | Received by:        | Date/Time:          | Turn Around Time (Check)   | Notes: |
| <u>Rin Dahl</u>  | <u>17:00</u><br><u>7/9/18</u> | <u>LA</u>           | <u>7-9-18 17:00</u> | Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/><br>24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/><br>48 Hours <input type="checkbox"/> |        |
| Relinquished by: | Date/Time:                    | Received by:        | Date/Time:          | Sample Integrity:<br>Temperature Upon Receipt: <u>1.8</u><br>Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>   |        |
| Relinquished by: | Date/Time:                    | Received in Lab by: | Date/Time:          |  |        |

# Summit Scientific

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

Page 2 of 03

Client: Noble / T95man

Address:

City/State/Zip:

Phone:

Fax:

Sampler Name:

Project Manager:

E-Mail:

Project Name: 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 |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH23               | 7/9/18       | 1418         | 3                    | X            |                  |      |                 | X           |      |                         |                 | X    |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH24               |              | 1332         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH25               |              | 1440         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH26               |              | 1345         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH27               |              | 1428         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH28               |              | 1430         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH29               |              | 1330         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH30               |              | 1410         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH31               |              | 1305         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |
| BH32               |              | 1345         |                      |              |                  |      |                 |             |      |                         |                 |      |  |  |  |  |  |  |  |  |                      |  |  |  |  |

|                  |                     |                     |              |  |        |
|------------------|---------------------|---------------------|--------------|--|--------|
| Relinquished by: | Date/Time:          | Received by:        | Date/Time:   | Turn Around Time (Check)   | Notes: |
| <u>Rin Loh</u>   | <u>7/9/18 17:00</u> | <u>7-9-18</u>       | <u>17:00</u> | Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/><br>24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/><br>48 Hours <input type="checkbox"/> |        |
| Relinquished by: | Date/Time:          | Received by:        | Date/Time:   | Sample Integrity:<br>Temperature Upon Receipt: <u>1.8</u><br>Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>   |        |
| Relinquished by: | Date/Time:          | Received in Lab by: | Date/Time:   |  |        |

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

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

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

|                                     |              |              |                      | Preservative            |                  |      |                 | Matrix                                 |      |                         |                 | Analyze For:   |  |  |  |   |  |  |  | Special Instructions |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------------|--------------|--------------|----------------------|-------------------------|------------------|------|-----------------|--|------|-------------------------|-----------------|--|--|--|--|---|--|--|--|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Sample Description                  | Date Sampled | Time Sampled | Number of Containers | HCl                     | HNO <sub>3</sub> | None | Other (Specify) | Groundwater                            | Soil | Air - Canister Serial # | Other (Specify) | BTEX   |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BH 33                               | 7/9/18       | 1450         | 3                    | X                       |                  |      |                 | X                                      |      |                         |                 | X  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 |  |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Relinquished by: <i>[Signature]</i> |              |              |                      | Date/Time: 7/9/18 17:00 |                  |      |                 | Received by: <i>[Signature]</i> 7-9-18 |      |                         |                 | Date/Time: 17:00   |  |  |  | Turn Around Time (Check)  |  |  |  | Notes:               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|                                     |              |              |                      |                         |                  |      |                 |  |      |                         |                 | Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/><br>24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/><br>48 Hours <input type="checkbox"/> |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Relinquished by:                    |              |              |                      | Date/Time:              |                  |      |                 | Received by:                           |      |                         |                 | Date/Time:   |  |  |  |   |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Relinquished by:                    |              |              |                      | Date/Time:              |                  |      |                 | Received in Lab by:                    |      |                         |                 | Date/Time:   |  |  |  | Sample Integrity:<br>Temperature Upon Receipt: 1.8<br>Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |  |  |  |                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



1807085

## Sample Receipt Checklist

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

Client: Noble / TasmanClient Project ID: Mosier 23-12FShipped Via: P.O.

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

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

Matrix (check all that apply):      Air      Soil/Solid   X   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"/> | <input type="checkbox"/>            | <input 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"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                                   |
| Was adequate sample volume provided <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                                   |
| If custody seals are present, are they intact <sup>(1)</sup> ?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                   |
| Are samples with holding times due within 48 hours sample due within 48 hours present?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                                   |
| Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | First page complete last two inc. |
| Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                                   |
| Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |                                   |
| Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?  | <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) <sup>(1)</sup> ?   | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | HCL                               |
| Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , ect                |                                     |                                     |                                     |                                   |
| If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?   | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |                                   |
| Record the pH in Comments  |                                     |                                     |                                     |                                   |
| If dissolved metals are requested, were samples field filtered?  | <input type="checkbox"/>            | <input type="checkbox"/>            | <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.Muri  
Custodian Printed Name or InitialsMA 7-9-18  
Signature or Initials of Custodian17:30  
Date/Time



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

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

**Summit Scientific**

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

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

| Analyte         | Result     | Reporting<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 103 %              | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 102 %              | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 105 %              | 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  
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<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 99.5 %             | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 100 %              | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 104 %              | 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  
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

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

**Summit Scientific**

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

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

| Analyte                | Result       | Reporting<br>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<br>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 Bruns

**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<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 96.8 %             | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 103 %              | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 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 Bruns

**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<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 99.4 %             | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 105 %              | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 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

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

**Summit Scientific**

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

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

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

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<br>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<br>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 |          | "     | "        | "        | "      |       |

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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

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

**Summit Scientific**

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

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

| Analyte                | Result      | Reporting<br>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<br>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 Bruns

**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<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 97.9 %             | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.5 %             | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 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 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<br>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<br>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 |          | "     | "        | "        | "      |       |

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

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

**Summit Scientific**

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

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

| Analyte                | Result      | Reporting<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 107 %              | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 102 %              | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 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<br>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<br>Limit | Units  | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 |        | 97.5 %             | 23-173 |          | "     | "        | "        | "      |       |
| Surrogate: Toluene-d8            |        | 99.4 %             | 20-170 |          | "     | "        | "        | "      |       |
| Surrogate: 4-Bromofluorobenzene  |        | 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<br>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<br>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 |          | "     | "        | "        | "      |       |

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

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

**Summit Scientific**

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

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

| Analyte         | Result | Reporting<br>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<br>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 |          | "     | "        | "        | "      |       |

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

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

**Summit Scientific**

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

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

| Analyte         | Result | Reporting<br>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<br>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 |          | "     | "        | "        | "      |       |

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

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

**Summit Scientific**

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

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

| Analyte         | Result | Reporting<br>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<br>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 |          | "     | "        | "        | "      |       |

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

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

**Summit Scientific**

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

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

| Analyte         | Result | Reporting<br>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<br>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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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

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

**Summit Scientific**

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

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

| Analyte         | Result | Reporting<br>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<br>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 |          | "     | "        | "        | "      |       |

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

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

**Summit Scientific**

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

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

| Analyte         | Result | Reporting<br>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<br>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   |       |
|---------|-----------|-------|-------|-------|--------|------|--------|-----|-------|-------|
|         | Result    | Limit | Units | Level | Result | %REC | Limits | RPD | Limit | Notes |

#### 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 |  |  |  |

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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   |       |
|---------|-----------|-------|-------|-------|--------|------|--------|-----|-------|-------|
|         | Result    | Limit | Units | Level | Result | %REC | Limits | RPD | Limit | Notes |

**Batch 1807088 - EPA 5030 Water MS**

| Matrix Spike Dup (1807088-MSD1)  | Source: 1807085-01 |     |      | 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 |  |
| Surrogate: 1,2-Dichloroethane-d4 | 13.7               |     | "    | 13.2               |      | 104                | 23-173 |      |    |  |
| Surrogate: Toluene-d8            | 13.9               |     | "    | 13.3               |      | 104                | 20-170 |      |    |  |
| Surrogate: 4-Bromofluorobenzene  | 14.4               |     | "    | 13.3               |      | 108                | 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

### 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                          |