

# SECOND QUARTER 2019 SITE MONITORING REPORT

## SYLVESTER 31-5H5, 6H5

COGCC SPILL TRACKING # 438553

COGCC REMEDIATION # 9292

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## 1.0 INTRODUCTION

This Second Quarter 2019 Site Monitoring Report (Report) presents the results of groundwater sampling activities performed at the Sylvester 31-5H5, 6H5 Flowline Release site (Site). Field activities detailed in this report were performed on behalf of Noble Energy, Inc. (Noble).

Field activities described in this Report were conducted by Tasman Geosciences, Inc. (Tasman) to further evaluate groundwater conditions. The data collected were used to develop the analytical summary tables, groundwater elevation map, and analytical data map presented herein.

### 1.1 Site Background

The Site is located in the southeast  $\frac{1}{4}$  of the northwest  $\frac{1}{4}$  of Section 31, Township 5 north, Range 65 west, of the 6<sup>th</sup> Principal Meridian; within the city limits of the town of La Salle, in Weld County, Colorado as illustrated on Figure 1. The release location is approximately 250 ft. south-southeast of the Sylvester 31-5H5 and Sylvester 31-6H5 wellheads, and 150 ft. northwest of County Road 394, within the Ensign Well Services maintenance yard. The approximate coordinates of the release point are 40.357120°, -104.708280°.

On August 14, 2014, Noble discovered a release from a flowline associated with the Sylvester 31-5H5, 6H5 tank battery. Subsequently, Noble filed a Form 19 Initial Spill/Release Report (Form 19) with the Colorado Oil and Gas Conservation Commission (COGCC) for the incident (Document # 400665236).

Site soil and groundwater assessment activities were conducted between May 4 and August 11, 2015, whereby Tasman advanced 45 soil borings and installed 45 groundwater monitoring wells across the Site, as illustrated on Figure 2. Based on data gathered during assessment activities, implementation of an air sparge/soil vapor extraction (AS/SVE) system was determined to be the most applicable approach to address subsurface impacts. Summaries detailing the results of the soil and groundwater sampling and remediation implementation activities performed between August 14, 2014 and September 11, 2015 are provided in the Site Assessment and Remediation Report, dated October 2, 2015. A Form 27 pertaining to remediation activities at the Site was received by the COGCC on October 2, 2015, and document # 200437738 and remediation project # 9292 were assigned for the project. The COGCC attached conditions of approval to the Site Form 27, which are discussed in Section 1.2, below.

### 1.2 COGCC Conditions of Approval

In an email response to the Form 27 that was submitted to the COGCC, a condition of approval was provided to Noble in an October 14, 2015 email stating:

*“Include monitoring wells MW-01, MW-02, MW-03, MW-04, MW-10 and MW-21 in addition to the monitoring wells shown on Figure 7 (MW-06, MW-12, MW-14, MW-16, MW-24, MW-25, MW-26, MW-27, MW-28, MW-29, MW-32, MW-33, MW-34, MW-37, MW-39, MW-40, MW-41,*

*MW-42, MW-43, MW-44, MW-45) in the quarterly ground water monitoring program. Analyze all groundwater samples for benzene, toluene, ethylbenzene and total xylenes (BTEX)."*

This guidance was utilized in determining monitoring wells to include in subsequent quarterly groundwater sampling events. Additionally, monitoring wells MW-46 and MW-47 were installed subsequent to the issuance of the COGCC conditions of approval on May 15, 2017, which stated "Continue quarterly groundwater monitoring of the 29 monitoring wells approved in the original Form 27 plus the two additional monitoring wells installed subsequent to approval of the Form 27." During the Third Quarter 2017, monitoring wells MW-02, which had a casing obstruction, and MW-10, which had been destroyed, were both replaced. These replacement wells, MW-02R and MW-10R, were first sampled during the Fourth Quarter of 2017.

### **1.3 Site Topography, Geology, and Hydrogeology**

The Site is situated approximately 4,660 feet above mean sea level (ft. amsl). Surface topography is relatively flat across the Site and regional topography slopes toward the northeast in the direction of the South Platte River. The Site is located in the flood plain approximately 597 feet (ft.) south of the South Platte River.

Site assessment borings indicate that the subsurface geology immediately beneath the Site is composed of dense, organic clay followed by unconsolidated alluvial sediment. The unconsolidated sediment is characterized as well sorted, medium to coarse grained sand. Boring logs for monitoring wells MW-1 through MW-47 were previously submitted in the Second Quarter 2016 Groundwater Monitoring and Remediation Summary Report.

Shallow groundwater was encountered at a range of approximately 4.5 ft. below ground surface (bgs) to 7 ft. bgs during well installation and groundwater sampling activities. The groundwater potentiometric surface generally flows toward the northwest in the northern portion of the site and to the north-northeast in the southern portion of the site, as illustrated on Figure 3.

## **2.0 GROUNDWATER SAMPLING ACTIVITIES**

This section summarizes the groundwater sampling activities that were performed, and the protocols followed during groundwater monitoring activities conducted by Tasman during the Second Quarter 2019. Sampling activities included measurement of groundwater and light non-aqueous phase liquid (LNAPL) depths and collection of groundwater samples from Site monitoring wells.

### **2.1 Groundwater Gauging and Sample Locations**

The Second Quarter 2019 groundwater monitoring event was conducted on May 14, 2019. Based on guidance provided in the COGCC Form 27 conditions of approval, the following list of wells are gauged (i.e. groundwater level was measured) and sampled on a quarterly basis:

MW-01	MW-02R	MW-03	MW-04
MW-06	MW-10R	MW-12	MW-14
MW-16	MW-21	MW-24	MW-25
MW-26	MW-27	MW-28	MW-29
MW-32	MW-33	MW-34	MW-37
MW-39	MW-40	MW-41	MW-42
MW-43	MW-44	MW-45	MW-46
MW-47			

These monitoring wells comprise the groundwater monitoring network at the Site. Monitoring wells MW-27 and MW-40 were inaccessible during the Second Quarter 2019 sampling event and therefore, were not gauged and laboratory analytical samples were not collected.

## 2.2 Groundwater Level Gauging

Both general procedures and significant observations from the Second Quarter 2019 groundwater gauging event are presented in the following sections.

### General Procedures

Groundwater levels are gauged quarterly in order to evaluate hydraulic characteristics and to provide information regarding seasonal and annual fluctuations in groundwater elevations at the Site. During the Second Quarter 2019 groundwater monitoring event, groundwater levels were measured at all wells in the Site monitoring network. Except inaccessible wells MW-27 and MW-40.

Groundwater levels are measured on the north side of the well casing to the nearest 0.01-foot using an oil-water interface probe (IP). Groundwater level data were subsequently converted to elevations (ft. amsl) by subtracting the measured groundwater depth-to-water (DTW) level from the well's top-of-casing (TOC) elevation survey datum.

### Significant Observations

During the Second Quarter 2019 groundwater monitoring event, the groundwater table was encountered at approximately 4.09 to 9.04 ft. below TOC. Groundwater potentiometric surface contours are illustrated in Figure 3.

LNAPL was not detected in any of the monitoring wells gauged during the Second Quarter 2019 monitoring event.

## 2.3 Groundwater Purging and Sampling

This section summarizes the general procedures for groundwater purging and sampling activities conducted during the Second Quarter 2019. During the Second Quarter 2019 groundwater monitoring event, groundwater samples were collected from the Site monitoring well network.

### General Procedures

Prior to collecting groundwater samples, groundwater levels were measured at each of the Site monitoring wells. The presence of LNAPL was also evaluated using an IP. Subsequently, a minimum of three casing volumes of groundwater (calculated from total well depth and groundwater level measurements) was purged from the subject well prior to collecting a groundwater sample.

Groundwater samples were collected using dedicated, disposable, polyethylene bailers and were placed in clean laboratory-supplied containers for the selected analytical method, packed in an ice-filled cooler, and kept at approximately 4 degrees Celsius for transportation to the laboratory.

Groundwater samples were submitted under chain-of-custody procedures to Summit Scientific Laboratory in Golden, Colorado for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) using United States Environmental Protection Agency (USEPA) Method 8260B.

## **3.0 SECOND QUARTER 2019 GROUNDWATER SAMPLING RESULTS**

This section presents the results of the Second Quarter 2019 groundwater sampling event. Groundwater laboratory analytical data is presented in Table 2 and illustrated on Figure 4. The laboratory analytical report is provided in Attachment A. A summary of the groundwater laboratory analytical data collected by Tasman is presented below:

- Benzene was not detected above the COGCC Table 910-1 groundwater standard of 5 micrograms per liter ( $\mu\text{g}/\text{L}$ ) in any of the 27 Site monitoring wells sampled.
- Toluene was not detected above the COGCC Table 910-1 groundwater standard of 560  $\mu\text{g}/\text{L}$  in any of the 27 Site monitoring wells sampled.
- Ethylbenzene was not detected above the COGCC Table 910-1 groundwater standard of 700  $\mu\text{g}/\text{L}$  in any of the 27 Site monitoring wells sampled.
- Total xylenes were not detected above the COGCC Table 910-1 groundwater standard of 1,400  $\mu\text{g}/\text{L}$  in any of the 27 Site monitoring wells sampled.

## **4.0 REMEDIATION SYSTEM OPERATIONS**

This section summarizes data for the air sparge / soil vapor extraction (AS/SVE) remediation system that was previously in operation at the Site. During operations, the remediation system is shut down a minimum of one week prior to quarterly sampling events to allow for normalization of Site groundwater levels.

In September and October 2015, Tasman installed the AS/SVE system at the Site (System). The System consisted of 6 horizontal AS wells and 5 horizontal SVE wells, as shown on Figure 5. The System equipment was housed in a trailer that was placed along the southern Site fence. The AS and SVE wells were plumbed to the System trailer and were connected to individual headers inside the trailer. Operation of the System was initiated on November 12, 2015, and all of the AS and SVE wells were put into operation. In addition to the dedicated AS lines, monitoring wells MW-02R, MW-03, and MW-12 were converted to dual purpose AS monitoring wells.

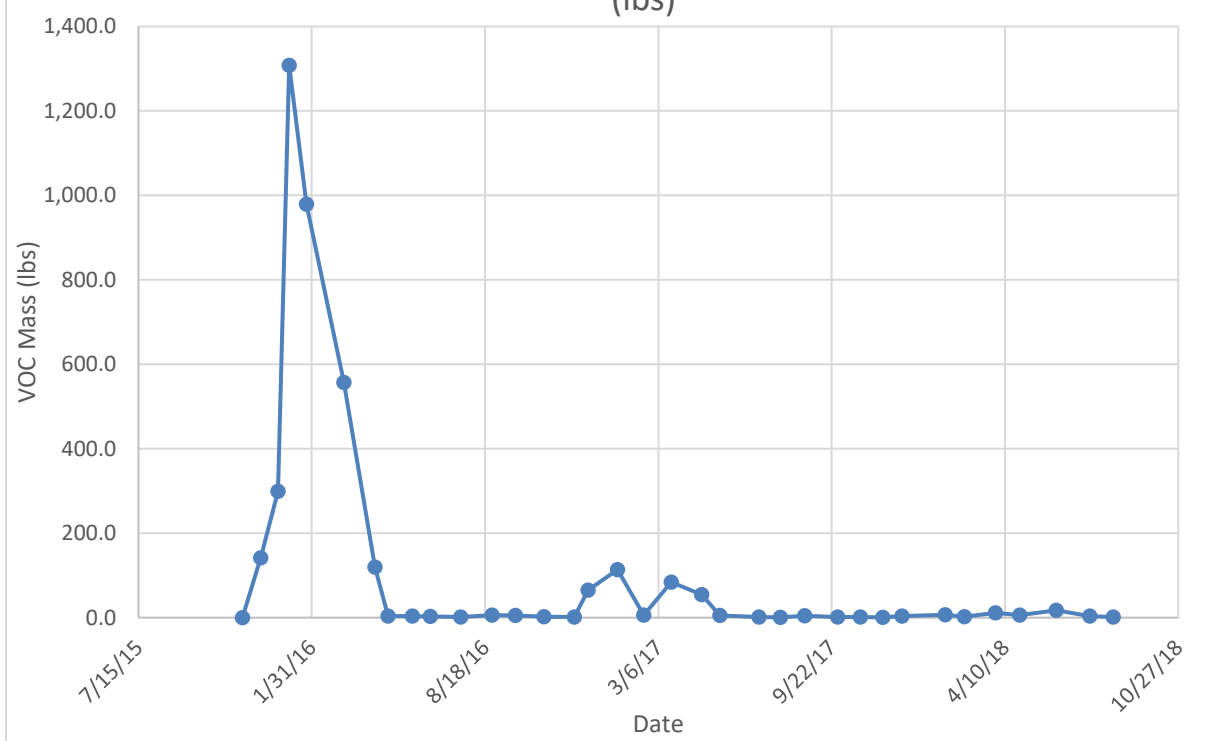
Tasman completed enhanced fluid recovery (EFR) and AS activities at groundwater monitoring well MW-25 weekly during August and September 2017, to enhance remediation efforts at the Site. A summary of EFR/AS operational data is presented in Table 3.

Based on analytical data collected during the Fourth Quarter 2017, it appeared EFR/AS was effective at addressing impacts in the area of MW-25 and MW-16. To address impacts in the area of MW-02R and MW-12, EFR/AS activities were initiated at these groundwater monitoring wells in January 2018 and continued until mid-February 2018. Based on analytical data collected during the First Quarter 2018 it appeared EFR/AS was effective at addressing impacts in the area of MW-02R and MW-12.

The Third Quarter 2018 sampling event marked two consecutive quarters where all monitoring wells on site were below COGCC Table 910-1 limits. As a result, the remediation system was not restarted after sampling and was removed from site on December 3, 2018.

The following two charts illustrate mass removal per emission sample event (Chart 1) and total mass extracted verses time (Chart 2) since System operation was initiated.

Chart 1 - Sylvester 31-5H5, 6H5  
Remediation System Mass Removal Per Emission Sample Date  
(lbs)





## **TABLES**

**TABLE 1  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-01	05/11/15	NM	7.32	1.55	ND	ND	NM
MW-01	06/25/15	4652.59	7.14	3.18	ND	ND	4649.41
MW-01	07/30/15	4652.59	NM	4.48	ND	ND	4648.11
MW-01	08/11/15	4652.59	7.14	4.28	ND	ND	4648.31
MW-01	11/30/15	4652.59	7.08	5.11	ND	ND	4647.48
MW-01	02/25/16	4652.59	7.08	5.28	ND	ND	4647.31
MW-01	05/19/16	4652.59	7.08	4.20	ND	ND	4648.39
MW-01	08/10/16	4652.59	7.08	4.65	ND	ND	4647.94
MW-01	11/16/16	4652.59	7.04	5.11	ND	ND	4647.48
MW-01	02/10/17	4652.59	7.04	5.46	ND	ND	4647.13
MW-01	05/23/17	4652.59	7.04	3.84	ND	ND	4648.75
MW-01	08/29/17	4652.59	7.18	4.52	ND	ND	4648.07
MW-01	11/27/17	4652.59	7.25	4.96	ND	ND	4647.63
MW-01	02/15/18	4652.59	7.24	5.41	ND	ND	4647.18
MW-01	05/31/18	4652.59	7.26	4.52	ND	ND	4648.07
MW-01	08/30/18	4652.59	7.22	4.70	ND	ND	4647.89
MW-01	11/27/18	4652.59	7.25	5.20	ND	ND	4647.39
MW-01	02/13/19	4652.59	7.24	5.46	ND	ND	4647.13
MW-01	05/14/19	4652.59	7.26	4.93	ND	ND	4647.66
MW-02	05/11/15	4653.00	7.61	1.65	ND	ND	4651.35
MW-02	06/25/15	4653.00	7.58	3.60	ND	ND	4649.40
MW-02	07/30/15	4653.00	NM	4.96	ND	ND	4648.04
MW-02	08/11/15	4653.00	7.58	4.74	ND	ND	4648.26
MW-02	11/30/15	4653.00	NM	DRY	ND	ND	DRY
MW-02	02/25/16	4653.00	NM	DRY	ND	ND	DRY
MW-02	05/19/16	4653.00	4.84	4.64	ND	ND	DRY
MW-02	08/10/16	4653.00	4.84	DRY	ND	ND	DRY
MW-02	11/16/16	4653.00	NM	NM <sup>3</sup>	NM	NM	NM
MW-02	02/10/17	4653.00	NM	NM <sup>3</sup>	NM	NM	NM
MW-02	05/23/17	4653.00	4.81	4.28	ND	ND	4648.72
MW-02	08/29/17	4653.00	4.83	NM <sup>3</sup>	NM	NM	NM
MW-02	09/28/17		Not Sampled - Monitoring Well Destroyed				
MW-02R	11/27/17	4652.73	8.32	5.15	ND	ND	4647.58
MW-02R	02/15/18	4652.73	8.25	5.59	ND	ND	4647.14
MW-02R	05/31/18	4652.55	8.10	4.46	ND	ND	4648.09
MW-02R	08/30/18	4652.55	8.05	4.84	ND	ND	4647.71
MW-02R	11/27/18	4652.55	8.03	5.32	ND	ND	4647.23
MW-02R	02/13/19	4652.55	8.10	5.58	ND	ND	4646.97
MW-02R	05/14/19	4652.55	8.13	5.05	ND	ND	4647.50
MW-03	05/11/15	4652.56	7.40	1.20	1.19	0.01	4651.37
MW-03	06/25/15	4652.56	7.35	3.22	3.18	0.04	4649.37
MW-03	07/30/15	4652.56	NM	4.58	4.55	0.03	4648.00
MW-03	08/11/15	4652.56	7.35	4.35	4.34	0.01	4648.22
MW-03	11/30/15	4652.56	7.30	5.20	LNAPL Present <sup>2</sup>	LNAPL Present <sup>2</sup>	4647.38
MW-03	02/25/16	4652.56	7.30	5.34	ND	ND	4647.22
MW-03	05/19/16	4652.56	7.30	4.24	ND	ND	4648.32
MW-03	08/10/16	4652.56	7.30	4.58	ND	ND	4647.98
MW-03	11/16/16	4652.56	7.26	5.19	ND	ND	4647.37
MW-03	02/10/17	4652.56	7.26	5.53	Sheen	Sheen	4647.03
MW-03	05/23/17	4652.56	7.26	3.89	Sheen	Sheen	4648.67

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-03	08/29/17	4652.56	7.34	4.60	ND	ND	4647.96
MW-03	11/27/17	4652.56	7.37	5.02	ND	ND	4647.54
MW-03	02/15/18	4652.56	6.86	5.47	Sheen	Sheen	4647.09
MW-03	05/31/18	4651.99	6.81	4.05	ND	ND	4647.94
MW-03	08/30/18	4651.99	6.40	4.23	ND	ND	4647.76
MW-03	11/27/18	4651.99	6.92	4.72	ND	ND	4647.27
MW-03	02/13/19	4651.99	6.90	4.96	ND	ND	4647.03
MW-03	05/14/19	4651.99	6.94	4.41	ND	ND	4647.58
MW-04	05/11/15	4652.42	7.22	1.06	1.06	TRACE	4651.36
MW-04	06/25/15	4652.42	7.16	3.10	3.06	0.04	4649.35
MW-04	07/30/15	4652.42	NM	4.50	4.48	0.02	4647.94
MW-04	08/11/15	4652.42	7.16	4.27	4.25	0.02	4648.17
MW-04	11/30/15	4652.42	7.19	5.13	ND	ND	4647.29
MW-04	02/25/16	4652.42	7.19	5.26	ND	ND	4647.16
MW-04	05/19/16	4652.42	7.19	4.14	ND	ND	4648.28
MW-04	08/10/16	4652.42	7.19	4.51	ND	ND	4647.91
MW-04	11/16/16	4652.42	7.16	5.12	ND	ND	4647.30
MW-04	02/10/17	4652.42	7.16	5.46	ND	ND	4646.96
MW-04	05/23/17	4652.42	7.16	3.81	Sheen	Sheen	4648.61
MW-04	08/29/17	4652.42	7.22	4.53	ND	ND	4647.89
MW-04	11/27/17	4652.42	7.27	4.98	ND	ND	4647.44
MW-04	02/15/18	4652.42	NM	5.42	ND	ND	4647.00
MW-04	05/31/18	4652.43	7.25	4.50	ND	ND	4647.93
MW-04	08/30/18	4652.43	7.21	4.72	ND	ND	4647.71
MW-04	11/27/18	4652.43	7.23	5.21	ND	ND	4647.22
MW-04	02/13/19	4652.43	7.22	5.47	ND	ND	4646.96
MW-04	05/14/19	4652.43	7.25	4.91	ND	ND	4647.52
MW-05	05/11/15	4652.89	7.45	1.46	ND	ND	4651.43
MW-05	06/25/15	4652.89	7.42	3.53	ND	ND	4649.36
MW-05	07/30/15	4652.89	NM	4.90	ND	ND	4647.99
MW-05	08/11/15	4652.89	7.42	4.68	ND	ND	4648.21
MW-05	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>				
MW-06	05/11/15	4652.56	7.33	1.17	ND	ND	4651.39
MW-06	06/25/15	4652.56	7.26	3.25	ND	ND	4649.31
MW-06	07/30/15	4652.56	NM	4.65	ND	ND	4647.91
MW-06	08/11/15	4652.56	7.26	4.41	ND	ND	4648.15
MW-06	11/30/15	4652.56	7.10	5.26	ND	ND	4647.30
MW-06	02/25/16	4652.56	7.10	5.43	ND	ND	4647.13
MW-06	05/19/16	4652.56	7.10	4.30	ND	ND	4648.26
MW-06	08/10/16	4652.56	7.10	4.66	ND	ND	4647.90
MW-06	11/16/16	4652.56	7.23	5.27	ND	ND	4647.29
MW-06	02/10/17	4652.56	7.23	5.59	ND	ND	4646.97
MW-06	05/23/17	4652.56	7.23	3.96	ND	ND	4648.60
MW-06	08/29/17	4652.56	7.23	4.74	ND	ND	4647.82
MW-06	11/27/17	4652.56	7.27	5.13	ND	ND	4647.43
MW-06	02/15/18	4652.56	7.22	5.57	ND	ND	4646.99
MW-06	05/31/18	4652.60	7.32	4.70	ND	ND	4647.90
MW-06	08/30/18	4652.60	7.34	4.86	ND	ND	4647.74
MW-06	11/27/18	4652.60	7.36	5.34	ND	ND	4647.26
MW-06	02/13/19	4652.60	7.37	5.63	ND	ND	4646.97

**TABLE 1  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-06	05/14/19	4652.60	7.38	5.10	ND	ND	4647.50
MW-07	05/11/15	NM	7.43	1.42	ND	ND	NM
MW-07	06/25/15	NM	7.29	3.22	ND	ND	NM
MW-07	07/30/15	4652.54	NM	4.60	ND	ND	4647.94
MW-07	08/11/15	4652.54	7.29	4.39	ND	ND	4648.15
MW-07	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-08	05/11/15	4652.78	7.62	1.36	ND	ND	4651.42
MW-08	06/25/15	4652.78	7.57	3.39	ND	ND	4649.39
MW-08	07/30/15	4652.78	NM	4.70	ND	ND	4648.08
MW-08	08/11/15	4652.78	7.57	4.52	ND	ND	4648.26
MW-08	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-09	05/11/15	4652.80	7.42	1.42	ND	ND	4651.38
MW-09	06/25/15	4652.80	7.39	3.36	ND	ND	4649.44
MW-09	07/30/15	4652.80	NM	4.64	ND	ND	4648.16
MW-09	08/11/15	4652.80	7.39	4.46	ND	ND	4648.34
MW-09	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-10	05/11/15	4652.64	7.71	1.32	ND	ND	4651.32
MW-10	06/25/15	4652.64	7.66	3.21	ND	ND	4649.43
MW-10	07/30/15	4652.64	NM	4.99	4.42	0.57	4648.08
MW-10	08/11/15	4652.64	7.66	4.36	4.34	0.02	4648.30
MW-10	11/30/15	4652.64	7.56	5.21	ND	ND	4647.43
MW-10	02/25/16	4652.64	7.56	5.37	ND	ND	4647.27
MW-10	05/19/16	4652.64	7.56	4.26	ND	ND	4648.38
MW-10	08/10/16	4652.64	7.56	4.56	ND	ND	4648.08
MW-10	11/16/16	4652.64	7.60	5.20	ND	ND	4647.44
MW-10	02/10/17	4652.64	7.60	5.57	ND	ND	4647.07
MW-10	05/23/17	4652.64	7.60	3.91	ND	ND	4648.73
MW-10	08/29/17	Well Destroyed - Not Sampled					
MW-10R	11/27/17	4652.54	7.48	4.93	ND	ND	4647.61
MW-10R	02/15/18	4652.54	7.49	5.40	ND	ND	4647.14
MW-10R	05/31/18	4652.55	7.60	4.48	ND	ND	4648.07
MW-10R	08/30/18	4652.55	7.58	4.69	ND	ND	4647.86
MW-10R	11/27/18	4652.55	7.60	5.19	ND	ND	4647.36
MW-10R	02/13/19	4652.55	7.59	5.47	ND	ND	4647.08
MW-10R	05/14/19	4652.55	7.62	4.93	ND	ND	4647.62
MW-11	05/11/15	4652.78	7.60	1.44	ND	ND	4651.34
MW-11	06/25/15	4652.78	7.50	3.31	ND	ND	4649.47
MW-11	07/30/15	4652.78	NM	4.61	ND	ND	4648.17
MW-11	08/11/15	4652.78	7.50	4.44	ND	ND	4648.34
MW-11	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-12	05/11/15	4652.64	7.56	1.26	LNAPL Present <sup>2</sup>	LNAPL Present <sup>2</sup>	4651.46
MW-12	06/25/15	4652.64	7.52	3.65	3.11	0.54	4649.40
MW-12	07/30/15	4652.64	NM	4.69	4.56	0.13	4648.05
MW-12	08/11/15	4652.64	7.52	4.47	4.37	0.10	4648.25
MW-12	11/30/15	4652.64	7.30	5.22	LNAPL Present <sup>2</sup>	LNAPL Present <sup>2</sup>	4647.44
MW-12	02/25/16	4652.64	7.30	5.40	ND	ND	4647.24
MW-12	05/19/16	4652.64	7.30	4.27	ND	ND	4648.37
MW-12	08/10/16	4652.64	7.30	4.61	ND	ND	4648.03
MW-12	11/16/16	4652.64	7.24	5.25	ND	ND	4647.39

**TABLE 1  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation (ft. AMSL)</b>
MW-12	02/10/17	4652.64	7.24	5.60	ND	ND	4647.04
MW-12	05/23/17	4652.64	7.24	3.97	ND	ND	4648.67
MW-12	08/29/17	4652.64	7.50	4.66	ND	ND	4647.98
MW-12	11/27/17	4652.64	7.59	5.14	ND	ND	4647.50
MW-12	02/15/18	4652.64	7.50	5.53	Sheen	Sheen	4647.11
MW-12	05/31/18	4652.28	7.26	4.26	ND	ND	4648.02
MW-12	08/30/18	4652.28	7.23	4.49	ND	ND	4647.79
MW-12	11/27/18	4652.28	7.26	4.98	ND	ND	4647.30
MW-12	02/13/19	4652.28	7.25	5.25	ND	ND	4647.03
MW-12	05/14/19	4652.28	7.27	4.70	ND	ND	4647.58
MW-13	05/11/15	4652.66	7.68	1.34	ND	ND	4651.32
MW-13	06/25/15	4652.66	7.63	3.28	ND	ND	4649.38
MW-13	07/30/15	4652.66	NM	4.69	ND	ND	4647.97
MW-13	08/11/15	4652.66	7.63	4.46	ND	ND	4648.20
MW-13	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-14	05/11/15	4652.26	7.67	1.12	ND	ND	4651.14
MW-14	06/25/15	4652.26	7.64	2.91	ND	ND	4649.35
MW-14	07/30/15	4652.26	NM	4.31	ND	ND	4647.95
MW-14	08/11/15	4652.26	7.64	4.09	ND	ND	4648.17
MW-14	11/30/15	4652.26	7.43	4.99	ND	ND	4647.27
MW-14	02/25/16	4652.26	7.43	5.37	5.05	0.32	4647.13
MW-14	05/19/16	4652.26	7.43	3.98	ND	ND	4648.28
MW-14	08/10/16	4652.26	7.43	4.32	ND	ND	4647.94
MW-14	11/16/16	4652.26	7.36	4.98	Sheen	Sheen	4647.28
MW-14	02/10/17	4652.26	7.36	5.32	ND	ND	4646.94
MW-14	05/23/17	4652.26	7.36	3.65	ND	ND	4648.61
MW-14	08/29/17	4652.26	7.47	4.40	ND	ND	4647.86
MW-14	11/27/17	4652.26	7.47	4.80	ND	ND	4647.46
MW-14	02/15/18	4652.26	7.50	5.28	ND	ND	4646.98
MW-14	05/31/18	4652.26	7.67	4.36	ND	ND	4647.90
MW-14	08/30/18	4652.26	7.62	4.56	ND	ND	4647.70
MW-14	11/27/18	4652.26	7.64	5.06	ND	ND	4647.20
MW-14	02/13/19	4652.26	7.70	5.31	ND	ND	4646.95
MW-14	05/14/19	4652.26	7.73	4.77	ND	ND	4647.49
MW-15	05/11/15	4652.02	7.51	0.70	ND	ND	4651.32
MW-15	06/25/15	4652.02	7.44	2.70	ND	ND	4649.32
MW-15	07/30/15	4652.02	NM	4.12	ND	ND	4647.90
MW-15	08/11/15	4652.02	7.44	3.90	ND	ND	4648.12
MW-15	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-16	05/11/15	4652.21	7.92	0.80	ND	ND	4651.41
MW-16	06/25/15	4652.21	7.81	2.90	ND	ND	4649.31
MW-16	07/30/15	4652.21	NM	4.34	ND	ND	4647.87
MW-16	08/11/15	4652.21	7.81	4.11	ND	ND	4648.10
MW-16	11/30/15	4652.21	8.60	5.00	ND	ND	4647.21
MW-16	02/25/16	4652.21	8.60	5.12	ND	ND	4647.09
MW-16	05/19/16	4652.21	8.60	3.97	ND	ND	4648.24
MW-16	08/10/16	4652.21	8.60	4.37	ND	ND	4647.84
MW-16	11/16/16	4652.21	7.50	4.97	ND	ND	4647.24
MW-16	02/10/17	4652.21	7.50	5.33	Sheen	Sheen	4646.88
MW-16	05/23/17	4652.21	7.50	3.68	Sheen	Sheen	4648.53

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)	
MW-16	8/29/17	4652.21	7.56	4.41	ND	ND	4647.80	
MW-16	11/27/17	4652.21	7.59	4.87	ND	ND	4647.34	
MW-16	02/15/18	4652.21	7.55	5.27	Sheen	Sheen	4646.11	
MW-16	05/31/18	4652.21	7.85	4.42	ND	ND	4647.79	
MW-16	08/30/18	4652.21	7.83	4.59	ND	ND	4647.62	
MW-16	11/27/18	4652.21	7.85	5.08	ND	ND	4647.13	
MW-16	02/13/19	4652.21	7.90	5.34	ND	ND	4646.87	
MW-16	05/14/19	4652.21	7.92	4.78	ND	ND	4647.43	
MW-17	05/11/15	4652.43	7.32	1.14	ND	ND	4651.29	
MW-17	06/25/15	4652.43	7.30	3.01	ND	ND	4649.42	
MW-17	07/30/15	4652.43	NM	4.35	ND	ND	4648.08	
MW-17	08/11/15	4652.43	7.30	4.16	ND	ND	4648.27	
MW-17	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					
MW-18	05/11/15	4652.26	7.15	0.98	ND	ND	4651.28	
MW-18	06/25/15	4652.26	7.07	2.89	ND	ND	4649.37	
MW-18	07/30/15	4652.26	NM	4.25	ND	ND	4648.01	
MW-18	08/11/15	4652.26	7.07	4.05	ND	ND	4648.21	
MW-18	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					
MW-19	05/11/15	4652.06	7.51	0.75	ND	ND	4651.31	
MW-19	06/25/15	4652.06	7.49	2.72	ND	ND	4649.34	
MW-19	07/30/15	4652.06	NM	4.11	ND	ND	4647.95	
MW-19	08/11/15	4652.06	7.49	3.90	ND	ND	4648.16	
MW-19	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					
MW-20	05/11/15	4652.18	7.63	0.75	ND	ND	4651.43	
MW-20	06/25/15	4652.18	7.62	2.89	ND	ND	4649.29	
MW-20	07/30/15	4652.18	NM	4.36	ND	ND	4647.82	
MW-20	08/11/15	4652.18	7.62	4.10	ND	ND	4648.08	
MW-20	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					
MW-21	06/25/15	4652.16	7.60	2.86	2.85	0.01	4649.31	
MW-21	07/30/15	4652.16	NM	4.32	4.30	0.02	4647.86	
MW-21	08/11/15	4652.16	7.60	4.09	ND	ND	4648.07	
MW-21	11/30/15	4652.16	7.65	5.67	ND	ND	4646.49	
MW-21	02/25/16	4652.16	7.65	5.05	ND	ND	4647.11	
MW-21	05/19/16	4652.16	7.65	4.67	ND	ND	4647.49	
MW-21	08/10/16	4652.16	7.65	4.32	ND	ND	4647.84	
MW-21	11/16/16	4652.16	7.12	4.91	ND	ND	4647.25	
MW-21	02/10/17	4652.16	7.12	5.26	ND	ND	4646.90	
MW-21	05/23/17	4652.16	7.12	3.60	Sheen	Sheen	4648.56	
MW-21	08/29/17	4652.16	7.13	4.35	ND	ND	4647.81	
MW-21	11/27/17	4652.16	7.15	4.74	ND	ND	4647.42	
MW-21	02/15/18	4652.16	7.16	5.21	Sheen	Sheen	4646.95	
MW-21	05/31/18	4652.16	7.40	4.31	ND	ND	4647.85	
MW-21	08/30/18	4652.16	7.51	4.50	ND	ND	4647.66	
MW-21	11/27/18	4652.16	7.61	5.00	ND	ND	4647.16	
MW-21	02/13/19	4652.16	7.62	5.25	ND	ND	4646.91	
MW-21	05/14/19	4652.16	7.65	4.69	ND	ND	4647.47	
MW-22	06/25/15	4652.87	7.69	3.5	ND	ND	4649.37	
MW-22	07/30/15	4652.87	NM	4.85	ND	ND	4648.02	
MW-22	08/11/15	4652.87	7.69	4.65	ND	ND	4648.22	
MW-22	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-23	06/25/15	4652.96	7.72	3.65	ND	ND	4649.31
MW-23	07/30/15	4652.96	NM	5.08	ND	ND	4647.88
MW-23	08/11/15	4652.96	7.72	4.86	ND	ND	4648.10
MW-23	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-24	06/25/15	4652.76	7.35	2.96	ND	ND	4649.80
MW-24	07/30/15	4652.76	NM	4.43	ND	ND	4648.33
MW-24	08/11/15	4652.76	7.35	4.17	ND	ND	4648.59
MW-24	11/30/15	4652.76	6.95	5.06	ND	ND	4647.70
MW-24	02/25/16	4652.76	6.95	5.17	ND	ND	4647.59
MW-24	05/19/16	4652.76	6.95	4.03	ND	ND	4648.73
MW-24	08/10/16	4652.76	6.95	4.45	ND	ND	4648.31
MW-24	11/16/16	4652.76	7.00	4.99	ND	ND	4647.77
MW-24	02/10/17	4652.76	7.00	5.33	ND	ND	4647.43
MW-24	05/23/17	4652.76	7.00	3.69	ND	ND	4649.07
MW-24	08/29/17	4652.76	7.16	4.45	ND	ND	4648.31
MW-24	11/27/17	4652.76	7.15	4.85	ND	ND	4647.91
MW-24	02/15/18	4652.76	7.15	5.27	ND	ND	4647.49
MW-24	05/31/18	4652.76	7.51	4.45	ND	ND	4648.31
MW-24	08/30/18	4652.76	7.46	4.61	ND	ND	4648.15
MW-24	11/27/18	4652.76	7.49	5.09	ND	ND	4647.67
MW-24	02/13/19	4652.76	7.50	5.35	ND	ND	4647.41
MW-24	05/14/19	4652.76	7.50	4.83	ND	ND	4647.93
MW-25	06/25/15	4652.26	7.65	3.02	3.02	TRACE	4649.24
MW-25	07/30/15	4652.26	NM	4.34	ND	ND	4647.92
MW-25	08/11/15	4652.26	7.65	4.27	ND	ND	4647.99
MW-25	11/30/15	4652.26	7.00	5.18	ND	ND	4647.08
MW-25	02/25/16	4652.26	7.00	5.24	LNAPL Present <sup>2</sup>	LNAPL Present <sup>2</sup>	4647.02
MW-25	05/19/16	4652.26	7.00	4.11	ND	ND	4648.15
MW-25	08/10/16	4652.26	7.00	4.56	ND	ND	4647.70
MW-25	11/16/16	4652.26	7.01	5.14	ND	ND	4647.12
MW-25	02/10/17	4652.26	7.01	5.47	Sheen	Sheen	4646.79
MW-25	05/23/17	4652.26	7.01	3.81	ND	ND	4648.45
MW-25	08/29/17	4652.26	7.78	4.67	ND	ND	4647.59
MW-25	11/27/17	4652.26	7.78	5.07	ND	ND	4647.19
MW-25	02/15/18	4652.26	7.66	5.41	ND	ND	4646.85
MW-25	05/31/18	4652.26	7.89	4.61	ND	ND	4647.65
MW-25	08/30/18	4652.26	7.74	4.84	ND	ND	4647.42
MW-25	11/27/18	4652.26	7.77	5.32	ND	ND	4646.94
MW-25	02/13/19	4652.26	7.75	5.56	ND	ND	4646.70
MW-25	05/14/19	4652.26	7.78	5.00	ND	ND	4647.26
MW-26	06/25/15	4651.88	7.29	2.71	ND	ND	4649.17
MW-26	07/30/15	4651.88	NM	4.22	ND	ND	4647.66
MW-26	08/11/15	4651.88	7.29	3.93	ND	ND	4647.95
MW-26	11/30/15	4651.88	6.80	4.89	ND	ND	4646.99
MW-26	02/25/16	4651.88	6.80	5.00	ND	ND	4646.88
MW-26	05/19/16	4651.88	6.80	3.80	ND	ND	4648.08
MW-26	08/10/16	4651.88	6.80	4.27	ND	ND	4647.61
MW-26	11/16/16	4651.88	6.88	4.88	ND	ND	4647.00
MW-26	02/10/17	4651.88	6.88	5.22	ND	ND	4646.66
MW-26	05/23/17	4651.88	6.88	3.53	ND	ND	4648.35

**TABLE 1  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation (ft. AMSL)</b>
MW-26	08/29/17	4651.88	7.11	4.32	ND	ND	4647.56
MW-26	11/27/17	4651.88	7.07	4.72	ND	ND	4647.16
MW-26	02/15/18	4651.88	7.18	5.15	ND	ND	4646.73
MW-26	05/31/18	4651.88	7.40	4.26	ND	ND	4647.62
MW-26	08/30/18	4651.88	7.38	4.52	ND	ND	4647.36
MW-26	11/27/18	4651.88	7.49	4.98	ND	ND	4646.90
MW-26	02/13/19	4651.88	7.55	5.22	ND	ND	4646.66
MW-26	05/14/19	4651.88	7.72	4.65	ND	ND	4647.23
MW-27	06/25/15	4651.72	7.48	2.57	ND	ND	4649.15
MW-27	07/30/15	4651.72	NM	4.11	ND	ND	4647.61
MW-27	08/11/15	4651.72	7.48	3.82	ND	ND	4647.90
MW-27	11/30/15	4651.72	7.05	4.74	ND	ND	4646.98
MW-27	02/25/16	4651.72	7.05	4.84	ND	ND	4646.88
MW-27	05/19/16	4651.72	7.05	3.62	ND	ND	4648.10
MW-27	08/10/16	4651.72	7.05	4.13	ND	ND	4647.59
MW-27 <sup>4</sup>	11/16/16	4651.72	NM	NM	NM	NM	NM
MW-27 <sup>4</sup>	02/10/17	4651.72	NM	NM	NM	NM	NM
MW-27	05/23/17	4651.72	7.40	3.36	ND	ND	4648.36
MW-27	08/29/17	4651.72	7.39	4.16	ND	ND	4647.56
MW-27	11/27/17	4651.72	7.43	4.57	ND	ND	4647.15
MW-27	02/15/18	4651.72	7.36	4.98	ND	ND	4646.74
MW-27	05/31/18	4651.72	7.41	4.50	ND	ND	4647.22
MW-27	08/30/18	4651.72		Not Measured - Well Inaccessible			
MW-27	11/27/18	4651.72		Not Measured - Well Inaccessible			
MW-27	02/13/19	4651.72	7.38	5.06	ND	ND	4646.66
MW-27	05/14/19	4651.72		Not Measured - Well Inaccessible			
MW-28	06/25/15	4652.64	7.27	3.46	ND	ND	4649.18
MW-28	07/30/15	4652.64	NM	5.01	ND	ND	4647.63
MW-28	08/11/15	4652.64	7.27	4.72	ND	ND	4647.92
MW-28	11/30/15	4652.64	7.27	5.62	ND	ND	4647.02
MW-28	02/25/16	4652.64	7.27	5.71	ND	ND	4646.93
MW-28	05/19/16	4652.64	7.27	4.54	ND	ND	4648.10
MW-28	08/10/16	4652.64	7.27	5.01	ND	ND	4647.63
MW-28	11/16/16	4652.64	7.23	5.56	ND	ND	4647.08
MW-28	02/10/17	4652.64	7.23	5.89	ND	ND	4646.75
MW-28	05/23/17	4652.64	7.23	4.24	ND	ND	4648.40
MW-28	08/29/17	4652.64	7.34	5.02	ND	ND	4647.62
MW-28	11/27/17	4652.64	7.36	5.43	ND	ND	4647.21
MW-28	02/15/18	4652.64	7.33	5.83	ND	ND	4646.81
MW-28	05/31/18	4652.64	7.36	4.94	ND	ND	4647.70
MW-28	08/30/18	4652.64	7.48	5.16	ND	ND	4647.48
MW-28	11/27/18	4652.64	7.34	5.64	ND	ND	4647.00
MW-28	02/13/19	4652.64	7.33	5.90	ND	ND	4646.74
MW-28	05/14/19	4652.64	7.35	5.33	ND	ND	4647.31
MW-29	06/25/15	4653.98	7.30	4.74	ND	ND	4649.24
MW-29	07/30/15	4653.98	NM	6.28	ND	ND	4647.70
MW-29	08/11/15	4653.98	7.30	6.00	ND	ND	4647.98
MW-29	11/30/15	4653.98	7.32	6.84	ND	ND	4647.14
MW-29	02/25/16	4653.98	7.32	6.97	ND	ND	4647.01
MW-29	05/19/16	4653.98	7.32	5.81	ND	ND	4648.17

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)	
MW-29	08/10/16	4653.98	7.32	6.29	ND	ND	4647.69	
MW-29	11/16/16	4653.98	7.38	6.78	ND	ND	4647.20	
MW-29	02/10/17	4653.98	7.38	6.09	ND	ND	4647.89	
MW-29	05/23/17	4653.98	7.43	5.51	ND	ND	4648.47	
MW-29	08/29/17	4653.98	7.30	6.30	ND	ND	4647.68	
MW-29	11/27/17	4653.98	7.34	6.65	ND	ND	4647.33	
MW-29	02/15/18	4653.98	7.28	7.10	ND	ND	4646.88	
MW-29	05/31/18	4653.98	7.32	6.22	ND	ND	4647.76	
MW-29	08/30/18	4653.98	7.27	6.39	ND	ND	4647.59	
MW-29	11/27/18	4653.98	7.30	6.86	ND	ND	4647.12	
MW-29	02/13/19	4653.98	7.30	7.08	ND	ND	4646.90	
MW-29	05/14/19	4653.98	7.32	6.58	ND	ND	4647.40	
MW-30	06/25/15	4652.81	7.34	3.53	ND	ND	4649.28	
MW-30	07/30/15	4652.81	NM	5.00	ND	ND	4647.81	
MW-30	08/11/15	4652.81	7.34	4.76	ND	ND	4648.05	
MW-30	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					
MW-31	07/23/15	4651.4	7.40	3.14	ND	ND	4648.26	
MW-31	07/30/15	4651.4	NM	3.75	ND	ND	4647.65	
MW-31	08/11/15	4651.4	7.40	3.45	ND	ND	4647.95	
MW-31	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>					
MW-32	07/23/15	4651.28	7.54	3.02	ND	ND	4648.26	
MW-32	07/30/15	4651.28	NM	3.64	ND	ND	4647.64	
MW-32	08/11/15	4651.28	7.54	3.36	ND	ND	4647.92	
MW-32	11/30/15	4651.28	7.15	4.40	ND	ND	4646.88	
MW-32	02/25/16	4651.28	7.15	4.48	ND	ND	4646.80	
MW-32	05/19/16	4651.28	7.15	3.23	ND	ND	4648.05	
MW-32	08/10/16	4651.28	7.15	3.64	ND	ND	4647.64	
MW-32	11/16/16	4651.28	7.07	4.38	ND	ND	4646.90	
MW-32	02/10/17	4651.28	7.07	4.73	ND	ND	4646.55	
MW-32	05/23/17	4651.28	7.07	2.94	Sheen	Sheen	4648.34	
MW-32	08/29/17	4651.28	7.09	3.73	ND	ND	4647.55	
MW-32	11/27/17	4651.28	7.13	4.18	ND	ND	4647.10	
MW-32	02/15/18	4651.28	7.11	4.66	ND	ND	4646.62	
MW-32	05/31/18	4651.28	7.24	3.71	ND	ND	4647.57	
MW-32	08/30/18	4651.28	7.38	3.98	ND	ND	4647.30	
MW-32	11/27/18	4651.28	7.52	4.49	ND	ND	4646.79	
MW-32	02/13/19	4651.28	7.45	4.73	ND	ND	4646.55	
MW-32	05/14/19	4651.28	7.41	4.09	ND	ND	4647.19	
MW-33	07/23/15	4651.31	7.34	3.14	ND	ND	4648.17	
MW-33	07/30/15	4651.31	NM	3.75	ND	ND	4647.56	
MW-33	08/11/15	4651.31	7.34	3.45	ND	ND	4647.86	
MW-33	11/30/15	4651.31	6.80	4.78	ND	ND	4646.53	
MW-33	02/25/16	4651.31	6.80	4.82	ND	ND	4646.49	
MW-33	05/19/16	4651.31	6.80	3.59	ND	ND	4647.72	
MW-33	08/10/16	4651.31	6.80	4.04	ND	ND	4647.27	
MW-33	11/16/16	4651.31	6.83	4.74	ND	ND	4646.57	
MW-33	02/10/17	4651.31	6.83	5.08	ND	ND	4646.23	
MW-33	05/23/17	4651.31	6.83	3.29	ND	ND	4648.02	
MW-33	08/29/17	4651.31	6.96	4.13	ND	ND	4647.18	
MW-33	11/27/17	4651.31	7.02	4.54	ND	ND	4646.77	

**TABLE 1  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation (ft. AMSL)</b>
MW-33	02/15/18	4651.31	7.03	4.99	ND	ND	4646.32
MW-33	05/31/18	4651.31	7.25	4.04	ND	ND	4647.27
MW-33	08/30/18	4651.31	7.22	4.33	ND	ND	4646.98
MW-33	11/27/18	4651.31	7.26	4.83	ND	ND	4646.48
MW-33	02/13/19	4651.31	7.28	5.07	ND	ND	4646.24
MW-33	05/14/19	4651.31	7.33	4.44	ND	ND	4646.87
MW-34	07/23/15	4651.48	7.41	3.11	ND	ND	4648.37
MW-34	07/30/15	4651.48	NM	3.55	ND	ND	4647.93
MW-34	08/11/15	4651.48	7.41	3.42	ND	ND	4648.06
MW-34	11/30/15	4651.48	7.00	4.35	ND	ND	4647.13
MW-34	02/25/16	4651.48	7.00	4.54	ND	ND	4646.94
MW-34	05/19/16	4651.48	7.00	3.36	ND	ND	4648.12
MW-34	08/10/16	4651.48	7.00	3.69	ND	ND	4647.79
MW-34	11/16/16	4651.48	6.80	4.42	ND	ND	4647.06
MW-34	02/10/17	4651.48	6.80	4.80	ND	ND	4646.68
MW-34	05/23/17	4651.48	6.80	3.06	ND	ND	4648.42
MW-34	08/29/17	4651.48	6.85	3.81	ND	ND	4647.67
MW-34	11/27/17	4651.48	6.86	4.28	ND	ND	4647.20
MW-34	02/15/18	4651.48	6.89	4.78	ND	ND	4646.70
MW-34	05/31/18	4651.48	7.00	3.80	ND	ND	4647.68
MW-34	08/30/18	4651.48	6.98	4.10	ND	ND	4647.38
MW-34	11/27/18	4651.48	7.04	4.64	ND	ND	4646.84
MW-34	02/13/19	4651.48	7.21	4.90	ND	ND	4646.58
MW-34	05/14/19	4651.48	7.26	4.32	ND	ND	4647.16
MW-35	07/23/15	4651.62	7.77	3.23	ND	ND	4648.39
MW-35	07/30/15	4651.62	NM	3.75	ND	ND	4647.87
MW-35	08/11/15	4651.62	7.77	3.55	ND	ND	4648.07
MW-35	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>				
MW-36	07/23/15	4651.85	7.43	3.39	ND	ND	4648.46
MW-36	07/30/15	4651.85	NM	3.89	ND	ND	4647.96
MW-36	08/11/15	4651.85	7.43	3.70	ND	ND	4648.15
MW-36	11/30/15		Well Removed From Monitoring Well Network <sup>1</sup>				
MW-37	07/23/15	4651.73	7.47	3.20	ND	ND	4648.53
MW-37	07/30/15	4651.73	NM	3.68	ND	ND	4648.05
MW-37	08/11/15	4651.73	7.47	3.52	ND	ND	4648.21
MW-37	11/30/15	4651.73	7.38	4.41	ND	ND	4647.32
MW-37	02/25/16	4651.73	7.38	4.62	ND	ND	4647.11
MW-37	05/19/16	4651.73	7.38	3.45	ND	ND	4648.28
MW-37	08/10/16	4651.73	7.38	3.74	ND	ND	4647.99
MW-37	11/16/16	4651.73	7.43	4.47	ND	ND	4647.26
MW-37	02/10/17	4651.73	7.43	4.85	ND	ND	4646.88
MW-37	05/23/17	4651.73	7.43	3.13	ND	ND	4648.60
MW-37	08/29/17	4651.73	7.41	3.82	ND	ND	4647.91
MW-37	11/27/17	4651.73	7.35	4.30	ND	ND	4647.43
MW-37	02/15/18	4651.73	7.40	4.80	ND	ND	4646.93
MW-37	05/31/18	4651.73	7.45	3.83	ND	ND	4647.90
MW-37	08/30/18	4651.73	7.44	4.01	ND	ND	4647.72
MW-37	11/27/18	4651.73	7.47	4.59	ND	ND	4647.14
MW-37	02/13/19	4651.73	7.44	4.85	ND	ND	4646.88
MW-37	05/14/19	4651.73	7.49	4.30	ND	ND	4647.43

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-38	07/23/15	4652.13	7.37	3.54	ND	ND	4648.59
MW-38	07/30/15	4652.13	NM	4.00	ND	ND	4648.13
MW-38	08/11/15	4652.13	7.37	3.85	ND	ND	4648.28
MW-38	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>					
MW-39	07/23/15	4652.34	7.29	3.70	ND	ND	4648.64
MW-39	07/30/15	4652.34	NM	3.13	ND	ND	4649.21
MW-39	08/11/15	4652.34	7.29	3.98	ND	ND	4648.36
MW-39	11/30/15	4652.34	6.80	4.80	ND	ND	4647.54
MW-39	02/25/16	4652.34	6.80	4.98	ND	ND	4647.36
MW-39	05/19/16	4652.34	6.80	3.87	ND	ND	4648.47
MW-39	08/10/16	4652.34	6.80	4.15	ND	ND	4648.19
MW-39	11/16/16	4652.34	6.79	4.81	ND	ND	4647.53
MW-39	02/10/17	4652.34	6.79	5.17	ND	ND	4647.17
MW-39	05/23/17	4652.34	6.79	3.53	ND	ND	4648.81
MW-39	08/29/17	4652.34	6.80	4.18	ND	ND	4648.16
MW-39	11/27/17	4652.34	6.88	4.65	ND	ND	4647.69
MW-39	02/15/18	4652.34	7.17	5.14	ND	ND	4647.20
MW-39	05/31/18	4652.34	7.30	4.19	ND	ND	4648.15
MW-39	08/30/18	4652.34	7.41	4.41	ND	ND	4647.93
MW-39	11/27/18	4652.34	7.28	4.90	ND	ND	4647.44
MW-39	02/13/19	4652.34	7.28	5.17	ND	ND	4647.17
MW-39	05/14/19	4652.34	7.29	4.66	ND	ND	4647.68
MW-40	07/23/15	4652.57	7.67	3.93	ND	ND	4648.64
MW-40	07/30/15	4652.57	NM	4.37	ND	ND	4648.20
MW-40	08/11/15	4652.57	7.67	4.22	ND	ND	4648.35
MW-40	11/30/15	4652.57	7.36	5.00	ND	ND	4647.57
MW-40	02/25/16	4652.57	7.36	5.19	ND	ND	4647.38
MW-40	05/19/16	4652.57	7.36	4.13	ND	ND	4648.44
MW-40	08/10/16	4652.57	7.36	4.42	ND	ND	4648.15
MW-40	11/16/16	4652.57	7.31	5.00	ND	ND	4647.57
MW-40	02/10/17	4652.57	7.31	5.39	ND	ND	4647.18
MW-40	05/23/17	4652.57	7.31	3.78	ND	ND	4648.79
MW-40	08/29/17	4652.57	7.39	4.41	ND	ND	4648.16
MW-40	11/27/17	4652.57	7.35	4.86	ND	ND	4647.71
MW-40	02/15/18	4652.57	7.33	5.36	ND	ND	4647.21
MW-40	05/31/18	4652.57	7.68	4.51	ND	ND	4648.06
MW-40	08/30/18	4652.57	7.71	4.62	ND	ND	4647.95
MW-40	11/27/18	4652.57	Not Measured - Well Inaccessible				
MW-40	02/13/19	4652.57	Not Measured - Well Inaccessible				
MW-40	05/14/19	4652.57	Not Measured - Well Inaccessible				
MW-41	07/23/15	4656.67	11.36	8.18	ND	ND	4648.49
MW-41	07/30/15	4656.67	NM	8.70	ND	ND	4647.97
MW-41	08/11/15	4656.67	11.36	8.52	ND	ND	4648.15
MW-41	11/30/15	4656.67	11.30	9.26	ND	ND	4647.41
MW-41	02/25/16	4656.67	11.30	9.41	ND	ND	4647.26
MW-41	05/19/16	4656.67	11.30	3.32	ND	ND	4653.35
MW-41	08/10/16	4656.67	11.30	8.74	ND	ND	4647.93
MW-41	11/16/16	4656.67	11.27	9.21	ND	ND	4647.46
MW-41	02/10/17	4656.67	11.27	9.54	ND	ND	4647.13
MW-41	05/23/17	4656.67	11.27	8.03	ND	ND	4648.64

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-41	08/29/17	4656.67	11.27	8.66	ND	ND	4648.01
MW-41	11/27/17	4656.67	11.32	9.06	ND	ND	4647.61
MW-41	02/15/18	4656.67	11.30	9.48	ND	ND	4647.19
MW-41	05/31/18	4656.67	11.40	8.83	ND	ND	4647.84
MW-41	08/30/18	4656.67	11.34	8.78	ND	ND	4647.89
MW-41	11/27/18	4656.67		Not Measured - Well Inaccessible			
MW-41	02/13/19	4656.67	11.35	9.52	ND	ND	4647.15
MW-41	05/14/19	4656.67	11.40	9.04	ND	ND	4647.63
MW-42	07/30/15	4652.35	9.29	4.61	ND	ND	4647.74
MW-42	08/11/15	4652.35	9.42	4.37	ND	ND	4647.98
MW-42	11/30/15	4652.35	9.02	5.11	ND	ND	4647.24
MW-42	02/25/16	4652.35	9.02	5.21	ND	ND	4647.14
MW-42	05/19/16	4652.35	9.02	4.15	ND	ND	4648.20
MW-42	08/10/16	4652.35	9.02	4.65	ND	ND	4647.70
MW-42	11/15/16	4652.35	9.03	5.05	ND	ND	4647.30
MW-42	02/10/17	4652.35	9.03	5.36	ND	ND	4646.99
MW-42	05/23/17	4652.35	9.03	3.85	ND	ND	4648.50
MW-42	08/29/17	4652.35	9.07	4.61	ND	ND	4647.74
MW-42	11/27/17	4652.35	9.21	4.91	ND	ND	4647.44
MW-42	02/15/18	4652.35	9.26	5.30	ND	ND	4647.05
MW-42	05/31/18	4652.35	9.24	4.50	ND	ND	4647.85
MW-42	08/30/18	4652.35	9.21	4.68	ND	ND	4647.67
MW-42	11/27/18	4652.35	9.23	5.11	ND	ND	4647.24
MW-42	02/13/19	4652.35	9.51	5.34	ND	ND	4647.01
MW-42	05/14/19	4652.35	9.32	4.83	ND	ND	4647.52
MW-43	07/30/15	4653.60	9.80	5.90	ND	ND	4647.70
MW-43	08/11/15	4653.60	9.78	5.65	ND	ND	4647.95
MW-43	11/30/15	4653.60	11.76	8.52	ND	ND	4645.08
MW-43	02/25/16	4653.60	11.76	8.61	ND	ND	4644.99
MW-43	05/19/16	4653.60	11.76	7.60	ND	ND	4646.00
MW-43	08/10/16	4653.60	11.76	8.08	ND	ND	4645.52
MW-43	11/16/16	4653.60	11.70	8.59	ND	ND	4645.01
MW-43	02/10/17	4653.60	11.70	8.91	ND	ND	4644.69
MW-43	05/23/17	4653.60	11.70	7.30	ND	ND	4646.30
MW-43	08/29/17	4653.60	11.74	8.09	ND	ND	4645.51
MW-43	11/27/17	4653.60	11.73	8.44	ND	ND	4645.16
MW-43	02/15/18	4653.60	11.70	8.84	ND	ND	4644.76
MW-43	05/31/18	4654.49	11.78	7.96	ND	ND	4646.53
MW-43	08/30/18	4654.49	11.71	8.21	ND	ND	4646.28
MW-43	11/27/18	4654.49	11.74	8.65	ND	ND	4645.84
MW-43	02/13/19	4654.49	11.79	8.90	ND	ND	4645.59
MW-43	05/14/19	4654.49	11.81	8.33	ND	ND	4646.16
MW-44	07/30/15	4653.97	9.92	6.31	ND	ND	4647.66
MW-44	08/11/15	4653.97	9.84	6.07	ND	ND	4647.90
MW-44	11/30/15	4653.97	10.93	8.16	ND	ND	4645.81
MW-44	02/25/16	4653.97	10.93	8.25	ND	ND	4645.72
MW-44	05/19/16	4653.97	10.93	7.10	ND	ND	4646.87
MW-44	08/10/16	4653.97	10.93	7.60	ND	ND	4646.37
MW-44	11/16/16	4653.97	10.95	8.12	ND	ND	4645.85
MW-44	02/10/17	4653.97	10.95	8.44	ND	ND	4645.53

**TABLE 1  
GROUNDWATER ELEVATION DATA  
NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

<b>Monitoring Well ID</b>	<b>Date</b>	<b>Top of Casing Elevation (ft. AMSL)</b>	<b>Total Depth (ft. BTOC)</b>	<b>Depth to Water (ft. BTOC)</b>	<b>Depth to LNAPL (ft. BTOC)</b>	<b>LNAPL Thickness (ft.)</b>	<b>Groundwater Elevation (ft. AMSL)</b>
MW-44	05/23/17	4653.97	10.95	6.81	ND	ND	4647.16
MW-44	08/29/17	4653.97	11.02	7.65	ND	ND	4646.32
MW-44	11/27/17	4653.97	11.00	7.97	ND	ND	4646.00
MW-44	02/15/18	4653.97	11.04	8.38	ND	ND	4645.59
MW-44	05/31/18	4653.97	11.06	7.51	ND	ND	4646.46
MW-44	08/30/18	4653.97	11.03	7.75	ND	ND	4646.22
MW-44	11/27/18	4653.97	11.04	8.20	ND	ND	4645.77
MW-44	02/13/19	4653.97	11.10	8.44	ND	ND	4645.53
MW-44	05/14/19	4653.97	11.11	8.86	ND	ND	4645.11
MW-45	07/30/15	4653.09	9.97	5.50	ND	ND	4647.59
MW-45	08/11/15	4653.09	9.94	5.30	ND	ND	4647.79
MW-45	11/30/15	4653.09	10.82	8.43	ND	ND	4644.66
MW-45	02/25/16	4653.09	10.82	7.50	ND	ND	4645.59
MW-45	05/19/16	4653.09	10.82	6.31	ND	ND	4646.78
MW-45	08/10/16	4653.09	10.82	6.81	ND	ND	4646.28
MW-45	11/16/16	4653.09	10.79	7.41	ND	ND	4645.68
MW-45	02/10/17	4653.09	10.79	7.73	ND	ND	4645.36
MW-45	05/23/17	4653.09	10.79	6.03	ND	ND	4647.06
MW-45	08/29/17	4653.09	10.80	6.89	ND	ND	4646.20
MW-45	11/27/17	4653.09	10.77	7.23	ND	ND	4645.86
MW-45	02/15/18	4653.09	10.82	7.65	ND	ND	4645.44
MW-45	05/31/18	4653.09	10.89	6.77	ND	ND	4646.32
MW-45	08/30/18	4653.09	10.84	7.03	ND	ND	4646.06
MW-45	11/27/18	4653.09	10.86	7.49	ND	ND	4645.60
MW-45	02/13/19	4653.09	11.01	7.71	ND	ND	4645.38
MW-45	05/14/19	4653.09	10.94	7.11	ND	ND	4645.98
MW-46	11/30/15	4652.79	15.06	7.06	ND	ND	4645.73
MW-46	02/25/16	4652.79	15.06	7.13	ND	ND	4645.66
MW-46	05/19/16	4652.79	15.06	5.99	ND	ND	4646.80
MW-46	08/10/16	4652.79	15.06	6.53	ND	ND	4646.26
MW-46	11/16/16	4652.79	14.41	7.01	ND	ND	4645.78
MW-46	02/10/17	4652.79	14.41	7.32	ND	ND	4645.47
MW-46	05/23/17	4652.79	14.41	5.69	ND	ND	4647.10
MW-46	08/29/17	4652.79	14.50	6.55	ND	ND	4646.24
MW-46	11/27/17	4652.79	11.13	6.89	ND	ND	4645.90
MW-46	02/15/18	4652.79	14.45	7.26	ND	ND	4645.53
MW-46	05/31/18	4652.79	14.73	6.45	ND	ND	4646.34
MW-46	08/30/18	4652.79	14.65	6.64	ND	ND	4646.15
MW-46	11/27/18	4652.79	14.68	7.07	ND	ND	4645.72
MW-46	02/13/19	4652.79	14.89	7.31	ND	ND	4645.48
MW-46	05/14/19	4652.79	11.12	6.78	ND	ND	4646.01
MW-47	11/30/15	4652.39	13.76	6.75	ND	ND	4645.64
MW-47	02/25/16	4652.39	13.76	6.83	ND	ND	4645.56
MW-47	05/19/16	4652.39	13.76	6.67	ND	ND	4645.72
MW-47	08/10/16	4652.39	13.76	6.22	ND	ND	4646.17
MW-47	11/16/16	4652.39	13.29	6.73	ND	ND	4645.66
MW-47	02/10/17	4652.39	13.29	7.07	ND	ND	4645.32
MW-47	05/23/17	4652.39	13.29	5.39	ND	ND	4647.00
MW-47	08/29/17	4652.39	13.60	6.24	ND	ND	4646.15
MW-47	11/27/17	4652.39	13.41	6.51	ND	ND	4645.88

**TABLE 1**  
**GROUNDWATER ELEVATION DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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)
MW-47	02/15/18	4652.39	13.54	6.96	ND	ND	4645.43
MW-47	05/31/18	4652.39	13.59	6.11	ND	ND	4646.28
MW-47	08/30/18	4652.39	13.59	6.34	ND	ND	4646.05
MW-47	11/27/18	4652.39	13.62	6.79	ND	ND	4645.60
MW-47	02/13/19	4652.39	13.74	7.02	ND	ND	4645.37
MW-47	05/14/19	4652.39	13.67	6.44	ND	ND	4645.95

**Notes**

ft. = Feet

AMSL = Above mean sea level

BTOC = Below top of casing

LNAPL = Light non-aqueous phase liquid

ND = No LNAPL detected

NM = Not Measured

TRACE = Trace amount of LNAPL detected

\* 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 is 0.75

<sup>1</sup> As allowed by Form 27 Conditions of Approval (Document # 200437738)

<sup>2</sup> LNAPL was not detected by interface probe, but was found in a bailer; true thickness unknown

<sup>3</sup> Obstruction in well at approximately 4.8 ft. below top of casing; unable to measure water level

<sup>4</sup> Well blocked by equipment; unable to measure water level

<sup>5</sup> Total depth was not measured due to ice blocking the interface probe

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-01	05/11/15	<b>320</b>	250	20	150
MW-01	06/25/15	<b>190</b>	140	10	58
MW-01	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-01	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-01	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-01	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-01	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-01	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-01	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-01	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-01	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-01	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-01	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-01	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-01	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-01	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-01	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-01	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-02	05/11/15	<b>4,900</b>	<b>11,000</b>	520	<b>7,900</b>
MW-02	06/25/15	<b>5,700</b>	<b>14,000</b>	290	<b>10,000</b>
MW-02	08/11/15	2.4	1.2	<1.0	2.6
MW-02	11/30/15		Sample Not Collected - Dry		
MW-02	02/25/16		Sample Not Collected - Dry		
MW-02	05/19/16		Sample Not Collected - Dry		
MW-02	08/10/16		Sample Not Collected - Dry		
MW-02	11/16/16	NS	NS	NS	NS
MW-02 <sup>3</sup>	02/10/17	NS	NS	NS	NS
MW-02 <sup>3</sup>	05/23/17	NS	NS	NS	NS
MW-02 <sup>3</sup>	08/29/17		Sample Not Collected - Well Destroyed		
MW-02R	11/27/17	<b>17</b>	<1.0	59	<b>1,700</b>
MW-02R	02/15/18	<1.0	<1.0	<1.0	23
MW-02R	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-02R	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-02R	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-02R	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-02R	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-03 <sup>2</sup>	05/11/15	<b>4,500</b>	<b>13,000</b>	<b>720</b>	<b>11,000</b>
MW-03	06/25/15		Sample Not Collected - LNAPL		
MW-03	08/11/15		Sample Not Collected - LNAPL		
MW-03	11/30/15		Sample Not Collected - LNAPL		
MW-03	02/25/16	<b>660</b>	<b>580</b>	58	670
MW-03	05/19/16	<b>700</b>	<b>1,600</b>	74	<b>2,400</b>
MW-03	08/10/16	1.8	2.7	<1.0	200
MW-03	11/16/16	4.3	<1.0	3.0	31
MW-03 <sup>6</sup>	02/10/17	<b>40</b>	<1.0	1.9	150
MW-03	05/23/17	<b>12</b>	<1.0	15	240
MW-03	08/29/17	<b>5.4</b>	<1.0	2.1	170

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-03	11/27/17	4.4	<1.0	3.3	43
MW-03 <sup>6</sup>	02/15/18	<b>12</b>	<1.0	18	140
MW-03	05/31/18	<1.0	<1.0	1.9	22
MW-03	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-03	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-03	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-03	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-04	05/11/15	<b>Sample Not Collected - LNAPL</b>			
MW-04	06/25/15	<b>Sample Not Collected - LNAPL</b>			
MW-04	08/11/15	<b>Sample Not Collected - LNAPL</b>			
MW-04	11/30/15	<b>3,700</b>	<b>16,000</b>	<b>1,700</b>	<b>26,000</b>
MW-04	02/25/16	<b>1,800</b>	<b>3,900</b>	440	<b>6,100</b>
MW-04	05/19/16	<b>1,500</b>	<b>5,100</b>	200	<b>8,100</b>
MW-04	08/10/16	<b>54</b>	<b>2,400</b>	20	<b>3,900</b>
MW-04	11/16/16	<1.0	<1.0	<1.0	2.5
MW-04	02/10/17	<b>12</b>	<1.0	2.1	10
MW-04 <sup>6</sup>	05/23/17	1.0	<1.0	8.0	100
MW-04	08/29/17	1.0	<1.0	11.0	320
MW-04	11/27/17	<1.0	<1.0	1.1	7.1
MW-04	02/15/18	<1.0	<1.0	<1.0	2.0
MW-04	05/31/18	<1.0	<1.0	<1.0	2.0
MW-04	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-04	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-04	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-04	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-05	05/11/15	<b>1,400</b>	<b>6,300</b>	200	<b>4,800</b>
MW-05	06/25/15	<b>9.0</b>	5.1	<1.0	10
MW-05	08/11/15	<b>150</b>	510	45	700
MW-05	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-06	05/11/15	<b>1,100</b>	<b>7,700</b>	690	<b>11,000</b>
MW-06	06/25/15	<b>1,300</b>	<b>3,500</b>	460	<b>7,700</b>
MW-06	08/11/15	<b>1,400</b>	<b>5,900</b>	360	<b>5,800</b>
MW-06	11/30/15	<b>880</b>	<b>3,500</b>	260	<b>3,800</b>
MW-06	02/25/16	<b>25</b>	520	53	750
MW-06	05/19/16	4.6	94	170	<b>2,000</b>
MW-06	08/10/16	<1.0	2.6	<1.0	170
MW-06	11/16/16	<1.0	<1.0	30	340
MW-06	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-06	05/23/17	<1.0	<1.0	<1.0	4.6
MW-06	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-06	11/27/17	<1.0	<1.0	<1.0	2.5
MW-06	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-06	05/31/18	<1.0	<1.0	<1.0	2.9
MW-06	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-06	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-06	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-06	05/14/19	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-07	05/11/15	920	590	49	410
MW-07	06/25/15	410	29	23	38
MW-07	08/11/15	20	2.3	2.1	3.7
MW-07	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-08	05/11/15	150	35	7.6	49
MW-08	06/25/15	150	15	5.8	41
MW-08	08/11/15	17	<1.0	<1.0	1.6
MW-08	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-09	05/11/15	100	41	4.4	32
MW-09	06/25/15	12	2.6	<1.0	3.0
MW-09	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-09	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-10	05/11/15	Sample Not Collected - LNAPL			
MW-10	06/25/15	5,000	17,000	700	11,000
MW-10	08/11/15	Sample Not Collected - LNAPL			
MW-10	08/11/15	Sample Not Collected - LNAPL			
MW-10	11/30/15	750	4,900	280	4,200
MW-10	02/25/16	120	420	140	510
MW-10	05/19/16	97	820	79	2,800
MW-10	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-10	11/16/16	12	200	90	740
MW-10	02/10/17	15	120	100	2700
MW-10	05/23/17	<1.0	7.0	24	220
MW-10	08/29/17	Not Sampled - Well Destroyed			
MW-10R	11/27/17	<1.0	<1.0	24	700
MW-10R	02/15/18	<1.0	<1.0	2.3	99
MW-10R	05/31/18	<1.0	<1.0	1.8	67
MW-10R	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-10R	11/27/18	<1.0	<1.0	<1.0	24
MW-10R	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-10R	05/14/19	<1.0	<1.0	<1.0	2.2
MW-11	05/11/15	180	160	24	250
MW-11	06/25/15	44	6.9	1.5	16
MW-11	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-11	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-12	05/11/15	Sample Not Collected - LNAPL			
MW-12	06/25/15	Sample Not Collected - LNAPL			
MW-12	08/11/15	Sample Not Collected - LNAPL			
MW-12	11/30/15	Sample Not Collected - LNAPL			
MW-12	02/25/16	3,900	5,800	320	5,000
MW-12	05/19/16	3,800	5,700	170	7,300
MW-12	08/10/16	2,600	2,700	220	4,400
MW-12	11/16/16	1,300	2,700	190	3,000
MW-12	02/10/17	1,700	3,000	180	4,200
MW-12	05/23/17	190	1,400	190	4,100
MW-12	08/29/17	26	4.0	100	1,100
MW-12	11/27/17	8.6	4.8	170	3,600

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-12 <sup>6</sup>	02/15/18	<1.0	<1.0	25	440
MW-12	05/31/18	<1.0	<1.0	2.0	29
MW-12	08/30/18	1.4	<1.0	1.2	17
MW-12	11/27/18	1.2	<1.0	<1.0	<2.0
MW-12	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-12	05/14/19	1.8	<1.0	<1.0	<2.0
MW-13	05/11/15	<b>670</b>	<b>1,300</b>	160	<b>1,700</b>
MW-13	06/25/15	<b>4,000</b>	<b>14,000</b>	150	<b>12,000</b>
MW-13	08/11/15	<b>5,300</b>	<b>14,000</b>	570	<b>8,900</b>
MW-13	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-14	05/11/15	<b>960</b>	<b>2,300</b>	370	<b>3,400</b>
MW-14	06/25/15	<b>3,200</b>	<b>11,000</b>	160	<b>11,000</b>
MW-14	08/11/15	<b>4,000</b>	<b>13,000</b>	680	<b>12,000</b>
MW-14	11/30/15	<b>2,300</b>	<b>9,100</b>	470	<b>7,700</b>
MW-14	02/25/16	Sample Not Collected - LNAPL			
MW-14	05/19/16	<b>220</b>	<1.0	100	360
MW-14	08/10/16	<b>38</b>	44	<1.0	<b>3,800</b>
MW-14	11/16/16	<b>52</b>	12	5.3	660
MW-14 <sup>6</sup>	02/10/17	<1.0	<1.0	<1.0	78
MW-14	05/23/17	4.9	<1.0	21	380
MW-14	08/29/17	<1.0	<1.0	<1.0	130
MW-14	11/27/17	<1.0	<1.0	2.5	50
MW-14	02/15/18	<1.0	<1.0	22	180
MW-14	05/31/18	<1.0	<1.0	1.5	15
MW-14	08/30/18	<1.0	<1.0	1.6	6.2
MW-14	11/27/18	<1.0	<1.0	1.0	15
MW-14	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-14	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-15	05/11/15	<b>120</b>	61	8.1	66
MW-15	06/25/15	<b>1,700</b>	<b>2,100</b>	140	<b>2,300</b>
MW-15	08/11/15	<b>32</b>	<1.0	4.0	<1.0
MW-15	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-16	05/11/15	<b>1,600</b>	<b>3,900</b>	660	<b>5,200</b>
MW-16	06/25/15	<b>2,100</b>	<b>7,000</b>	650	<b>10,000</b>
MW-16	08/11/15	<b>2,000</b>	<b>8,100</b>	600	<b>8,300</b>
MW-16	11/30/15	<b>910</b>	<b>3,000</b>	290	<b>4,100</b>
MW-16	02/25/16	<b>210</b>	<b>910</b>	160	<b>2,100</b>
MW-16	05/19/16	<b>1,700</b>	120	110	<b>5,200</b>
MW-16	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-16	11/16/16	<b>180</b>	4.8	160	1,200
MW-16 <sup>6</sup>	02/10/17	<b>37</b>	2.4	67	<b>1,700</b>
MW-16 <sup>6</sup>	05/23/17	<1.0	<1.0	2.1	210
MW-16	08/29/17	<b>8.3</b>	<1.0	16	88
MW-16	11/27/17	<1.0	<1.0	13	110
MW-16 <sup>6</sup>	02/15/18	<1.0	<1.0	14	140
MW-16	05/31/18	<1.0	<1.0	12	150
MW-16	08/30/18	<1.0	<1.0	<1.0	3.7

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-16	11/27/18	<1.0	<1.0	2.5	17
MW-16	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-16	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-17	05/11/15	<b>58</b>	7.3	7.3	47
MW-17	06/25/15	<b>290</b>	68	27	270
MW-17	08/11/15	<b>35</b>	<1.0	4.8	17
MW-17	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-18	05/11/15	<b>8.7</b>	9.4	2.1	20
MW-18	06/25/15	<b>230</b>	13	35	200
MW-18	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-18	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-19	05/11/15	<b>18</b>	9.2	1.8	12
MW-19	06/25/15	<b>470</b>	<1.0	54	200
MW-19	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-19	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-20	05/11/15	<b>1,600</b>	<b>1,900</b>	190	<b>2,400</b>
MW-20	06/25/15	<b>3,800</b>	<b>6,500</b>	500	<b>6,500</b>
MW-20	08/11/15	<b>3,800</b>	<b>7,000</b>	<b>710</b>	<b>10,000</b>
MW-20	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-21	06/25/15	<b>Sample Not Collected - LNAPL</b>			
MW-21	08/11/15	<b>3,300</b>	<b>9,000</b>	<b>1,100</b>	<b>25,000</b>
MW-21	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-21	02/25/16	<b>190</b>	<1.0	37	430
MW-21	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-21	08/10/16	<1.0	<1.0	<1.0	9.0
MW-21	11/16/16	<1.0	<1.0	3.9	31
MW-21	02/10/17	<1.0	<1.0	<1.0	350
MW-21 <sup>6</sup>	05/23/17	<1.0	<1.0	<1.0	180
MW-21 <sup>6</sup>	08/29/17	<1.0	<1.0	<1.0	66
MW-21	11/27/17	<1.0	<1.0	<1.0	6.5
MW-21 <sup>6</sup>	02/15/18	2.8	<1.0	42	600
MW-21	05/31/18	<1.0	<1.0	<1.0	8.2
MW-21	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-21	11/27/18	<1.0	<1.0	<1.0	11
MW-21	02/13/19	<1.0	<1.0	<1.0	2.6
MW-21	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-22	06/25/15	<b>54</b>	1.2	2.6	<1.0
MW-22	08/11/15	1.2	1.2	<1.0	<1.0
MW-22	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-23	06/25/15	<b>50</b>	5.4	1.3	3.5
MW-23	07/23/15	NS	NS	NS	NS
MW-23	07/30/15	NS	NS	NS	NS
MW-23	08/11/15	<b>110</b>	<1.0	<1.0	<1.0
MW-23	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-24	06/25/15	<b>370</b>	1.2	25	160
MW-24	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-24	11/30/15	<1.0	<1.0	<1.0	<1.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-24	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-24	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-24	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-24	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-24	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-24	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-24	8/29/2017	<1.0	<1.0	<1.0	<2.0
MW-24	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-24	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-24	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-24	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-24	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-24	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-24	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-25	06/25/15	<b>Sample Not Collected - LNAPL</b>			
MW-25	08/11/15	<b>5,900</b>	<b>9,800</b>	610	<b>8,100</b>
MW-25	11/30/15	<b>4,900</b>	<b>8,100</b>	380	<b>4,700</b>
MW-25	02/25/16	<b>Sample Not Collected - LNAPL</b>			
MW-25	05/19/16	<b>2,600</b>	<b>7,300</b>	150	<b>8,800</b>
MW-25	08/10/16	<b>1,300</b>	<b>3,600</b>	10	<b>6,500</b>
MW-25	11/16/16	<b>650</b>	<b>2,900</b>	200	<b>3,700</b>
MW-25 <sup>6</sup>	02/10/17	<b>6.0</b>	<1.0	<1.0	<b>2,000</b>
MW-25	05/23/17	<b>22</b>	23	61	<b>1,700</b>
MW-25	08/29/17	<1.0	<1.0	<1.0	20
MW-25	11/27/17	<1.0	<1.0	2.0	100
MW-25	02/15/18	<1.0	<1.0	<1.0	5.6
MW-25	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-25	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-25	11/27/18	<1.0	<1.0	<1.0	11
MW-25	02/13/19	<1.0	<1.0	<1.0	2.8
MW-25	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-26	06/25/15	<b>650</b>	<b>620</b>	110	1,100
MW-26	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-26	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-26	02/25/16	<b>21</b>	<1.0	<1.0	<1.0
MW-26	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-26	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-26	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-26	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-26	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-26	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-26	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-26	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-26	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-26	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-26	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-26	02/13/19	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
MW-26	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-27	06/25/15	38	2.0	<1.0	3.1
MW-27	08/11/15	2.0	4.1	<1.0	3.7
MW-27	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-27	02/25/16	45	<1.0	<1.0	<1.0
MW-27	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-27	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-27 <sup>4</sup>	11/16/16	NS	NS	NS	NS
MW-27 <sup>4</sup>	02/10/17	NS	NS	NS	NS
MW-27	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-27	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-27	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-27	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-27	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-27	08/30/18		Not Sampled - Well Inaccessible		
MW-27	11/27/18		Not Sampled - Well Inaccessible		
MW-27	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-27	05/14/19		Not Sampled - Well Inaccessible		
MW-28	06/25/15	260	<1.0	10	2.5
MW-28	08/11/15	2,700	1,700	220	2,100
MW-28	11/30/15	120	<1.0	3.2	3.4
MW-28	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-28	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-28	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-28	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-28	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-28	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-28	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-28	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-28	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-28	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-28	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-28	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-28	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-28	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-29	06/25/15	50	<1.0	1.0	5.3
MW-29	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-29	11/30/15		Sample Not Collected - Dry		
MW-29	02/25/16		Sample Not Collected - Dry		
MW-29	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-29	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-29	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-29 <sup>5</sup>	02/10/17		Sample Not Collected - Dry		
MW-29	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-29	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-29	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-29	02/15/18		Insufficient water to collect sample		
MW-29	05/31/18	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-29	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-29	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-29	02/13/19	Insufficient water to collect sample			
MW-29 <sup>7</sup>	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-30	06/25/15	25	<1.0	<1.0	<1.0
MW-30	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-30	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-31	07/23/15	25	<1.0	2.7	20
MW-31	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-31	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-32	07/23/15	20	1.4	2.1	17
MW-32	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-32	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-32	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-32	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-32	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-32	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-32	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-32 <sup>6</sup>	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-32	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-32	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-32	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-32	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-32	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-32	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-32	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-32	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-33	07/23/15	<1.0	<1.0	<1.0	<1.0
MW-33	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-33	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-33	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-33	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-33	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-33	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-33	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-33	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-33	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-33	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-33	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-33	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-33	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-33	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-33	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-33	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-34	07/23/15	1.8	<1.0	<1.0	<1.0
MW-34	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-34	11/30/15	<1.0	<1.0	<1.0	<1.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-34	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-34	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-34	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-34	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-34	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-34	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-34	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-34	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-34	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-34	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-34	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-34	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-34	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-34	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-35	07/23/15	<b>44</b>	<1.0	<1.0	<1.0
MW-35	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-35	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-36	07/23/15	<1.0	<1.0	<1.0	<1.0
MW-36	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-36	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-37	07/23/15	<1.0	<1.0	<1.0	<1.0
MW-37	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-37	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-37	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-37	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-37	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-37	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-37	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-37	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-37	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-37	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-37	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-37	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-37	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-37	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-37	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-37	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-38	07/23/15	<1.0	<1.0	<1.0	<1.0
MW-38	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-38	11/30/15	Well Removed From Monitoring Well Network <sup>1</sup>			
MW-39	07/23/15	<1.0	<1.0	<1.0	<1.0
MW-39	07/30/15	<1.0	<1.0	<1.0	<1.0
MW-39	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-39	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-39	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-39	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-39	08/10/16	<1.0	<1.0	<1.0	<1.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-39	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-39	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-39	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-39	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-39	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-39	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-39	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-39	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-39	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-39	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-39	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-40	07/23/15	<b>5.8</b>	<1.0	<1.0	<1.0
MW-40	07/30/15	NS	NS	NS	NS
MW-40	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-40	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-40	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-40	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-40	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-40	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-40	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-40	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-40	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-40	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-40	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-40	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-40	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-40	11/27/18		Not Sampled - Well Inaccessible		
MW-40	02/13/19		Not Sampled - Well Inaccessible		
MW-40	05/14/19		Not Sampled - Well Inaccessible		
MW-41	07/23/15	<1.0	<1.0	<1.0	<1.0
MW-41	07/30/15	NS	NS	NS	NS
MW-41	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-41	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-41	02/25/16	<1.0	<1.0	<1.0	7.3
MW-41	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-41	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-41	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-41	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-41	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-41	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-41	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-41	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-41	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-41	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-41	11/27/18		Not Sampled - Well Inaccessible		
MW-41	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-41	05/14/19	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Standard		5	560	700	1,400
MW-42	07/30/15	<1.0	<1.0	<1.0	<1.0
MW-42	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-42	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-42	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-42	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-42	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-42	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-42	02/10/17	<1.0	1.2	<1.0	2.6
MW-42	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-42	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-42	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-42	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-42	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-42	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-42	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-42	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-42	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-43	07/30/15	<1.0	<1.0	<1.0	<1.0
MW-43	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-43	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-43	02/25/16	1.2	2.0	<1.0	<1.0
MW-43	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-43	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-43	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-43	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-43	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-43	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-43	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-43	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-43	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-43	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-43	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-43	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-43	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-44	07/30/15	14	<1.0	19	96
MW-44	08/11/15	160	<1.0	28	<1.0
MW-44	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-44	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-44	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-44	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-44	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-44	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-44	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-44	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-44	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-44	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-44	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-44	08/30/18	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-44	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-44	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-44	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-45	07/30/15	<1.0	<1.0	<1.0	1.4
MW-45	08/11/15	<1.0	<1.0	<1.0	<1.0
MW-45	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-45	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-45	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-45	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-45	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-45	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-45	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-45	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-45	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-45	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-45	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-45	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-45	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-45	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-45	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-46	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-46	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-46	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-46	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-46	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-46	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-46	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-46	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-46	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-46	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-46	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-46	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-46	11/27/18	<1.0	<1.0	<1.0	<2.0
MW-46	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-46	05/14/19	<1.0	<1.0	<1.0	<2.0
MW-47	11/30/15	<1.0	<1.0	<1.0	<1.0
MW-47	02/25/16	<1.0	<1.0	<1.0	<1.0
MW-47	05/19/16	<1.0	<1.0	<1.0	<1.0
MW-47	08/10/16	<1.0	<1.0	<1.0	<1.0
MW-47	11/16/16	<1.0	<1.0	<1.0	<1.0
MW-47	02/10/17	<1.0	<1.0	<1.0	<1.0
MW-47	05/23/17	<1.0	<1.0	<1.0	<2.0
MW-47	08/29/17	<1.0	<1.0	<1.0	<2.0
MW-47	11/27/17	<1.0	<1.0	<1.0	<2.0
MW-47	02/15/18	<1.0	<1.0	<1.0	<2.0
MW-47	05/31/18	<1.0	<1.0	<1.0	<2.0
MW-47	08/30/18	<1.0	<1.0	<1.0	<2.0
MW-47	11/27/18	<1.0	<1.0	<1.0	<2.0

**TABLE 2**  
**GROUNDWATER ANALYTICAL DATA**  
**NOBLE ENERGY, INC. - SYLVESTER 31-5H5, 6H5**

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>
MW-47	02/13/19	<1.0	<1.0	<1.0	<2.0
MW-47	05/14/19	<1.0	<1.0	<1.0	<2.0

Notes:

LNAPL = Light non-aqueous phase liquid

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

Dry = Insufficient groundwater to collect sample

NS = Not sampled

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

Groundwater standards referenced from COGCC Table 910-1

**Highlighted results exceed the COGCC Table 910-1 standard**

<sup>1</sup> As allowed by Form 27 Conditions of Approval (Document # 200437738)

<sup>2</sup> Sample collected despite of 0.01 feet of LNAPL measured

<sup>3</sup> Well not sampled due to obstruction in the well

<sup>4</sup> Well not sampled due to equipment parked over the well

<sup>5</sup> Well not sampled due to insufficient water for sampled collection

<sup>6</sup> Sheen observed in well

<sup>7</sup> Grab Sample

**TABLE 3**  
**EFR/AS OPERATIONAL SUMMARY TABLE**  
**NOBLE SYLVESTER 31-5H5, 6H5 FLOWLINE RELEASE**

Date	EFR Wells	Total AS/EFR Duration (hours)	Approximate Gallons Extracted	AS Wells	Air Injection Pressure (psi)	Average Air Flow Rate (cfm)
<b>Third Quarter 2017</b>						
8/14/2017	MW-25	6	504	None	0	0
8/18/2017		8	168	MW-25	20	4
8/21/2017		8	588		15	26
8/25/2017		8	210		20	30
8/28/2017		8	399		10	23
9/1/2017	None	5	0	MW-15, MW-16	20	42.5
<b>Quarterly Totals</b>		6	504			
<b>First Quarter 2018</b>						
1/18/2018	MW-02R, MW12	6	462	MW02R, MW12	15	NR
1/23/2018		7.75	504		15	NR
1/26/2018		8	470		15	28
1/30/2018		8	672		15	30
2/2/2018		8	672		15	NR
2/6/2018		8	672		15	25
<b>Quarterly Totals</b>		45.75	3452			

**Notes:**

EFR = Enhanced fluid recovery

AS = Air sparge

psi = Pounds per square inch

cfm = cubic feet per minute

NR = Not recorded

**TABLE 4  
REMEDIATION SYSTEM AIR EMISSION DATA SUMMARY  
NOBLE ENERGY, INC. SYLVESTER 31-5H5, 6H5 FLOWLINE RELEASE**

Soil Vapor Extraction															
Sample Date	SVE Runtime Meter Reading	Period Incremental Operating Hours	Total Hours in Operating Period	Period Runtime Factor (%)	Effluent Temp (°F)	Sys Vacuum (inches of WC)	Effluent OVC (ppm)	Effluent Concentration (ug/m3)	Air Flow Rate (cfm)	Grams/cubic feet	grams/minute	Mass Extracted (lbs)		Incremental Mass Removed (lbs)	Cumulative Mass Removed (lbs)
												lbs/hour	lbs total		
11/12/15	18.7	0.0	18.7	0	0	0	0	0	0	0	0	0.000	0.0	0.0	0.0
12/03/15	256.6	237.9	504.0	47%	100.0	50.0	302.0	1,060,000	150	0.03002	4.50	0.595	141.6	141.6	141.6
12/23/15	736.7	480.1	480	100%	100.0	50.0	316.0	1,110,000	150	0.03144	4.72	0.623	299.3	299.3	440.9
01/05/16	1,049.0	312.3	312	100%	100.0	50.0	2,122.0	7,460,000	150	0.21127	31.69	4.189	1,308.3	1,308.3	1,749.1
01/25/16	1,360.9	311.9	480	65%	100.0	50.0	1,590.0	5,590,000	150	0.15831	23.75	3.139	979.1	979.1	2,728.2
03/08/16	1,894.5	533.6	1,032	52%	100.0	50.0	529.0	1,860,000	150	0.05268	7.90	1.044	557.3	557.3	3,285.5
04/13/16	2,208.0	313.5	864	36%	100.0	50.0	195.0	687,000	148	0.01946	2.88	0.381	119.3	119.3	3,404.9
04/28/16	2,514.4	306.4	360	85%	100.0	50.0	7.0	23,600	148	0.00067	0.10	0.013	4.0	4.0	3,408.9
05/26/16	2,908.0	393.6	672	59%	100.0	50.0	6.0	19,800	135	0.00056	0.08	0.010	3.9	3.9	3,412.8
06/16/16	3,358.4	450.4	504	89%	125.0	60.0	0.5	15,400	125	0.00044	0.05	0.007	3.2	3.2	3,416.0
07/21/16	4,095.4	737.0	840	88%	195.0	60.0	0.5	3,560	135	0.00010	0.01	0.002	1.3	1.3	3,417.4
08/26/16	4,582.5	487.1	864	56%	200.0	60.0	0.5	26,600	130	0.00075	0.10	0.013	6.3	6.3	3,423.7
09/22/16	5,160.3	577.8	648	89%	200.0	68.0	0.0	18,500	135	0.00052	0.07	0.009	5.4	5.4	3,429.1
10/25/16	5,924.0	763.7	792	96%	200.0	50.0	0.0	5,100	148	0.00014	0.02	0.003	2.2	2.2	3,431.2
11/29/16	6,342.3	418.3	840	50%	200.0	40.0	0.0	5,330	148	0.00015	0.02	0.003	1.2	1.2	3,432.5
12/15/16	6,728.0	385.7	384	100%	200.0	36.0	0.0	283,000	160	0.00801	1.28	0.170	65.4	65.4	3,497.9
01/18/17	7,539.2	811.2	816	99%	200.0	36.0	0.0	241,000	155	0.00683	1.06	0.140	113.4	113.4	3,611.3
02/17/17	8,062.1	522.9	720	73%	200.0	36.0	0.0	20,200	160	0.00057	0.09	0.012	6.3	6.3	3,617.6
03/21/17	8,830.9	768.8	768	100%	195.0	36.0	0.0	183,000	160	0.00518	0.83	0.110	84.3	84.3	3,701.9
04/25/17	9,526.0	695.1	840	83%	190.0	35.0	0.0	136,000	155	0.00385	0.60	0.079	54.9	54.9	3,756.7
05/16/17	9,983.7	457.7	504	91%	195.0	42.0	0.0	20,200	155	0.00057	0.09	0.012	5.4	5.4	3,762.1
06/30/17	10,508.3	524.6	1,080	49%	175.0	45.0	0.0	4,950	150	0.00014	0.02	0.003	1.5	1.5	3,763.6
07/25/17	10,847.5	339.2	600	57%	85.0	47.0	0.0	2,430	155	0.00007	0.01	0.001	0.5	0.5	3,764.0
08/22/17	11,394.0	546.5	672	81%	175.0	52.0	0.0	15,600	150	0.00044	0.07	0.009	4.8	4.8	3,768.8
09/29/17	11,955.2	561.2	912	62%	90.0	52.0	0.3	5,080	150	0.00014	0.02	0.003	1.6	1.6	3,770.4
10/25/17	12,439.1	483.9	624	78%	45.0	58.0	0.0	4,540	148	0.00013	0.02	0.003	1.2	1.2	3,771.7
11/20/17	13,039.9	600.8	624	96%	95.0	55.0	0.4	3,140	150	0.00009	0.01	0.002	1.1	1.1	3,772.7
12/12/17	13,290.2	250.3	528	47%	95.0	45.0	3.7	24,500	160	0.00069	0.11	0.015	3.7	3.7	3,776.4
01/31/18	14,483.0	1,192.8	1,200	99%	95.0	35.0	6.5	9,100	160	0.00026	0.04	0.005	6.5	6.5	3,782.9
02/22/18	14,726.0	243.0	528	46%	75.0	35.0	1.9	12,800	160	0.00036	0.06	0.008	1.9	1.9	3,784.7
03/30/18	15,586.8	860.8	864	100%	80.0	40.0	3.1	21,400	160	0.00061	0.10	0.013	11.0	11.0	3,795.8
04/27/18	16,259.9	673.1	672	100%	95.0	45.0	2.1	14,300	160	0.00040	0.06	0.009	5.8	5.8	3,801.5
06/08/18	17,002.8	742.9	1,008	74%	95.0	40.0	7.2	40,100	155	0.00114	0.18	0.023	17.3	17.3	3,818.8
07/17/18	17,823.9	821.1	936	88%	195.0	-45.0	2.2	7,230	160	0.00020	0.03	0.004	3.6	3.6	3,822.4
08/13/18	18,238.6	414.7	648	64%	200.0	-50.0	0.0	5,380	150	0.00015	0.02	0.003	1.3	1.3	3,823.6

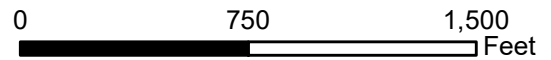
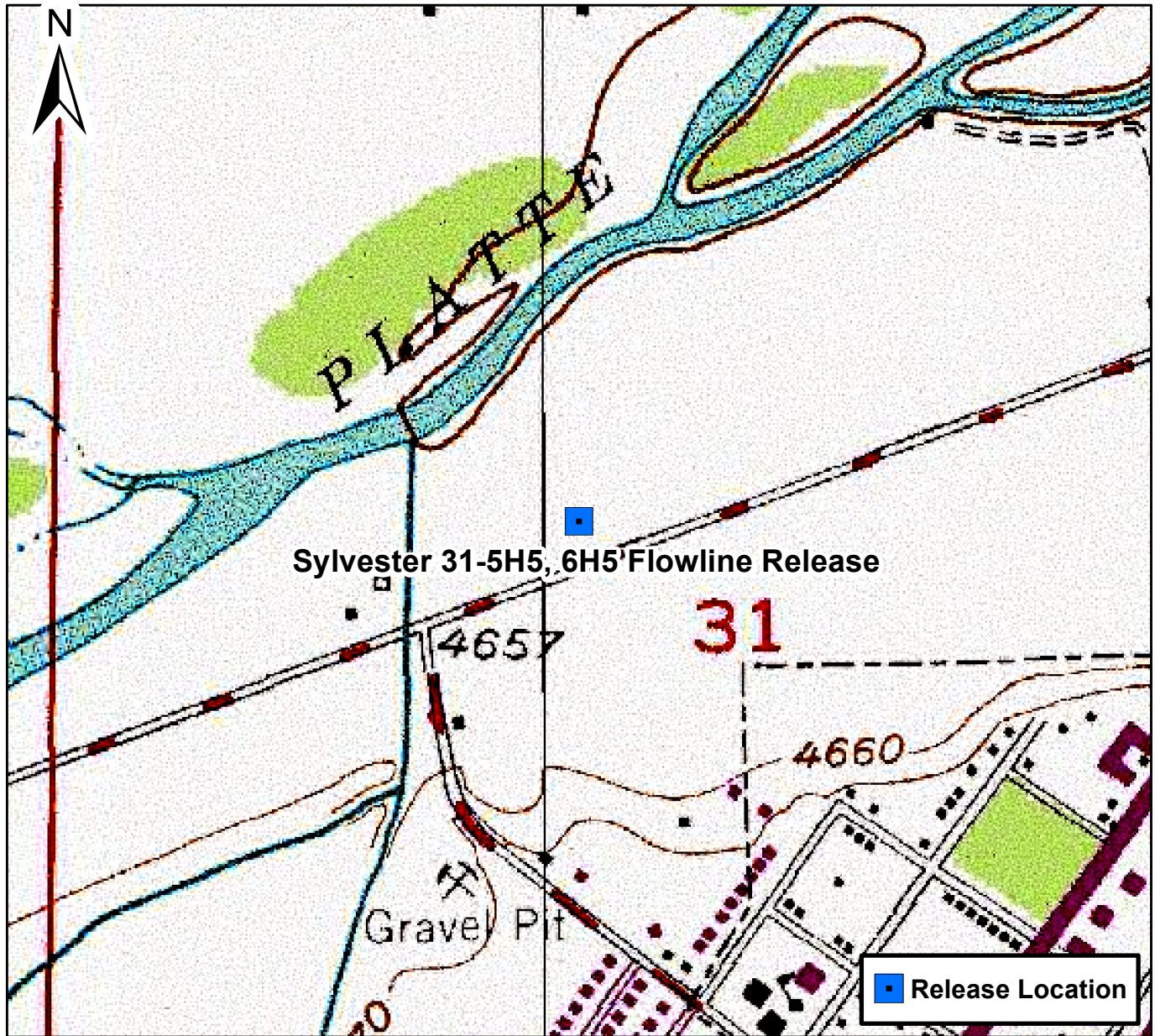
  

Notes:	
HC: Hydrocarbon	
OVC: Organic Vapor Concentration	
WC: Water Column	
Effluent concentration is based on total petroleum hydrocarbons - gasoline range organics	

<b>Total Pounds Emitted Since Startup</b>	3,823.6
<b>Total Tons Emitted Since Startup</b>	1.912
<b>Total Pounds Emitted in 2018</b>	47.26
<b>Total Tons Emitted in 2018</b>	0.024

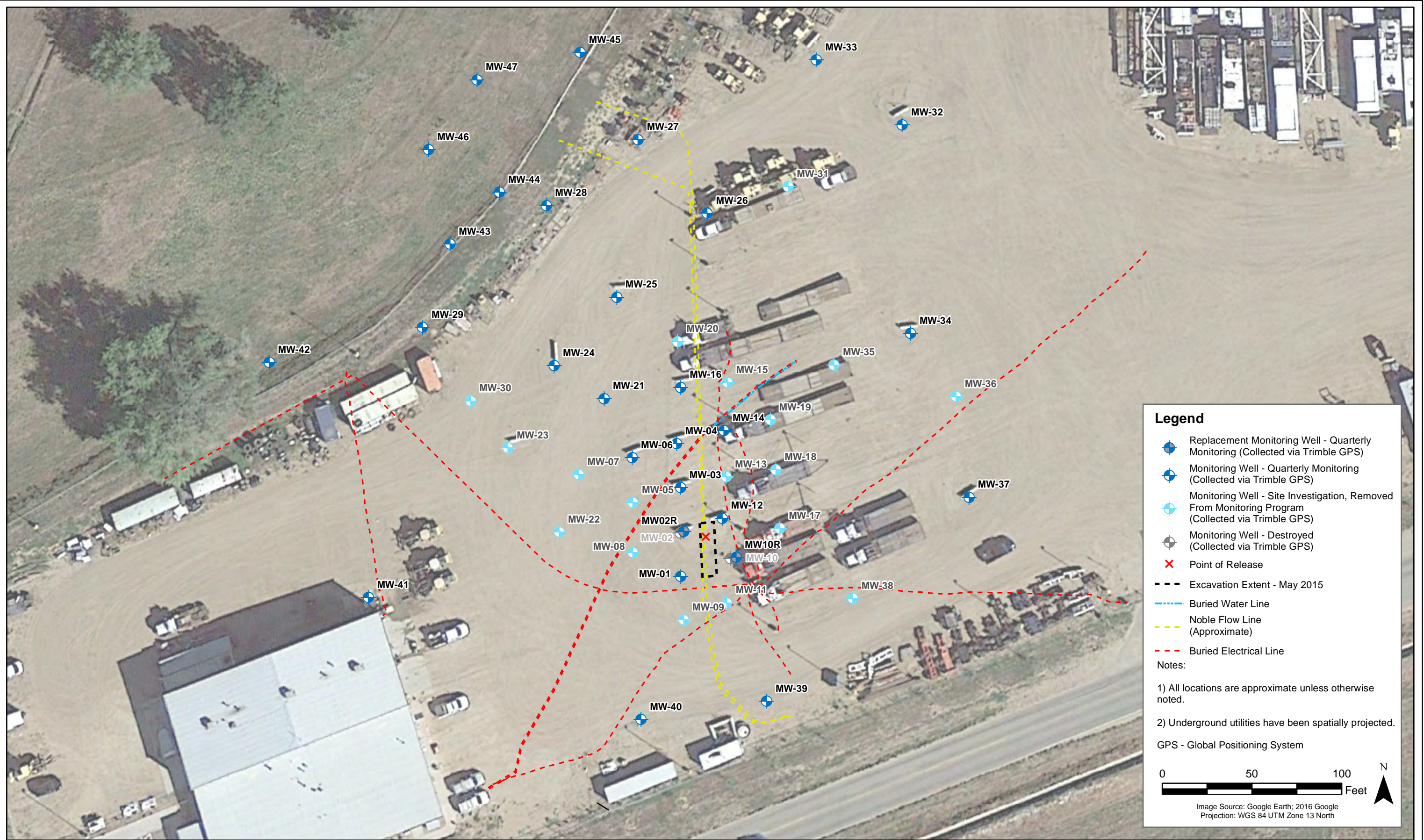
## FIGURES



### Figure 1

Site Location Map  
 Sylvester 31-5H5, 6H5  
 L1 S31 T5N R65W  
 Weld County, Colorado





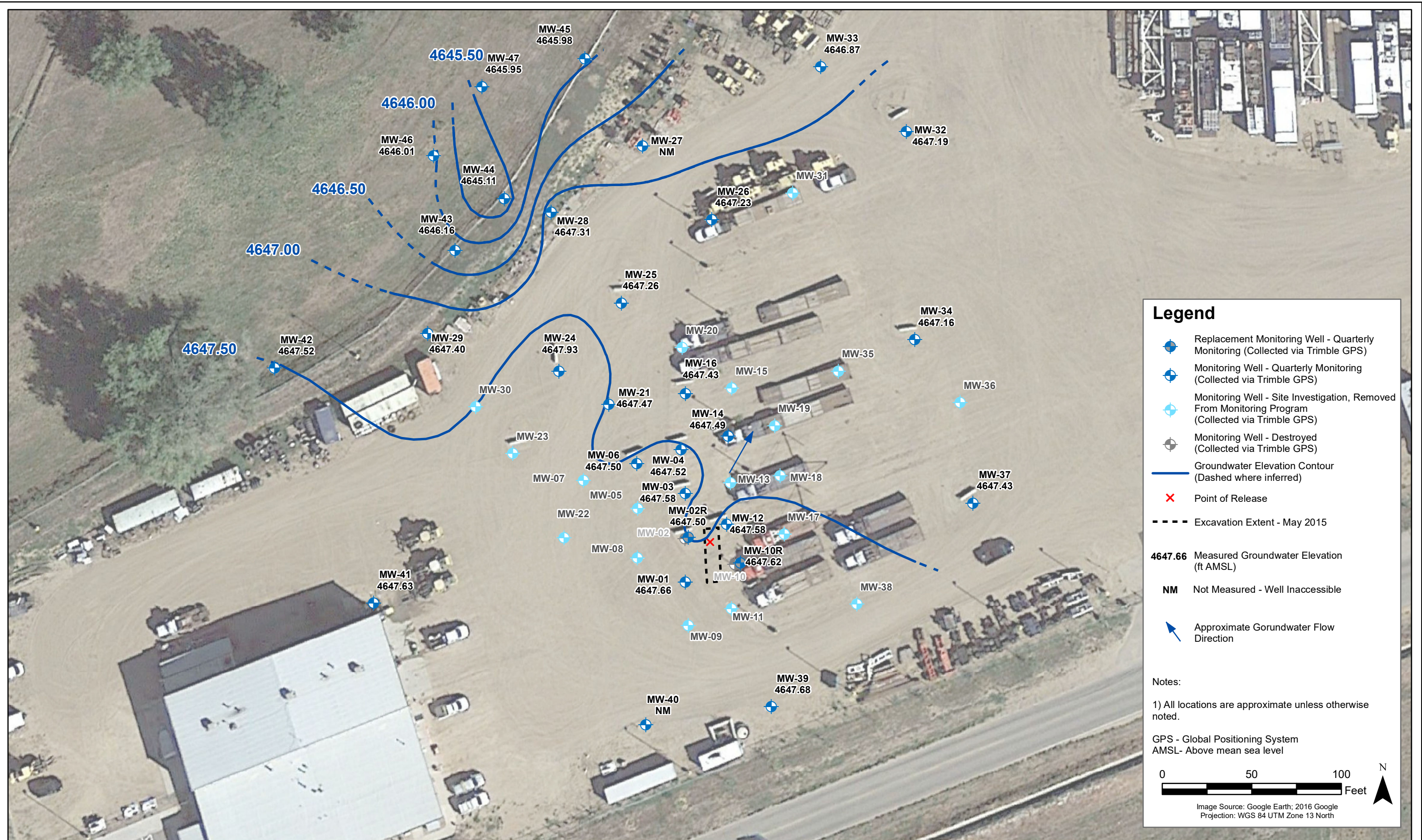
DATE: June 2018  
 DESIGNED BY: B. Bruns  
 DRAWN BY: D. Arnold



**Noble Energy Inc. - DJ Basin**  
**Sylvester 31-5H5, 6H5 Flowline Release**  
 L1 Section 31, Township 5 North, Range 65 West  
 Weld County, Colorado

Site Overview  
 Map

Figure  
 2



**Legend**

- Replacement Monitoring Well - Quarterly Monitoring (Collected via Trimble GPS)
- Monitoring Well - Quarterly Monitoring (Collected via Trimble GPS)
- Monitoring Well - Site Investigation, Removed From Monitoring Program (Collected via Trimble GPS)
- Monitoring Well - Destroyed (Collected via Trimble GPS)
- Groundwater Elevation Contour (Dashed where inferred)
- Point of Release
- Excavation Extent - May 2015

**4647.66** Measured Groundwater Elevation (ft AMSL)

**NM** Not Measured - Well Inaccessible

Approximate Groundwater Flow Direction

Notes:

1) All locations are approximate unless otherwise noted.

GPS - Global Positioning System  
 AMSL - Above mean sea level

0 50 100 Feet

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

DATE:	June 2019
DESIGNED BY:	B. Bruns
DRAWN BY:	C. Olson

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

**Noble Energy Inc.**  
**Sylvester 31-5H5, 6H5**  
 L1 Section 31, Township 5 North, Range 65 West  
 Weld County, Colorado

Groundwater Potentiometric  
 Surface Contour Map  
 (05/14/2019)

Figure  
 3



**Legend**

- Replacement Monitoring Well - Quarterly Monitoring (Collected via Trimble GPS)
- Monitoring Well - Quarterly Monitoring (Collected via Trimble GPS)
- Monitoring Well - Site Investigation, Removed From Monitoring Program (Collected via Trimble GPS)
- Monitoring Well - Destroyed (Collected via Trimble GPS)
- Point of Release
- Excavation Extent - May 2015

**ND** All Laboratory Results Were Below Laboratory Reporting Limits

**NS** Well Not Sampled

**DRY** Well Contained Insufficient Water to Collect Sample

Contaminant of Concern	COGCC Concentration Standard
B - Benzene	5 µg/L
T - Toluene	560 µg/L
E - Ethylbenzene	700 µg/L
X - Total Xylenes	1,400 µg/L

Notes:

- All locations are approximate unless otherwise noted.
- Red text denotes exceedances of COGCC Table 910-1 Standards.

GPS - Global Positioning System  
 µg/L - Micrograms per liter  
 COGCC - Colorado Oil and Gas Conservation Commission

0 50 100 Feet

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

**MW-12**  
 B 1.8 (µg/L)  
 T <1.0 (µg/L)  
 E <1.0 (µg/L)  
 X <2.0 (µg/L)

**MW-10R**  
 B <1.0 (µg/L)  
 T <1.0 (µg/L)  
 E <1.0 (µg/L)  
 X 2.2 (µg/L)

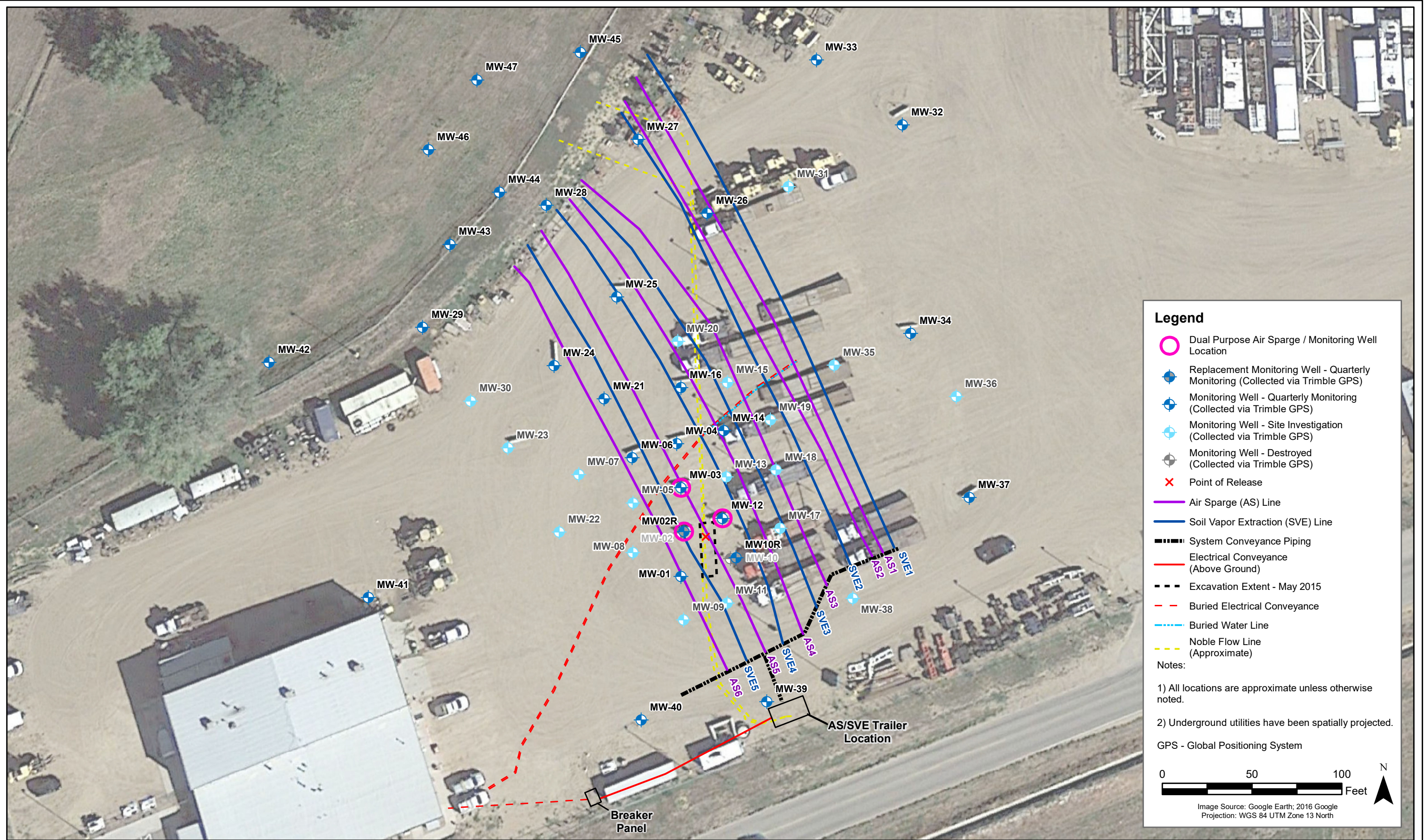
DATE: June 2019  
 DESIGNED BY: B. Bruns  
 DRAWN BY: C. Olson



**Noble Energy Inc.**  
**Sylvester 31-5H5, 6H5**  
 L1 Section 31, Township 5 North, Range 65 West  
 Weld County, Colorado

Groundwater Analytical  
 Results Map  
 (05/14/2019)

Figure  
 4



DATE: March 2018  
 DESIGNED BY: B. Bruns  
 DRAWN BY: D. Arnold

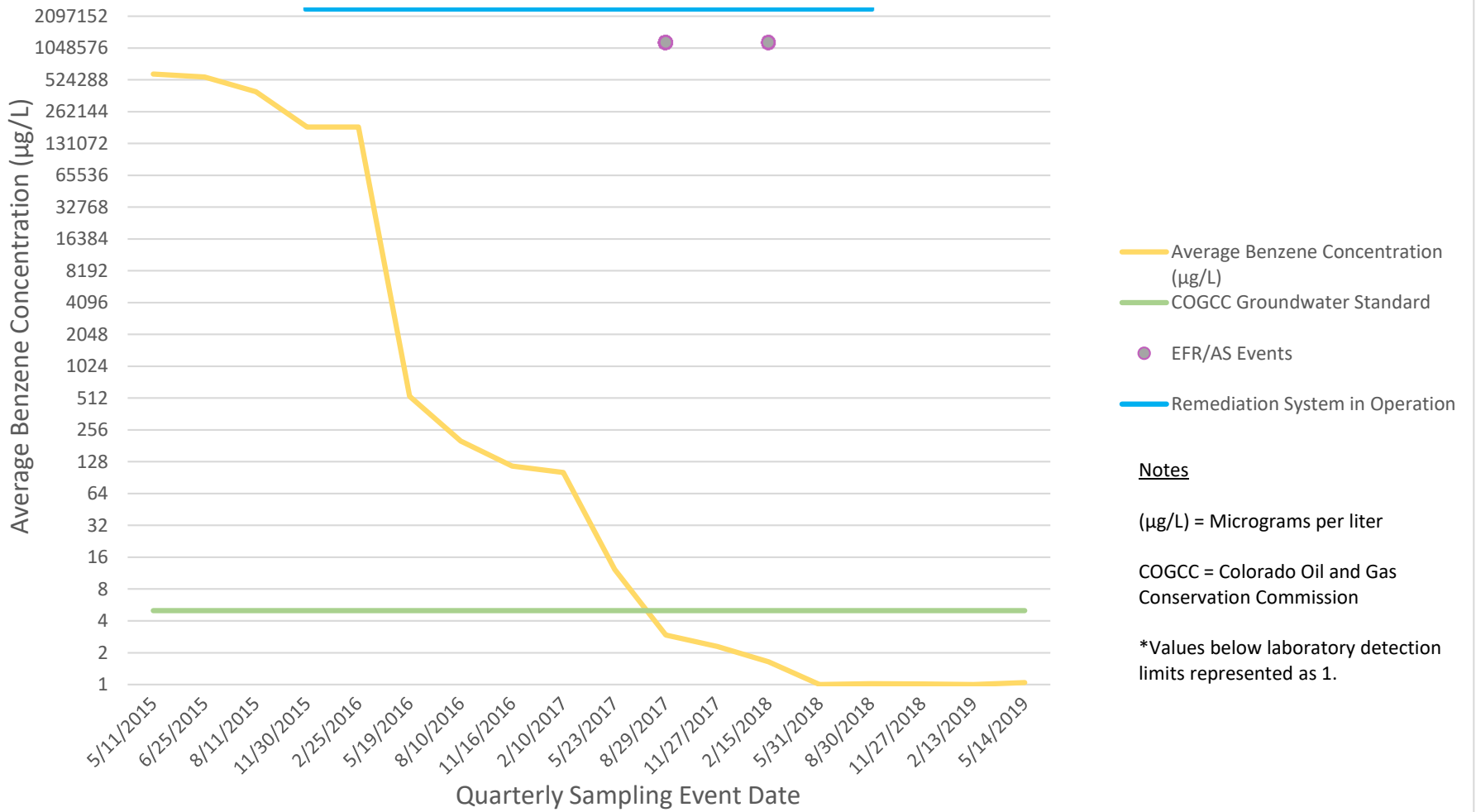


**Noble Energy Inc. - DJ Basin**  
**Sylvester 31-5H5, 6H5 Flowline Release**  
 L1 Section 31, Township 5 North, Range 65 West  
 Weld County, Colorado

Remediation System Overview  
 Map

Figure  
 5

Figure 6  
 Sylvester 31-5H5 6H5  
 Average Benzene Concentration VS Quarterly Sampling Event Date



**Notes**  
 (µg/L) = Micrograms per liter  
 COGCC = Colorado Oil and Gas Conservation Commission  
 \*Values below laboratory detection limits represented as 1.

# **ATTACHMENT A**

## **GROUNDWATER LABORATORY ANALYTICAL DATA REPORT**

# Summit Scientific

---

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 20, 2019

Brandon Bruns

Tasman Geosciences

6899 Pecos St, Unit C


Denver, CO 80221

RE: Noble - Sylvester 31-5H5, 6H5

Work Order # 1905152

Enclosed are the results of analyses for samples received by Summit Scientific on 05/14/19 17:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Muri Premer". The signature is written in a cursive style with a large initial 'M' and a long, sweeping underline.

Muri Premer For Ben Shrewsbury

Laboratory Manager



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-01	1905152-01	Water	05/14/19 11:14	05/14/19 17:30
MW-02R	1905152-02	Water	05/14/19 11:44	05/14/19 17:30
MW-03	1905152-03	Water	05/14/19 11:42	05/14/19 17:30
MW-04	1905152-04	Water	05/14/19 11:51	05/14/19 17:30
MW-06	1905152-05	Water	05/14/19 12:01	05/14/19 17:30
MW-10R	1905152-06	Water	05/14/19 11:32	05/14/19 17:30
MW-12	1905152-07	Water	05/14/19 11:47	05/14/19 17:30
MW-14	1905152-08	Water	05/14/19 12:00	05/14/19 17:30
MW-16	1905152-09	Water	05/14/19 12:06	05/14/19 17:30
MW-21	1905152-10	Water	05/14/19 11:51	05/14/19 17:30
MW-24	1905152-11	Water	05/14/19 11:26	05/14/19 17:30
MW-25	1905152-12	Water	05/14/19 11:35	05/14/19 17:30
MW-26	1905152-13	Water	05/14/19 11:46	05/14/19 17:30
MW-28	1905152-14	Water	05/14/19 11:11	05/14/19 17:30
MW-29	1905152-15	Water	05/14/19 11:00	05/14/19 17:30
MW-32	1905152-16	Water	05/14/19 11:32	05/14/19 17:30
MW-33	1905152-17	Water	05/14/19 11:13	05/14/19 17:30
MW-34	1905152-18	Water	05/14/19 11:32	05/14/19 17:30
MW-37	1905152-19	Water	05/14/19 11:16	05/14/19 17:30
MW-39	1905152-20	Water	05/14/19 11:00	05/14/19 17:30
MW-41	1905152-21	Water	05/14/19 11:05	05/14/19 17:30
MW-42	1905152-22	Water	05/14/19 12:42	05/14/19 17:30
MW-43	1905152-23	Water	05/14/19 12:53	05/14/19 17:30
MW-44	1905152-24	Water	05/14/19 12:50	05/14/19 17:30
MW-45	1905152-25	Water	05/14/19 12:55	05/14/19 17:30
MW-46	1905152-26	Water	05/14/19 13:00	05/14/19 17:30
MW-47	1905152-27	Water	05/14/19 13:01	05/14/19 17:30

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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

---

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

1905152.1


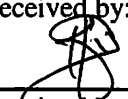
S<sub>2</sub>

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

Page 1 of 3

Client: Noble / Tasman	Project Manager: Brandon Bruns, Invoice: Jacob Evans
Address: 6899 Pecos Street	E-Mail: Bbruns@tasman-geo.com
City/State/Zip: Denver / CO/ 80221	
Phone: 970.210.6571	Project Name: <u>SYLVESTER 31-5H5, 6H5</u>
Sampler Name: T. Lichtenberg	Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested					Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO	pH, EC, SAR		
1	MW-01	5/14/19	1144	3	X				X				X					
2	MW-02R		1144															
3	MW-03		1142															
4	MW-04		1151															
5	MW-06		1201															
6	MW-10R		1152															
7	MW-12		1147															
8	MW-14		1200															
9	MW-16		1200					X										
10	MW-21		1151					X										

Relinquished by:  Date/Time: 5/14/19 @ 1600	Received by: Tasman's Lock Box Date/Time: 5/14/19 @ 1600	<b>Turn Around Time (Check)</b> Same Day — 72 hours 24 hours — Standard <input checked="" type="checkbox"/> 48 hours — <b>Sample Integrity:</b> Temperature Upon Receipt: -2.7 Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box Date/Time: 5/14/19 17:30	Received by:  Date/Time: 5/14/19 17:30		
Relinquished by:	Received by:		

# Summit Scientific

S<sub>2</sub>

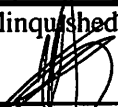
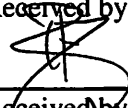
1905152.2

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

Page 2 of 3

Client: Noble / Tasman	Project Manager: Brandon Bruns, Invoice: Jacob Evans
Address: 6899 Pecos Street	E-Mail: Bbruns@tasman-geo.com
City/State/Zip: Denver / CO/ 80221	
Phone: 970.210.6571	Project Name: <u>SYLVESTER 31-3H5, 6H5</u>
Sampler Name: T. Lichtenberg	Project Number: <u>                    </u>

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO		pH, EC, SAR	
1	MW-24	5/14/19	1126	3	X				X				X					
2	MW-25		1135															
3	MW-26		1146															
4	MW-28		1111															
5	MW-29		1100															
6	MW-32		1132															
7	MW-33		1113															
8	MW-34		1132															
9	MW-37		1116															
10	MW-39		1100															

Relinquished by:  Date/Time: 5/14/19 10:00	Received by: Tasman's Lock Box Date/Time: 5/14/19 2:00	<b>Turn Around Time (Check)</b> Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> <b>Sample Integrity:</b> Temperature Upon Receipt: <u>2.7</u> Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<b>Notes:</b>
Relinquished by: Tasman's Lock Box Date/Time: 5/14/19 17:30	Received by:  Date/Time: 5/14/19 17:30		
Relinquished by: Date/Time:	Received by: Date/Time:		

# Summit Scientific

S<sub>2</sub>

1905152.3

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

Page 3 of 3

Client: Noble / Tasman	Project Manager: Brandon Bruns, Invoice: Jacob Evans
Address: 6899 Pecos Street	E-Mail: Bbruns@tasman-geo.com
City/State/Zip: Denver / CO/ 80221	
Phone: 970.210.6571	Project Name: <u>SYLVESTER 31-5H5, L045</u>
Sampler Name: T. Lichtenberg	Project Number: _____

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested				Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	8260B GBTEXN	8015 DRO		pH, EC, SAR
1	MW-41	5/14/19	1105	3	X				X				X				
2	MW-42		1242														
3	MW-43		1253														
4	MW-44		1250														
5	MW-45		1255														
6	MW-46		1300														
7	MW-47		1301														
8																	
9																	
10																	

Relinquished by:	Date/Time: 5/14/19 0600	Received by: Tasman's Lock Box	Date/Time: 5/14/19 0600
Relinquished by: Tasman's Lock Box	Date/Time: 5/14/19 17:30	Received by:	Date/Time: 5/14/19 17:30
Relinquished by:	Date/Time:	Received by:	Date/Time:

Turn Around Time (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____	Notes:
Sample Integrity: Temperature Upon Receipt: <u>-2.7</u> Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

**Sample Receipt Checklist**

S2 Work Order 1905152

Client: Noble/Tasman Client Project ID: Sylvester 31-5/15, 6/15

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

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

Temp (°C)	<u>-2.7</u>
-----------	-------------

Thermometer ID: 61857155-K

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

RZ  
Custodian Printed Name or Initials

[Signature]  
Signature of Custodian

5-14-19 18:20  
Date/Time



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-01**  
**1905152-01 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **05/14/19 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4		98.6 %	23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-02R**  
**1905152-02 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:44**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.7 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		102 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-03**  
**1905152-03 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		95.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-04**  
**1905152-04 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.8 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-06**  
**1905152-05 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		106 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-10R**  
**1905152-06 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>2.2</b>	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		103 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-12**  
**1905152-07 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<b>Benzene</b>	<b>1.8</b>	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:47**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.0 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-14**  
**1905152-08 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/16/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-16**  
**1905152-09 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:06**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.9 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.6 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-21**  
**1905152-10 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:51**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.5 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.2 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-24**  
**1905152-11 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-25**  
**1905152-12 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		98.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-26**  
**1905152-13 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		99.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
 Project Manager: Brandon Brun

**Reported:**  
 05/20/19 11:04

**MW-28**  
**1905152-14 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:11**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.4 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %		21-167		"	"	"	"	

Summit Scientific



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-29**  
**1905152-15 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		100 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.8 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.8 %		21-167		"	"	"	"	

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-32**  
**1905152-16 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-33**  
**1905152-17 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-34**  
**1905152-18 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:32**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.1 %		21-167		"	"	"	"	

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-37**  
**1905152-19 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:16**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		96.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-39**  
**1905152-20 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905201	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		98.6 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.7 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %		21-167		"	"	"	"	

Summit Scientific



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-41**  
**1905152-21 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/17/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		94.6 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		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 - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-42**  
**1905152-22 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:42**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.4 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		102 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		89.1 %		21-167		"	"	"	"	

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-43**  
**1905152-23 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:53**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.7 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		94.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.6 %		21-167		"	"	"	"	

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

**MW-44**  
**1905152-24 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		97.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.2 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-45**  
**1905152-25 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 12:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		95.3 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.9 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.4 %		21-167		"	"	"	"	

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
 Project Manager: Brandon Bruns

**Reported:**  
 05/20/19 11:04

**MW-46**  
**1905152-26 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 13:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.2 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		96.1 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %		21-167		"	"	"	"	

Summit Scientific



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

**MW-47**  
**1905152-27 (Water)**

**Summit Scientific**

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

Date Sampled: **05/14/19 13:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	1905204	05/15/19	05/18/19	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	2.0		"	"	"	"	"	"	

Date Sampled: **05/14/19 13:01**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		93.5 %		23-173		"	"	"	"	
Surrogate: Toluene-d8		97.3 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %		21-167		"	"	"	"	

Summit Scientific



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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

Reported:  
05/20/19 11:04

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

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

#### Batch 1905201 - EPA 5030 Water MS

##### Blank (1905201-BLK1)

Prepared: 05/15/19 Analyzed: 05/16/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.5	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.1	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.7	21-167			

##### LCS (1905201-BS1)

Prepared: 05/15/19 Analyzed: 05/16/19

Benzene	29.0	1.0	ug/l	33.3		87.0	70-130			
Toluene	31.8	1.0	"	33.3		95.4	70-130			
Ethylbenzene	36.0	1.0	"	33.3		108	70-130			
m,p-Xylene	68.8	2.0	"	66.7		103	70-130			
o-Xylene	32.9	1.0	"	33.3		98.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.6	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		98.7	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

##### Matrix Spike (1905201-MS1)

Source: 1905152-01

Prepared: 05/15/19 Analyzed: 05/16/19

Benzene	29.4	1.0	ug/l	33.3	ND	88.3	70-130			
Toluene	32.2	1.0	"	33.3	ND	96.8	70-130			
Ethylbenzene	35.8	1.0	"	33.3	ND	107	70-130			
m,p-Xylene	68.8	2.0	"	66.7	ND	103	70-130			
o-Xylene	32.6	1.0	"	33.3	ND	98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.4	20-170			
Surrogate: 4-Bromofluorobenzene	13.1		"	13.3		98.3	21-167			

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

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

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

**Batch 1905201 - EPA 5030 Water MS**

**Matrix Spike Dup (1905201-MSD1)**

Source: 1905152-01

Prepared: 05/15/19 Analyzed: 05/16/19

Benzene	29.8	1.0	ug/l	33.3	ND	89.4	70-130	1.22	30	
Toluene	32.3	1.0	"	33.3	ND	96.8	70-130	0.0620	30	
Ethylbenzene	36.5	1.0	"	33.3	ND	109	70-130	1.97	30	
m,p-Xylene	68.8	2.0	"	66.7	ND	103	70-130	0.0727	30	
o-Xylene	33.5	1.0	"	33.3	ND	100	70-130	2.57	30	
Surrogate: 1,2-Dichloroethane-d4	14.4		"	13.3		108	23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.5	20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	21-167			

**Batch 1905204 - EPA 5030 Water MS**

**Blank (1905204-BLK1)**

Prepared: 05/15/19 Analyzed: 05/17/19

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.1		"	13.3		98.3	23-173			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

**LCS (1905204-BS1)**

Prepared: 05/15/19 Analyzed: 05/17/19

Benzene	29.9	1.0	ug/l	33.3		89.7	70-130			
Toluene	32.4	1.0	"	33.3		97.1	70-130			
Ethylbenzene	36.0	1.0	"	33.3		108	70-130			
m,p-Xylene	67.5	2.0	"	66.7		101	70-130			
o-Xylene	32.3	1.0	"	33.3		96.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.5		"	13.3		101	23-173			
Surrogate: Toluene-d8	13.2		"	13.3		99.4	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	21-167			

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Brun

**Reported:**  
05/20/19 11:04

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

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

**Batch 1905204 - EPA 5030 Water MS**

**Matrix Spike (1905204-MS1)**

Source: 1905152-21

Prepared: 05/15/19 Analyzed: 05/17/19

Benzene	29.6	1.0	ug/l	33.3	ND	88.7	70-130			
Toluene	31.8	1.0	"	33.3	ND	95.4	70-130			
Ethylbenzene	36.2	1.0	"	33.3	ND	109	70-130			
m,p-Xylene	68.3	2.0	"	66.7	ND	102	70-130			
o-Xylene	32.7	1.0	"	33.3	ND	98.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		100	23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.0	20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		97.0	21-167			

**Matrix Spike Dup (1905204-MSD1)**

Source: 1905152-21

Prepared: 05/15/19 Analyzed: 05/17/19

Benzene	30.5	1.0	ug/l	33.3	ND	91.5	70-130	3.13	30	
Toluene	33.0	1.0	"	33.3	ND	99.0	70-130	3.70	30	
Ethylbenzene	35.7	1.0	"	33.3	ND	107	70-130	1.50	30	
m,p-Xylene	67.6	2.0	"	66.7	ND	101	70-130	1.04	30	
o-Xylene	32.4	1.0	"	33.3	ND	97.1	70-130	0.923	30	
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.3		110	23-173			
Surrogate: Toluene-d8	13.0		"	13.3		97.6	20-170			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		99.2	21-167			

Summit Scientific

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

Project: Noble - Sylvester 31-5H5, 6H5

Project Number: [none]  
Project Manager: Brandon Bruns

**Reported:**  
05/20/19 11:04

### 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