

December 12, 2017

Mr. Jacob Evans
Noble Energy, Inc.
1600 Broadway
Denver, CO 80202

Subject: **Fourth Quarter 2017 Site Monitoring and Remediation Report**
 Plugged and Abandoned FRI 2-18 Tank Battery and Well Head Location
 API # 05-001-08259
 Remediation Project # 8440
 Adams County, Colorado

Dear Mr. Evans:

Please find the enclosed copy of the above-referenced Fourth Quarter 2017 Site Monitoring and Remediation Report for the Plugged and Abandoned FRI 2-18 Tank Battery and Well Head Location in Adams County, Colorado. The enclosed report describes groundwater sampling and remediation system operation and maintenance (O&M) activities conducted during the fourth quarter 2017, in accordance with the previously submitted Form 27 (COGCC document # 2148980). Please contact me at (720) 431-1190 if you require additional information.

Tasman appreciates the opportunity to provide this service.

Sincerely,
Tasman Geosciences, Inc.



Brandon Bruns
Project Manager

Enclosure: Fourth Quarter 2017 Site Monitoring & Remediation Report

PLUGGED & ABANDONED FRI 2-18 TANK BATTERY & WELLHEAD LOCATION

FOURTH QUARTER 2017 SITE MONITORING AND REMEDIATION REPORT

December 12, 2017



PREPARED ON BEHALF OF

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PREPARED BY

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1.0 INTRODUCTION

This Site Monitoring and Remediation Report (Report) presents the results of groundwater sampling and light non-aqueous phase liquid (LNAPL) recovery activities performed at the Plugged and Abandoned FRI 2-18 Tank Battery and Well Head Location (Site). Field activities detailed in this report were performed on behalf of Noble Energy, Inc. (Noble), pursuant to Colorado Oil and Gas Conservation Commission (COGCC) guidance.

Field activities described in this Report were conducted by Tasman Geosciences, Inc. (Tasman) to further evaluate groundwater flow characteristics and groundwater quality at the Site. The data collected were used to develop the analytical summary tables, groundwater and LNAPL elevation maps, and chemical concentration maps presented herein.

1.1 Site Background

The Site is located in Section 18, Township 1 South, Range 67 West, of the 6th Principal Meridian, on 144th Avenue, in the town of Thornton in Adams County, Colorado (see Figure 1). The Site surrounds the former FRI 2-18 wellhead and tank battery and is approximately 950 feet (ft.) north of 144th Avenue and 1,200 ft. west of Holly Street. The approximate coordinates of the Site are 39.960732°, -104.926776°.

On November 4, 2013 Noble was informed of the suspected release. Subsequently, Noble filed a Form 19 Spill/Release Report (Form 19) with the COGCC for the incident. On November 13, 2013 the Form 19 was received by the COGCC and the incident was designated Spill/Release Tracking Number 2147193.

Based on procedures established via the Form 19 process, Noble conducted subsurface Site assessment activities from October 2013 through April 2014 in order to delineate the extent of petroleum hydrocarbon impacts at the Site. A total of 49 monitoring wells were installed at the Site throughout the assessment phase. The locations of these monitoring wells are presented in Figure 2. Laboratory analytical data for soil samples collected during the monitoring well installation are summarized in Table 1 and total petroleum hydrocarbon (TPH) concentrations are illustrated on Figure 3. In addition to groundwater and soil assessment activities, Noble initiated interim corrective measures to reduce the presence of LNAPL in the central region of the Site.

On May 9, 2014 Noble submitted a Form 27 Site Assessment Report (Document Number 2148980) for COGCC review. Subsequently, COGCC approved the Form 27, closed out Spill/Release Tracking Number 2147193, and issued Remediation Number 8440 for continued corrective action, monitoring, and reporting at the Site.

1.2 Site Topography, Geology, and Hydrogeology

The Site is positioned at approximately 5,246 ft. above mean sea level (AMSL). Surface topography slopes gradually to the north across the Site with minor depressions evident across

the ground surface. Regional topography slopes to the north and northwest from a high point approximately 2,000 ft. south of 144th Avenue. Surface drainage features are evident to the north and east of the Site and follow a general northeast – southwest trend.

Site assessment borings indicate that the subsurface geology immediately beneath the Site is composed of unconsolidated alluvial sediments and evaporite deposits overlying consolidated sedimentary rock. The upper unconsolidated unit is observed from ground surface to approximately 35 ft. below ground surface (bgs) and consists of interbedded clays (CL), fine, medium, and coarse grain sands (SC, SP, SW), and zones of accreted caliche. The alluvial and precipitated sediments are underlain by interbedded sandstone and claystone encountered at approximately 35 ft. bgs. The depth of the competent bedrock surface observed in the majority of the borings varies from approximately 25 to 40 ft. bgs across the Site and is generally characterized by a poorly cemented fractured sandstone layer approximately 10 to 15 ft. thick underlain by claystone. Claystone dominates the consolidated interval in the southeastern and eastern portions of the Site, while sandstone is the predominant consolidated lithology noted across the central and western regions. Thickening of the sandstone layer appears to follow a north - south trend across the area of concern. Two wells, SB06 and SB17, did not encounter bedrock. Boring logs for monitoring wells SB01 through SB42 are included in Attachments A and B of the Form 27 Site Assessment Report (Document Number 2148980) submitted to the COGCC on May 9, 2014.

The groundwater table is generally encountered between 40 and 50 ft. bgs within the consolidated sedimentary rock units. Groundwater flow appears preferential to the poorly cemented sandstone layer and appears to be preferentially bound to the central and western portions of the Site. This preferential flow and accumulation is further evidenced by dry and slow re-charging wells in the southeast and eastern portions of the Site (predominated by the lower permeability claystone lithology). Well yields across the majority of the Site are relatively low, consistent with a consolidated bedrock aquifer; however, higher flow rates have been observed, suggesting secondary flow pathways and geologic structures may be contributing factors in groundwater transport.

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 fourth quarter 2017. Sampling activities included measurement of groundwater/LNAPL depths, measurement of groundwater quality parameters, and collection of groundwater samples from Site monitoring wells.

2.1 Groundwater Sample Locations

Site-wide groundwater monitoring and associated events were conducted between November 17 and 20, 2017. The following sections discuss the field and laboratory analytical procedures followed during this event.

- On November 10, 2017, the Site remediation system (System) was shut off to allow Site subsurface conditions to equilibrate prior to conducting the groundwater sampling event.
- On November 10, 2017, all product recovery pumps were removed from recovery wells to allow for LNAPL gauging to be completed in the product recovery wells during the groundwater sampling event.
- On November 17, 2017, a Site-wide fluid level gauging event was conducted. Groundwater and LNAPL measurements were collected from all Site monitoring and product recovery wells.
- On November 17, 2017, HydraSleeve groundwater sampling devices were deployed in all Site monitoring wells exhibiting the required conditions described in Section 2.3. Wells receiving HydraSleeves included:

• SB03	• SB04	• SB06	• SB07
• SB08	• SB10	• SB11	• SB12
• SB13	• SB14	• SB15	• SB17
• SB19	• SB20	• SB22R	• SB23R
• SB25R	• SB27R	• SB28R	• SB36
• SB38	• SB39		

On March 29, 2017, Tasman recommended to Noble that certain groundwater monitoring wells be removed from the Site quarterly groundwater sampling events based on historical groundwater analytical data that has been below laboratory detection limits for at least four consecutive quarters. These wells are located on the outer edge of the Site. Wells recommended for removal from the groundwater monitoring well network were SB12, SB18, SB24R, SB26, SB29, SB33, SB34, SB35, SB40, SB41, and SB42. This modified monitoring network was approved by the COGCC in a Supplemental eForm 27 Site Investigation and Remediation Workplan on April 4, 2017 however, well SB12 was inadvertently left off the well list provided in the Supplemental eForm 27. Well SB12 will remain a part of the monitoring well network and will be sampled quarterly.

- On November 20, 2017, the HydraSleeves were retrieved from the monitoring wells listed above and groundwater samples were collected and submitted for laboratory analysis. At the same time, field groundwater quality parameters were gauged in-situ at the well locations listed above except SB28R. Monitoring Well SB28R contained an obstruction that allowed a HydraSleeve past, however it blocked the deployment of the In-Situ Smart Troll probe.
- Throughout the Site assessment, monitoring wells SB16, SB22, SB24, SB25, SB27, and SB28 have failed to produce sufficient water for well development or sampling activities. Review of the boring logs shows that construction of these wells was either too shallow or completed in an area of low permeability. These wells were abandoned in June 2015 following review of all previous Site field and laboratory analytical data.

- Monitoring well SB16 has failed to produce sufficient water to sample since its installation. In January 2014 monitoring well SB16 was abandoned and monitoring well SB16R was drilled as a replacement. However, the casing of SB16R was damaged and the well could not be gauged or sampled. In April 2017 monitoring well SB16R was abandoned and monitoring well SB16R2 was installed. Monitoring well SB23 also failed to produce sufficient water for sampling and was abandoned in April 2017. Monitoring well SB23R was drilled as a replacement in April 2017.
- Monitoring well SB20R was abandoned in June 2015, following review of all previous Site field and laboratory analytical data. In prior sampling events, SB20R was not sampled due to the immediate proximity of SB20.
- Monitoring wells SB01 and SB02 were consistently found to contain groundwater levels above the perforated interval of the well casing. These wells were abandoned in June 2015, following review all previous Site field and laboratory analytical data.

2.2 Groundwater and LNAPL Gauging

Groundwater levels are measured (i.e. gauged) in order to evaluate hydraulic characteristics and to provide information regarding seasonal and annual fluctuations in groundwater elevations at the Site. Groundwater and LNAPL levels were measured on the north side of the well casing to the nearest 0.01-foot using a float driven oil-water interface probe (IP). Groundwater and LNAPL level data were subsequently converted to elevations (ft. AMSL) by subtracting the measured depth from the well's top-of-casing (TOC) elevation survey datum. Groundwater elevations for wells exhibiting detectable LNAPL levels were corrected for the effects of LNAPL depression of the potentiometric surface. These groundwater elevations were corrected using the following formula:

$$\begin{aligned} & \text{(Top of Casing Elevation - Measured Depth to Water)} \\ & + \frac{\text{(LNAPL Thickness in Well} \times \text{LNAPL Relative Density)}}{1} \\ & = \text{Corrected Groundwater Elevation} \end{aligned}$$

An LNAPL relative density of 0.75 was used, based on petrophysical quantitation conducted during the initial Site assessment.

Groundwater quality measurements were collected in the field following groundwater sample collection using a Smart Troll multi-parameter instrument with a 100 ft. tethered probe to allow for in-situ measurements. Field measurements for temperature, electrical conductivity (EC), pH, oxidation reduction potential (ORP), and dissolved oxygen (DO) were measured in-situ at monitoring wells with sufficient groundwater column. These measurements were not collected from monitoring locations exhibiting detectable levels of LNAPL.

2.3 Groundwater Sample Collection

Prior to collecting groundwater laboratory analytical samples, groundwater and LNAPL levels were measured at each of the Site monitoring wells, as previously described. The presence of LNAPL was evaluated and wells exhibiting detectable levels of LNAPL were removed from the laboratory analytical sample collection list.

Groundwater monitoring wells were sampled using individual, disposable, HydraSleeve sample collection devices. Evaluation of the water column height within the well was performed prior to sampler placement in order to maintain sample consistency from well to well and between subsequent sample collection events. HydraSleeves were deployed in a manner limiting sample collection to the top four ft. of the water column by restricting the length of the HydraSleeve retrieval tether to no more than four ft. longer than the measured depth to water:

- Samples collected from monitoring wells with a water column height greater than or equal to seven ft. were sampled using a standard 2-inch HydraSleeve (2.5 inches [W] x 30 inches [L]) with five ounce (oz.) (2.5 inches [L]) bottom weights attached via a 2-inch stainless steel clip.
- Samples collected from monitoring wells with a water column height less than seven ft. and greater than two ft. were sampled using a standard 2-inch HydraSleeve (2.5 inches [W] x 30 inches [L]) with five oz. (2.5 inches [L]) bottom weights attached via a 2-inch stainless steel clip. Due to the reduced water column height, HydraSleeves were deployed with a 16 oz. top weight, intended to keep the valve inlet positioned within four ft. of the phreatic surface.
- Monitoring wells with a water column height less than 2 ft. were not sampled as per the Site standard operating procedures. Groundwater present within the lower portion of the screened interval is more susceptible to a “skin function” across the bottom of the drilling zone. The aquifer volume is consistently insufficient to effectively develop the wells, seat the well gravel, and remove the skin function to the same level as the other well screens. This causes the water quality to be more easily affected by solids in the water sample and inconsistent with wells that contain greater water column thickness.

Retrieval of the HydraSleeves and collection of the laboratory samples was performed no earlier than 48 hours and no later than 96 hours subsequent to HydraSleeve deployment. Clean sample containers (40-milliliter [ml] volatile organic analysis [VOA] vials) supplied by the analytical laboratory were used to contain liquid for subsequent analyses. VOA vials were overfilled and capped to reduce the potential for any headspace and to prevent the loss of volatile analytes. Sample bottles were then labeled with corresponding date, time and well identification, and placed in an ice-filled cooler and maintained at approximately 4 degrees Celsius (°C) for transportation. The groundwater samples were packed and delivered for analysis under chain-of-custody procedures to the contract laboratory.

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

Groundwater sample quality assurance/quality control (QA/QC) procedures were performed via a two-step process. Laboratory QA/QC was performed in accordance with the laboratory's standard internal QA/QC program. Following receipt of laboratory analytical data reports, Tasman performed an internal QA/QC evaluation.

3.0 GROUNDWATER SAMPLING RESULTS

This section presents the results of the fourth quarter 2017 groundwater sampling activities described above.

3.1 Fluid Level Measurements

Fluid elevation data generated from the Site-wide groundwater and LNAPL gauging event conducted on November 17, 2017 was processed and converted to piezometric elevation in ft. AMSL. The data collected from this event were then used for Site hydrogeologic evaluation purposes. This evaluation was particularly focused on delineation of the LNAPL plume present across the central region of the Site as well as the flow characteristics of groundwater and dissolved phase contaminant migration. LNAPL recovery pumps were removed prior to gauging of the product recovery wells during the fourth quarter 2017. Groundwater elevations and LNAPL thicknesses are presented in Table 2 and LNAPL thicknesses are illustrated in Figure 4. Figure 4 also illustrates LNAPL thickness across the Site for the previous two quarters.

LNAPL was detected on November 17, 2017 in seven Site monitoring wells (SB05, SB09, SB16R2, SB21, SB30, SB31 and SB37). Product thickness in these wells ranged from 0.04 ft. at SB16R2 to 3.20 ft. at SB05. LNAPL was also detected in 20 product recovery wells (PR01 through PR03, PR05 through PR12, PPR14 through PR19, and PR24 through PR26), at thicknesses ranging from 0.01 feet in PR14 to 1.97 feet in PR16. LNAPL thickness measured during the fourth quarter 2017 sampling event across the Site is illustrated in the bottom third of Figure 4.

During the November 17, 2017 gauging event, groundwater elevations ranged from a low of 5,200.02 ft. AMSL in monitoring well SB34 to a high of 5,214.84 ft. AMSL in SB40. Hydraulic analysis of the groundwater elevation data generated for the Site was used to create a groundwater potentiometric surface contour map. These contours show hydraulic gradient components flowing to the southwest. The average hydraulic gradient across the Site was calculated at approximately 0.02 feet per foot between SB40 and SB34. Groundwater potentiometric surface contours are illustrated in Figure 5. Monitoring wells marked as abandoned on Figure 2 as well as those containing less than 0.5 ft. of groundwater column were not used for contouring purposes.

3.2 Groundwater Quality Parameter Measurements

Field groundwater quality parameters (temperature, EC, pH, ORP, and DO) were measured in-situ at the Site on November 20, 2017 following groundwater sample collection. A summary of field groundwater quality parameter measurements collected by Tasman is presented below and in Table 3:

- Groundwater temperature measurements at the Site ranged from 12.94 degrees Celsius (°C) at SB25R to 14.45 °C at SB12, with an average temperature of 13.57 °C.
- Groundwater EC measurements at the Site ranged from 1.84 millisiemens per centimeter (mS/cm) at SB25R to 9.12 mS/cm at SB10, with an average EC of 3.44 mS/cm.
- Groundwater pH measurements at the Site ranged from 6.65 at SB10 to 7.29 at SB04 and SB27R, with an average pH of 6.99.
- Groundwater ORP measurements at the Site ranged from -207.00 millivolts (mV) at SB36 to 125.60 mV at SB03, with an average ORP of -64.18 mV.
- Groundwater DO measurements at the Site ranged from 0.03 milligrams per liter (mg/L) at SB10 to 4.72 mg/L at SB03, with an average DO of 0.52 mg/L.

3.3 Laboratory Analytical Results

Groundwater laboratory analytical data is presented in Table 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 detected above the COGCC Table 910-1 standard of 5 micrograms per liter (µg/L) in six (6) of the 22 Site monitoring wells sampled. Benzene concentrations associated with these five monitoring wells ranged from 5.6 µg/L in SB36 to 6,500 µg/L in SB23R. Benzene analytical results and isoconcentration contours indicating the area where benzene concentrations exceed the COGCC regulatory standard are illustrated in Figure 6.
- Toluene was detected above the COGCC Table 910-1 standard of 560 µg/L in two (2) of the 22 Site monitoring wells sampled. Toluene concentrations associated with these two wells ranged from 750 µg/L in SB08 to 24,000 µg/L in SB23R.
- Ethylbenzene was not detected above the COGCC Table 910-1 standard of 700 µg/L in any of the 22 Site monitoring wells sampled.
- Total xylenes were detected above the COGCC Table 910-1 standard of 1,400 µg/L in four (4) of the 22 Site monitoring wells sampled. The total xylenes concentration associated with these four wells ranged from 2,700 µg/L in SB07 to 18,000 µg/L in SB23R.

4.0 INTERIM CORRECTIVE ACTION

This section summarizes remediation activities conducted at the Site from November, 2013 to May, 2015. Concurrently, a full-scale remediation system was designed and constructed. Interim corrective actions were suspended between June 2015 and February 24, 2016 due to construction activities and final completion of the full-scale system.

4.1 LNAPL Recovery

Four Magnum Spill Buster automated LNAPL pumping systems were installed at the Site between November, 2013 and May, 2015. The pumps were specifically designed to remove LNAPL from the water table and may be deployed in 2" or larger diameter wells. The unit's "auto-seeking sensor" allows the pump intake to automatically follow the elevation of the oil/water interface as it fluctuates in the well.

Due to the lack of electrical service at the Site, Spill Buster pumps were operated through the use of solar power. Recovered LNAPL was pumped into 250 gallon polyethylene tanks dedicated to each pumping unit. Liquid levels within the tanks were monitored independently and automatically cease the system operation before an overflow level is reached. The tanks were all secondarily contained within high-density polyethylene containment units. Extraction and disposal of the recovered LNAPL occurred on an as-needed basis, determined by field personnel. Operation and maintenance of the LNAPL recovery operation occurred on a semi-weekly schedule.

Spill Buster systems were removed from the Site in May, 2015. A total of approximately 1,960 gallons of LNAPL were recovered between November, 2013 and May, 2015.

5.0 REMEDIATION SYSTEM OPERATION

This section summarizes data and system parameters collected from the remediation system that is currently in operation at the Site.

5.1 LNAPL Recovery

Construction activities were completed on the Site remediation system (System) on February 22, 2016. Startup and shakedown procedures were completed on the System on February 23, 2016 and all components of the system were tested, alarm conditions were activated, and system interlocks were checked. System motors and moving components were checked for correct and safe operation and remote alarm notification was verified. The LNAPL recovery component of the system was put into operation on February 24, 2016. From February 24 through February 26, 2016, the System was operated during the day to evaluate operations and shutdown at 5 pm each of the three days. The system was put into 24-hour operation on Monday, February 29, 2016.

On May 18, 2017, while completing a routine site inspection, it was discovered that the generator that powers the System was backfiring and operating intermittently. Tasman personnel shut down the generator and inspected the unit for any possible causes of the operational issues. Tasman's mechanic evaluated the generator motor and discovered that two of the cylinders had lost compression and the motor would need to be replaced. With the generator down, the System was not operated from May 18 to August 22, 2017, the date the third quarter groundwater sampling event was completed.

The two Clean Earth Technology Magnum Spill Busters installed in wells SB30 and SB31 on April 20, 2017 were operated through the fourth quarter. The spill buster in SB31 will be moved to SB05 to mitigate consistent LNAPL levels in the northern portion of the site. From September 1 to November 30, 2017, approximately 10.95 gallons of LNAPL in total were removed by both spill buster pumps.

6.0 UPCOMING SITE ACTIVITIES

Anticipated upcoming Site activities include the following:

- Optimize LNAPL recovery rates and evaluate starting the SVE component of the System;
- Maintain the System for operations during the winter months; and
- Complete the first quarter 2018 groundwater sampling event in February.

TABLES

TABLE 1
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Soil Sample ID	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	Naphthalene (mg/kg)
COGCC Soil Standard (mg/kg)		0.17	85	100	175	500		23
AS01D-35'	04/22/14	<0.0050	<0.025	<0.0050	0.027	<2.5	26	<0.025
OBS01-35'	04/21/14	<0.0050	<0.025	<0.0050	<0.015	<2.5	15	<0.025
OBS02-34'	04/24/14	<0.025	<0.12	<0.025	0.1	<12	5.4	<0.12
OBS03-38'	04/25/14	<0.0050	<0.025	0.0082	0.042	17	<4.0	<0.025
OBS04-38'	04/22/14	0.022	<0.025	0.0077	0.041	<2.5	12	<0.025
OBS05-41'	04/10/14	<0.25	<1.2	0.5	10	220	460	<1.2
OBS06-42'	04/11/14	<0.25	<1.2	0.7	15	290	370	<1.2
OBS07-43'	04/16/14	<0.0050	<0.025	<0.0050	0.018	<2.5	<4.0	<0.025
OBS08-43'	04/18/14	0.1	0.74	0.087	1.6	24	9.9	<0.12
OBS09-42'	04/16/14	<0.025	<0.12	0.03	0.69	42	34	0.17
OBS10-39'	04/21/14	<0.050	<0.25	0.11	2.7	82	42	<0.25
SB16R-45'	01/29/14	0.515	6.69	0.587	8.87	110	<50.0	<0.200
SB20R-49'	02/07/14	<0.0020	<0.0020	<0.0020	<0.0020	<0.200	<50.0	<0.0080
SB22R-48'	02/03/14	<0.0020	0.0234	<0.0020	0.113	1.30	<50.0	<0.0040
SB24R-54'	02/07/14	<0.0020	<0.0020	<0.0020	<0.0020	<0.200	<50.0	<0.0080
SB25R-53'	01/30/14	<0.0020	<0.0020	<0.0020	<0.0020	0.304	<50.0	<0.0040
SB27R-53'	01/30/14	<0.0020	<0.0020	<0.0020	<0.0020	<0.200	<50.0	<0.0040
SB28R-53'	02/07/14	<0.0020	<0.0020	<0.0020	<0.0020	<0.200	<50.0	<0.0080
SB29-43'	02/06/14	<0.0010	<0.0010	<0.0010	<0.0010	<0.100	<50.0	<0.0040
SB30-43'	01/30/14	1.00	29.9	<0.200	111	1,110	400	2.30
SB31-36'	01/30/14	0.0028	0.0250	<0.0020	0.0743	2.32	<50.0	0.0142
SB32-47'	02/05/14	1.20	35.6	6.48	88.6	1,040	819	2.03
SB33-51'	02/10/14	<0.0010	<0.0010	<0.0010	<0.0010	<0.100	<50.0	<0.0040
SB34-38'	02/08/14	<0.0010	<0.0010	<0.0010	<0.0010	<0.100	<50.0	<0.0040
SB35-50'	03/06/14	<0.0010	<0.0010	<0.0010	<0.0010	<0.100	<50.0	<0.0040
SB36-36'	03/19/14	0.0041	<0.0020	0.0219	0.565	10.4	<50.0	0.0570
SB37-40'	03/20/14	<0.100	2.00	0.496	10.1	524	203	<0.400
SB38-45'	03/21/14	0.0078	<0.0010	0.0018	<0.0010	<0.100	<50.0	<0.0040
SB39-52'	04/07/14	<0.0050	<0.025	<0.0050	<0.015	<2.5	<4.0	<0.025
SB40-47'	04/08/14	<0.0050	<0.025	<0.0050	<0.015	<2.5	<4.0	<0.025
SB41-41'	04/09/14	<0.0050	<0.025	<0.0050	<0.015	<2.5	<4.0	<0.025
SB42-48'	04/09/14	<0.0050	<0.025	<0.0050	<0.015	<2.5	<4.0	<0.025
SVE01-34'	04/24/14	<0.025	<0.12	<0.025	0.16	32	16	<0.12

Notes:

COGCC = Colorado Oil and Gas Conservation Commission

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

mg/kg = Milligrams per kilogram

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

Soil standards referenced from COGCC Table 910-1

Highlighted results exceed the COGCC Table 910-1 standard

This table presents data collected by Tasman Geosciences. Historical data is presented in Attachment A of the Form 27 Site Assessment Report (COGCC Document #2148980)

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
PR01	04/21/14	45.55	42.20	3.35	50.34	5244.87	5201.83
PR01	05/16/14	43.07	42.74	0.33	50.34	5244.87	5202.04
PR01	08/27/14	42.92	42.20	0.72	50.34	5244.87	5202.49
PR01	11/18/14	42.50	42.32	0.18	50.34	5244.87	5202.50
PR01	02/11/15	43.57	42.54	1.03	50.34	5244.87	5202.07
PR01	05/18/15	43.20	42.39	0.81	50.34	5244.87	5202.27
PR01	08/25/15	39.15	37.57	1.58	49.20	5244.87	5206.91
PR01	11/09/15	NM	NM	NM	NM	5244.87	NM
PR01	02/19/16	NM	NM	NM	NM	5244.87	NM
PR01	05/20/16	NM	NM	NM	NM	5244.87	NM
PR01	08/12/16	36.28	36.19	0.09	49.40	5244.87	5208.66
PR01	11/18/16	36.68	36.40	0.28	NM	5244.87	5208.40
PR01	02/13/17	36.40	36.13	0.27	NM	5244.87	5208.67
PR01	05/09/17	36.61	36.31	0.30	NM	5241.55	5205.17
PR01	08/22/17	35.36	35.17	0.19	NM	5241.55	5206.33
PR01	11/17/17	36.00	35.80	0.20	NM	5241.55	5205.70
PR02	04/21/14	45.25	41.40	3.85	51.10	5244.36	5201.99
PR02	05/16/14	43.48	43.42	0.06	51.10	5244.36	5200.92
PR02	08/27/14	43.63	40.71	2.92	51.10	5244.36	5202.92
PR02	11/18/14	44.26	40.39	3.87	51.10	5244.36	5203.00
PR02	02/11/15	43.39	41.78	1.61	51.10	5244.36	5202.17
PR02	05/18/15	43.08	41.45	1.63	51.10	5245.36	5203.50
PR02	08/25/15	39.00	37.33	1.67	49.69	5245.36	5207.61
PR02	11/09/15	NM	NM	NM	NM	5245.36	NM
PR02	02/19/16	NM	NM	NM	NM	5245.36	NM
PR02	05/20/16	NM	NM	NM	NM	5245.36	NM
PR02	08/12/16	36.41	36.30	0.11	46.98	5245.36	5209.03
PR02	11/18/16	36.36	36.35	0.01	NM	5245.36	5209.01
PR02	02/13/17	36.65	36.00	0.65	NM	5245.36	5209.20
PR02	05/09/17	36.23	ND	0.00	NM	5241.46	5205.23
PR02	08/22/17	35.03	35.00	0.03	NM	5241.46	5206.45
PR02	11/17/17	36.21	35.47	0.74	NM	5241.46	5205.81
PR03	11/18/14	47.86	ND	0.00	62.33	Not Surveyed	
PR03	02/11/15	48.30	ND	0.00	62.33	Not Surveyed	
PR03	05/18/15	48.19	ND	0.00	62.33	Not Surveyed	
PR03	08/25/15	44.38	ND	0.00	59.35	Not Surveyed	
PR03	11/20/15	43.82	ND	0.00	59.35	Not Surveyed	
PR03	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR03	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR03	08/12/16	44.18	43.82	0.36	59.38	Not Surveyed	
PR03	11/18/16	42.02	41.52	0.50	NM	Not Surveyed	
PR03	02/13/17	41.94	ND	0.00	NM	Not Surveyed	
PR03	05/09/17	41.56	41.52	0.04	NM	5243.64	5202.11
PR03	08/22/17	41.33	41.11	0.22	NM	5243.64	5202.48
PR03	11/17/17	40.83	40.65	0.18	NM	5243.64	5202.95
PR04	11/18/14	47.86	ND	0.00	62.84	Not Surveyed	
PR04	02/11/15	48.18	ND	0.00	62.84	Not Surveyed	
PR04	05/18/15	48.08	ND	0.00	62.84	Not Surveyed	
PR04	08/25/15	43.85	ND	0.00	59.28	Not Surveyed	
PR04	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR04	02/19/16	NR	ND	0.00	NM	Not Surveyed	
PR04	05/20/16	NR	ND	0.00	NM	Not Surveyed	
PR04	08/12/16	43.81	43.33	0.48	59.37	Not Surveyed	
PR04	11/18/16	40.98	40.95	0.03	NM	Not Surveyed	
PR04	02/13/17	41.62	41.42	0.20	NM	Not Surveyed	
PR04	05/09/17	40.99	40.97	0.02	NM	5243.34	5202.37
PR04	08/22/17	40.70	40.63	0.07	NM	5243.34	5202.69
PR04	11/17/17	40.81	ND	0.00	NM	5243.34	5202.53

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
PR05	11/18/14	47.04	ND	0.00	62.64		Not Surveyed
PR05	02/11/15	47.54	ND	0.00	62.64		Not Surveyed
PR05	05/18/15	47.50	47.33	0.17	62.64		Not Surveyed
PR05	08/25/15	43.37	43.12	0.25	59.67		Not Surveyed
PR05	11/20/15	43.40	43.26	0.14	59.67		Not Surveyed
PR05	02/19/16	NM	NM	NM	NM		Not Surveyed
PR05	05/20/16	NM	NM	NM	NM		Not Surveyed
PR05	08/12/16	40.61	40.60	0.01	57.44		Not Surveyed
PR05	11/18/16	40.77	40.18	0.59	NM		Not Surveyed
PR05	02/13/17	40.98	40.79	0.19	NM		Not Surveyed
PR05	05/09/17	40.81	40.25	0.56	NM	5243.20	5202.81
PR05	08/22/17	40.40	39.91	0.49	NM	5243.20	5203.17
PR05	11/17/17	39.71	39.65	0.06	NM	5243.20	5203.54
PR06	11/18/14	46.50	ND	0.00	62.91		Not Surveyed
PR06	02/11/15	47.06	ND	0.00	62.91		Not Surveyed
PR06	05/18/15	46.90	46.86	0.04	62.91		Not Surveyed
PR06	08/25/15	42.37	42.32	0.05	59.73		Not Surveyed
PR06	11/09/15	NM	NM	NM	NM		Not Surveyed
PR06	02/19/16	NM	NM	NM	NM		Not Surveyed
PR06	05/20/16	NM	NM	NM	NM		Not Surveyed
PR06	08/12/16	40.06	39.81	0.25	59.49		Not Surveyed
PR06	11/18/16	40.21	39.55	0.66	NM		Not Surveyed
PR06	02/13/17	40.04	ND	0.00	NM		Not Surveyed
PR06	05/09/17	39.95	39.59	0.36	NM	5242.92	5203.24
PR06	08/22/17	39.62	39.25	0.37	NM	5242.92	5203.58
PR06	11/17/17	39.34	38.82	0.52	NM	5242.92	5203.97
PR07	11/18/14	46.89	46.03	0.86	62.72		Not Surveyed
PR07	02/11/15	47.40	46.61	0.79	62.72		Not Surveyed
PR07	05/18/15	47.85	46.17	1.68	62.72		Not Surveyed
PR07	08/25/15	43.27	40.98	2.29	59.45		Not Surveyed
PR07	11/09/15	NM	NM	NM	NM		Not Surveyed
PR07	02/19/16	NM	NM	NM	NM		Not Surveyed
PR07	05/20/16	NM	NM	NM	NM		Not Surveyed
PR07	08/12/16	39.63	39.10	0.53	57.19		Not Surveyed
PR07	11/18/16	39.81	38.83	0.98	NM		Not Surveyed
PR07	02/13/17	40.18	39.11	1.07	NM		Not Surveyed
PR07	05/09/17	40.32	38.70	1.62	NM	5242.62	5203.52
PR07	08/22/17	41.08	38.15	2.93	NM	5242.62	5203.74
PR07	11/17/17	38.66	38.31	0.35	NM	5242.62	5204.22
PR08	11/18/14	48.95	45.75	3.20	62.90		Not Surveyed
PR08	02/11/15	50.33	46.11	4.22	62.90		Not Surveyed
PR08	05/18/15	52.09	45.20	6.89	62.90		Not Surveyed
PR08	08/25/15	45.95	38.67	7.28	58.92		Not Surveyed
PR08	11/09/15	NM	NM	NM	NM		Not Surveyed
PR08	02/19/16	NM	NM	NM	NM		Not Surveyed
PR08	05/20/16	NM	NM	NM	NM		Not Surveyed
PR08	08/12/16	38.61	38.47	0.14	56.76		Not Surveyed
PR08	11/18/16	38.76	38.36	0.40	NM		Not Surveyed
PR08	02/13/17	38.96	38.47	0.49	NM		Not Surveyed
PR08	05/09/17	38.42	38.39	0.03	NM	5242.35	5203.95
PR08	08/22/17	38.30	38.15	0.15	NM	5242.35	5204.16
PR08	11/17/17	37.83	37.73	0.10	NM	5242.35	5204.60
PR09	11/18/14	60.53	40.81	19.72	65.33		Not Surveyed
PR09	02/11/15	57.77	41.32	16.45	65.33		Not Surveyed
PR09	05/18/15	54.68	40.88	13.80	65.33		Not Surveyed
PR09	08/25/15	44.08	38.86	5.22	65.18		Not Surveyed
PR09	11/09/15	NM	NM	NM	NM		Not Surveyed
PR09	02/19/16	NM	NM	NM	NM		Not Surveyed

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
PR09	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR09	08/12/16	38.58	38.23	0.35	62.77	Not Surveyed	
PR09	11/18/16	38.48	38.30	0.18	NM	Not Surveyed	
PR09	02/13/17	39.36	37.93	1.43	NM	Not Surveyed	
PR09	05/09/17	39.02	38.01	1.01	NM	5242.27	5204.01
PR09	08/22/17	39.05	37.63	1.42	NM	5242.27	5204.29
PR09	11/17/17	38.14	37.35	0.79	NM	5242.27	5204.72
PR10	11/18/14	52.29	43.72	8.57	68.38	Not Surveyed	
PR10	02/11/15	52.40	42.22	10.18	68.38	Not Surveyed	
PR10	05/18/15	54.06	43.55	10.51	68.38	Not Surveyed	
PR10	08/25/15	41.19	39.08	2.11	65.07	Not Surveyed	
PR10	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR10	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR10	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR10	08/12/16	37.76	ND	0.00	62.86	Not Surveyed	
PR10	11/18/16	38.12	37.77	0.35	NM	Not Surveyed	
PR10	02/13/17	37.87	37.75	0.12	NM	Not Surveyed	
PR10	05/09/17	37.94	37.67	0.27	NM	5241.96	5204.22
PR10	08/22/17	37.69	37.33	0.36	NM	5241.96	5204.54
PR10	11/17/17	37.22	36.92	0.30	NM	5241.96	5204.97
PR11	11/18/14	51.90	45.35	6.55	67.98	Not Surveyed	
PR11	02/11/15	52.40	45.54	6.86	67.98	Not Surveyed	
PR11	05/18/15	57.40	44.53	12.87	67.98	Not Surveyed	
PR11	08/25/15	42.62	38.61	4.01	64.31	Not Surveyed	
PR11	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR11	02/19/16	NR	NR	5.45	NM	Not Surveyed	
PR11	05/20/16	NR	NR	2.35	NM	Not Surveyed	
PR11	08/12/16	38.95	37.20	1.75	62.14	Not Surveyed	
PR11	11/18/16	37.78	37.59	0.19	NM	Not Surveyed	
PR11	02/13/17	37.94	37.41	0.53	NM	Not Surveyed	
PR11	05/09/17	37.63	37.52	0.11	NM	5241.86	5204.31
PR11	08/22/17	37.40	37.16	0.24	NM	5241.86	5204.64
PR11	11/17/17	37.00	36.73	0.27	NM	5241.86	5205.06
PR12	11/18/14	50.22	ND	0.00	68.30	Not Surveyed	
PR12	02/11/15	48.99	48.92	0.07	68.30	Not Surveyed	
PR12	05/18/15	48.44	48.20	0.24	68.30	Not Surveyed	
PR12	08/25/15	40.92	40.13	0.79	64.42	Not Surveyed	
PR12	11/20/15	40.56	39.75	1.31	64.42	Not Surveyed	
PR12	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR12	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR12	08/12/16	37.84	37.79	0.05	62.28	Not Surveyed	
PR12	11/18/16	38.07	37.59	0.48	NM	Not Surveyed	
PR12	02/13/17	38.29	37.45	0.84	NM	Not Surveyed	
PR12	05/09/17	37.64	ND	0.00	NM	5241.53	5203.89
PR12	08/22/17	37.62	37.20	0.42	NM	5241.53	5204.23
PR12	11/17/17	37.47	36.72	0.75	NM	5241.53	5204.62
PR13	11/18/14	48.77	ND	0.00	67.96	Not Surveyed	
PR13	02/11/15	49.08	ND	0.00	67.96	Not Surveyed	
PR13	05/18/15	48.84	ND	0.00	67.96	Not Surveyed	
PR13	08/25/15	44.39	44.34	0.05	64.08	Not Surveyed	
PR13	11/20/15	43.80	43.78	0.02	64.08	Not Surveyed	
PR13	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR13	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR13	08/12/16	41.64	41.38	0.26	61.89	Not Surveyed	
PR13	11/18/16	41.80	41.42	0.38	NM	Not Surveyed	
PR13	02/13/17	41.76	ND	0.00	NM	Not Surveyed	
PR13	05/09/17	41.24	ND	0.00	NM	5243.39	5202.15
PR13	08/22/17	48.51	48.50	0.01	NM	5243.39	5194.89

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
PR13	11/17/17	40.49	ND	0.00	NM	5243.39	5202.90
PR14	11/18/14	48.46	ND	0.00	67.60	Not Surveyed	
PR14	02/11/15	48.58	ND	0.00	67.60	Not Surveyed	
PR14	05/18/15	48.25	ND	0.00	67.60	Not Surveyed	
PR14	08/25/15	43.88	ND	0.00	64.37	Not Surveyed	
PR14	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR14	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR14	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR14	08/12/16	41.64	40.70	0.94	62.15	Not Surveyed	
PR14	11/18/16	41.03	ND	0.00	NM	Not Surveyed	
PR14	02/13/17	41.68	41.04	0.64	NM	Not Surveyed	
PR14	05/09/17	41.01	40.69	0.32	NM	5243.15	5202.38
PR14	08/22/17	41.20	40.10	1.10	NM	5243.15	5202.78
PR14	11/17/17	40.02	40.01	0.01	NM	5243.15	5203.14
PR15	11/18/14	48.92	48.74	0.18	68.10	Not Surveyed	
PR15	02/11/15	49.08	48.42	0.66	68.10	Not Surveyed	
PR15	05/18/15	49.62	47.75	1.87	68.10	Not Surveyed	
PR15	08/25/15	45.91	42.92	2.99	64.77	Not Surveyed	
PR15	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR15	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR15	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR15	08/12/16	41.54	40.40	1.14	62.54	Not Surveyed	
PR15	11/18/16	42.13	40.14	1.99	NM	Not Surveyed	
PR15	02/13/17	41.16	40.79	0.37	NM	Not Surveyed	
PR15	05/09/17	41.13	40.20	0.93	NM	5243.05	5202.62
PR15	08/22/17	41.24	39.75	1.49	NM	5243.05	5202.93
PR15	11/17/17	39.84	39.77	0.07	NM	5243.05	5203.26
PR16	11/18/14	47.70	47.06	0.64	68.40	Not Surveyed	
PR16	02/11/15	48.84	46.79	2.05	68.40	Not Surveyed	
PR16	05/18/15	51.58	45.53	6.05	68.40	Not Surveyed	
PR16	08/25/15	50.02	40.81	9.21	65.26	Not Surveyed	
PR16	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR16	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR16	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR16	08/12/16	40.83	39.85	0.98	63.11	Not Surveyed	
PR16	11/18/16	43.87	38.69	5.18	NM	Not Surveyed	
PR16	02/13/17	40.64	40.14	0.50	NM	Not Surveyed	
PR16	05/09/17	41.58	39.40	2.18	NM	5242.81	5202.87
PR16	08/22/17	41.80	38.60	3.20	NM	5242.81	5203.41
PR16	11/17/17	40.81	38.84	1.97	NM	5242.81	5203.48
PR17	11/18/14	47.62	47.51	0.11	68.13	Not Surveyed	
PR17	02/11/15	47.69	47.44	0.25	68.13	Not Surveyed	
PR17	05/18/15	47.68	47.06	0.62	68.13	Not Surveyed	
PR17	08/25/15	43.33	42.55	0.78	65.24	Not Surveyed	
PR17	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR17	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR17	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR17	08/12/16	39.95	39.90	0.05	63.05	Not Surveyed	
PR17	11/18/16	39.74	39.63	0.11	NM	Not Surveyed	
PR17	02/13/17	40.01	39.85	0.16	NM	Not Surveyed	
PR17	05/09/17	39.80	39.61	0.19	NM	5242.70	5203.04
PR17	08/22/17	39.30	39.22	0.08	NM	5242.70	5203.46
PR17	11/17/17	38.94	38.90	0.04	NM	5242.70	5203.79
PR18	11/18/14	49.95	45.97	3.98	67.95	Not Surveyed	
PR18	02/11/15	54.62	45.95	8.67	67.95	Not Surveyed	
PR18	05/18/15	58.44	44.91	13.53	67.95	Not Surveyed	
PR18	08/25/15	50.27	40.50	9.77	65.05	Not Surveyed	
PR18	11/09/15	NM	NM	NM	NM	Not Surveyed	

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
PR18	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR18	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR18	08/12/16	49.20	37.31	11.89	62.88	Not Surveyed	
PR18	11/18/16	44.79	37.70	7.09	NM	Not Surveyed	
PR18	02/13/17	42.20	38.47	3.73	NM	Not Surveyed	
PR18	05/09/17	42.84	38.08	4.76	NM	5242.35	5203.08
PR18	08/22/17	42.70	37.55	5.15	NM	5242.35	5203.51
PR18	11/17/17	38.99	38.11	0.88	NM	5242.35	5204.02
PR19	11/18/14	51.35	ND	0.00	67.98	Not Surveyed	
PR19	02/11/15	49.41	ND	0.00	67.98	Not Surveyed	
PR19	05/18/15	48.71	ND	0.00	67.98	Not Surveyed	
PR19	08/25/15	43.27	ND	0.00	64.48	Not Surveyed	
PR19	11/20/15	44.04	41.98	2.06	64.48	Not Surveyed	
PR19	02/19/16	NM	ND	0.00	NM	Not Surveyed	
PR19	05/20/16	NM	ND	0.00	NM	Not Surveyed	
PR19	08/12/16	44.98	39.59	5.39	62.32	Not Surveyed	
PR19	11/18/16	42.08	38.88	3.20	NM	Not Surveyed	
PR19	02/13/17	40.07	39.67	0.40	NM	Not Surveyed	
PR19	05/09/17	34.87	34.43	0.44	NM	5249.37	5214.83
PR19	08/22/17	40.30	38.75	1.55	NM	5249.37	5210.23
PR19	11/17/17	39.76	38.35	1.41	NM	5242.17	5203.47
PR20	11/18/14	52.50	ND	0.00	67.60	Not Surveyed	
PR20	02/11/15	52.78	ND	0.00	67.60	Not Surveyed	
PR20	05/18/15	52.71	ND	0.00	67.60	Not Surveyed	
PR20	08/25/15	49.03	ND	0.00	64.46	Not Surveyed	
PR20	11/20/15	48.99	ND	0.00	64.46	Not Surveyed	
PR20	02/19/16	NM	ND	0.00	NM	Not Surveyed	
PR20	05/20/16	NM	ND	0.00	NM	Not Surveyed	
PR20	08/12/16	46.49	ND	0.00	62.28	Not Surveyed	
PR20	11/18/16	42.64	ND	0.00	NM	Not Surveyed	
PR20	02/13/17	46.25	ND	0.00	NM	Not Surveyed	
PR20	05/09/17	NM	NM	NM	NM	5244.86	NM
PR20	08/22/17	45.90	ND	0.00	NM	5244.86	5198.96
PR20	11/17/17	45.51	ND	0.00	NM	5244.86	5199.35
PR21	11/18/14	52.39	ND	0.00	67.99	Not Surveyed	
PR21	02/11/15	52.59	ND	0.00	67.99	Not Surveyed	
PR21	05/18/15	52.52	ND	0.00	67.99	Not Surveyed	
PR21	08/25/15	48.70	ND	0.00	64.50	Not Surveyed	
PR21	11/20/15	48.56	ND	0.00	64.50	Not Surveyed	
PR21	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR21	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR21	08/12/16	46.10	ND	0.00	62.33	Not Surveyed	
PR21	11/18/16	46.55	46.54	0.01	NM	Not Surveyed	
PR21	02/13/17	45.88	ND	0.00	NM	Not Surveyed	
PR21	05/09/17	NM	NM	NM	NM	5244.58	NM
PR21	08/22/17	45.45	ND	0.00	NM	5244.58	5199.13
PR21	11/17/17	45.07	ND	0.00	NM	5244.58	5199.51
PR22	11/18/14	52.20	ND	0.00	67.62	Not Surveyed	
PR22	02/11/15	52.15	ND	0.00	67.62	Not Surveyed	
PR22	05/18/15	52.10	ND	0.00	67.92	Not Surveyed	
PR22	08/25/15	48.44	ND	0.00	64.44	Not Surveyed	
PR22	11/20/15	48.26	ND	0.00	64.44	Not Surveyed	
PR22	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR22	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR22	08/12/16	45.71	ND	0.00	62.29	Not Surveyed	
PR22	11/18/16	45.69	ND	0.00	NM	Not Surveyed	
PR22	02/13/17	45.50	ND	0.00	NM	Not Surveyed	
PR22	05/09/17	NM	NM	NM	NM	5244.22	NM

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
PR22	08/22/17	44.98	ND	0.00	NM	5244.22	5199.24
PR22	11/17/17	44.61	ND	0.00	NM	5244.22	5199.61
PR23	11/18/14	52.52	ND	0.00	68.20	Not Surveyed	
PR23	02/11/15	52.18	ND	0.00	68.20	Not Surveyed	
PR23	05/18/15	52.09	ND	0.00	68.20	Not Surveyed	
PR23	08/25/15	48.16	ND	0.00	64.39	Not Surveyed	
PR23	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR23	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR23	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR23	08/12/16	45.21	ND	0.00	62.17	Not Surveyed	
PR23	11/18/16	45.29	ND	0.00	NM	Not Surveyed	
PR23	02/13/17	45.00	ND	0.00	NM	Not Surveyed	
PR23	05/09/17	NM	NM	NM	NM	5243.92	NM
PR23	08/22/17	44.40	ND	0.00	NM	5243.92	5199.52
PR23	11/17/17	44.00	ND	0.00	NM	5243.92	5199.92
PR24	11/18/14	51.71	ND	0.00	68.12	Not Surveyed	
PR24	02/11/15	51.82	51.65	0.17	68.12	Not Surveyed	
PR24	05/18/15	52.04	51.44	0.60	68.12	Not Surveyed	
PR24	08/25/15	48.29	47.56	0.73	64.30	Not Surveyed	
PR24	11/09/15	NM	NM	NM	NM	Not Surveyed	
PR24	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR24	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR24	08/12/16	44.80	44.66	0.14	62.09	Not Surveyed	
PR24	11/18/16	44.83	ND	0.00	NM	Not Surveyed	
PR24	02/13/17	44.55	44.50	0.05	NM	Not Surveyed	
PR24	05/09/17	44.18	44.10	0.08	NM	5243.46	5199.34
PR24	08/22/17	43.90	43.85	0.05	NM	5243.46	5199.60
PR24	11/17/17	44.58	44.54	0.04	NM	5243.46	5198.91
PR25	11/18/14	66.20	ND	0.00	68.15	Not Surveyed	
PR25	02/11/15	51.75	51.28	0.47	68.15	Not Surveyed	
PR25	05/18/15	52.46	50.94	1.52	68.15	Not Surveyed	
PR25	08/25/15	49.24	46.78	2.46	64.39	Not Surveyed	
PR25	11/20/15	50.03	26.24	23.79	64.39	Not Surveyed	
PR25	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR25	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR25	08/12/16	50.80	42.86	7.94	62.27	Not Surveyed	
PR25	11/18/16	48.93	42.76	6.17	NM	Not Surveyed	
PR25	02/13/17	44.53	44.09	0.44	NM	Not Surveyed	
PR25	05/09/17	45.93	43.11	2.82	NM	5243.21	5199.40
PR25	08/22/17	45.90	42.80	3.10	NM	5243.21	5199.64
PR25	11/17/17	43.43	43.10	0.33	NM	5243.21	5200.03
PR26	11/18/14	51.21	51.19	0.02	67.90	Not Surveyed	
PR26	02/11/15	51.46	51.19	0.27	67.90	Not Surveyed	
PR26	05/18/15	51.64	50.95	0.69	67.90	Not Surveyed	
PR26	08/25/15	47.68	46.78	0.90	63.98	Not Surveyed	
PR26	11/20/15	47.60	46.50	1.10	63.98	Not Surveyed	
PR26	02/19/16	NM	NM	NM	NM	Not Surveyed	
PR26	05/20/16	NM	NM	NM	NM	Not Surveyed	
PR26	08/12/16	46.27	43.13	3.14	61.89	Not Surveyed	
PR26	11/18/16	43.96	43.62	0.34	NM	Not Surveyed	
PR26	02/13/17	43.65	43.24	0.41	NM	Not Surveyed	
PR26	05/09/17	44.32	42.59	1.73	NM	5242.84	5199.82
PR26	08/22/17	44.50	42.19	2.31	NM	5242.84	5200.07
PR26	11/17/17	42.67	42.39	0.28	NM	5242.84	5200.38
SB01	02/21/14	41.68	ND	0.00	60.35	5245.29	5203.61
SB01	05/16/14	41.13	ND	0.00	60.35	5245.29	5204.16
SB01	05/19/14	Removed From Groundwater Monitoring Program - Submerged Well Screen					
SB02	02/21/14	39.80	ND	0.00	59.95	5243.53	5203.73

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB02	05/16/14	38.97	ND	0.00	59.95	5243.53	5204.56
SB02	05/19/14	Removed From Groundwater Monitoring Program - Submerged Well Screen					
SB03	02/21/14	42.01	ND	0.00	51.38	5245.57	5203.56
SB03	05/16/14	41.41	ND	0.00	51.38	5245.57	5204.16
SB03	08/27/14	41.82	ND	0.00	51.38	5245.57	5203.75
SB03	11/18/14	41.56	ND	0.00	51.38	5245.57	5204.01
SB03	02/11/15	41.82	ND	0.00	51.38	5245.57	5203.75
SB03	05/18/15	41.72	ND	0.00	51.38	5245.57	5203.85
SB03	08/25/15	35.39	ND	0.00	45.81	5241.17	5205.78
SB03	11/20/15	34.49	ND	0.00	45.81	5242.17	5207.68
SB03	02/19/16	34.26	ND	0.00	45.79	5242.17	5207.91
SB03	05/20/16	33.57	ND	0.00	45.79	5242.17	5208.60
SB03	08/12/16	32.57	ND	0.00	45.80	5242.17	5209.60
SB03	11/18/16	31.76	ND	0.00	45.87	5242.17	5210.41
SB03	02/13/17	31.23	ND	0.00	45.81	5242.17	5210.94
SB03	05/09/17	30.83	ND	0.00	45.83	5242.17	5211.34
SB03	08/22/17	30.61	ND	0.00	45.85	5242.17	5211.56
SB03	11/17/17	29.39	ND	0.00	45.83	5242.17	5212.78
SB04	02/21/14	39.24	ND	0.00	50.35	5242.85	5203.61
SB04	05/16/14	38.37	ND	0.00	50.35	5242.85	5204.48
SB04	08/27/14	38.97	ND	0.00	50.35	5242.85	5203.88
SB04	11/18/14	38.72	ND	0.00	50.35	5242.85	5204.13
SB04	02/11/15	39.01	ND	0.00	50.35	5242.85	5203.84
SB04	05/18/15	38.87	ND	0.00	50.35	5242.85	5203.98
SB04	08/25/15	34.70	ND	0.00	48.67	5241.29	5206.59
SB04	11/20/15	33.97	ND	0.00	48.67	5242.29	5208.32
SB04	02/19/16	33.80	ND	0.00	48.69	5242.29	5208.49
SB04	05/20/16	36.50	ND	0.00	52.04	5244.63	5208.13
SB04	08/12/16	35.66	ND	0.00	52.02	5244.63	5208.97
SB04	11/18/16	35.01	ND	0.00	52.08	5244.63	5209.62
SB04	02/13/17	34.50	ND	0.00	52.02	5244.63	5210.13
SB04	05/09/17	34.17	ND	0.00	52.03	5244.63	5210.46
SB04	08/22/17	33.96	ND	0.00	52.01	5244.63	5210.67
SB04	11/17/17	32.54	ND	0.00	52.01	5244.63	5212.09
SB05	02/21/14	45.35	41.10	4.25	49.10	5244.11	5201.94
SB05	05/16/14	42.19	41.92	0.27	49.10	5244.11	5202.12
SB05	08/27/14	42.45	41.10	1.35	49.10	5244.11	5202.67
SB05	11/18/14	41.61	41.27	0.34	49.10	5244.11	5202.75
SB05	02/11/15	42.92	41.58	1.34	49.10	5244.11	5202.19
SB05	05/18/15	42.36	41.38	0.98	49.10	5243.26	5201.64
SB05	08/25/15	38.02	36.99	1.03	47.39	5243.26	5206.01
SB05	11/20/15	38.12	36.78	1.34	47.39	5244.26	5207.15
SB05	02/19/16	36.70	ND	0.00 ¹	47.39	5244.26	5207.56
SB05	05/20/16	43.95	41.63	2.32	51.85	5247.71	5205.50
SB05	08/12/16	44.64	41.84	2.80	51.89	5247.71	5205.17
SB05	11/18/16	44.93	41.90	3.03	NM	5247.71	5205.05
SB05	02/13/17	44.70	41.66	3.04	NM	5247.71	5205.29
SB05	05/09/17	44.87	41.64	3.23	51.89	5247.71	5205.26
SB05	08/22/17	45.07	41.66	3.41	NM	5247.71	5205.20
SB05	11/17/17	44.40	41.20	3.20	NM	5247.71	5205.71
SB06	02/21/14	39.86	ND	0.00	49.52	5243.55	5203.69
SB06	05/16/14	38.91	ND	0.00	49.52	5243.55	5204.64
SB06	08/27/14	39.55	ND	0.00	49.52	5243.55	5204.00
SB06	11/18/14	39.32	ND	0.00	49.52	5243.55	5204.23
SB06	02/11/15	39.59	ND	0.00	49.52	5243.55	5203.96
SB06	05/18/15	39.49	ND	0.00	49.52	5243.55	5204.06
SB06	08/25/15	35.21	ND	0.00	47.61	5241.80	5206.59
SB06	11/20/15	34.44	ND	0.00	47.61	5242.80	5208.36

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB06	02/19/16	34.20	ND	0.00	47.60	5242.80	5208.60
SB06	05/20/16	37.08	ND	0.00	50.98	5245.23	5208.15
SB06	08/12/16	36.38	ND	0.00	50.98	5245.23	5208.85
SB06	11/18/16	35.73	ND	0.00	51.10	5245.23	5209.50
SB06	02/13/17	35.33	ND	0.00	50.96	5245.23	5209.90
SB06	05/09/17	34.95	ND	0.00	50.96	5245.23	5210.28
SB06	08/22/17	34.82	ND	0.00	50.97	5245.23	5210.41
SB06	11/17/17	33.75	ND	0.00	50.89	5245.23	5211.48
SB07	02/21/14	42.73	ND	0.00	50.40	5245.62	5202.89
SB07	05/16/14	42.70	ND	0.00	50.40	5245.62	5202.92
SB07	08/27/14	42.55	ND	0.00	50.40	5245.62	5203.07
SB07	11/18/14	42.34	ND	0.00	50.40	5245.62	5203.28
SB07	02/11/15	42.45	ND	0.00	50.40	5245.62	5203.17
SB07	05/18/15	39.70	ND	0.00	47.82	5243.18	5203.48
SB07	08/25/15	38.25	ND	0.00	47.84	5243.18	5204.93
SB07	11/20/15	33.08	ND	0.00	47.84	5244.18	5211.10
SB07	02/19/16	34.78	ND	0.00	47.84	5244.18	5209.40
SB07	05/20/16	40.30	ND	0.00	51.56	5246.91	5206.61
SB07	08/12/16	40.37	ND	0.00	51.56	5246.91	5206.54
SB07	11/18/16	40.17	ND	0.00	51.63	5246.91	5206.74
SB07	02/13/17	39.84	ND	0.00	51.56	5246.91	5207.07
SB07	05/09/17	39.60	ND	0.00	51.56	5246.91	5207.31
SB07	08/22/17	39.40	ND	0.00	51.56	5246.91	5207.51
SB07	11/17/17	39.05	ND	0.00	51.56	5246.91	5207.86
SB08	02/21/14	44.46	ND	0.00	50.41	5246.57	5202.11
SB08	05/16/14	44.54	ND	0.00	50.41	5246.57	5202.03
SB08	08/27/14	44.30	ND	0.00	50.41	5246.57	5202.27
SB08	11/18/14	45.16	44.88	0.28	50.41	5246.57	5201.62
SB08	02/11/15	45.64	45.51	0.13	50.41	5246.57	5201.03
SB08	05/18/15	45.09	ND	0.00	50.41	5246.57	5201.48
SB08	08/25/15	40.63	ND	0.00	48.32	5244.80	5204.17
SB08	11/20/15	39.04	39.01	0.03	48.32	5245.80	5206.78
SB08	02/19/16	35.17	ND	0.00 ¹	48.32	5245.80	5210.63
SB08	05/20/16	42.88	ND	0.00	51.08	5247.67	5204.79
SB08	08/12/16	43.20	ND	0.00	51.00	5247.67	5204.47
SB08	11/18/16	42.91	ND	0.00	51.26	5247.67	5204.76
SB08	02/13/17	42.75	ND	0.00	51.08	5247.67	5204.92
SB08	05/09/17	42.72	ND	0.00	51.10	5247.67	5204.95
SB08	08/22/17	42.44	ND	0.00	51.09	5247.67	5205.23
SB08	11/17/17	42.10	ND	0.00	51.09	5247.67	5205.57
SB09	02/21/14	45.80	43.00	2.80	50.55	5245.53	5201.83
SB09	05/16/14	45.37	43.81	1.56	50.55	5245.53	5201.33
SB09	08/27/14	42.67	42.12	0.55	49.79	5244.86	5202.60
SB09	11/18/14	42.19	41.37	0.82	50.55	5244.86	5203.29
SB09	02/11/15	43.07	41.97	1.10	50.55	5244.86	5202.62
SB09	05/18/15	42.30	41.23	1.07	50.55	5244.86	5203.36
SB09	08/25/15	39.98	38.35	1.63	47.44	5243.49	5204.73
SB09	11/20/15	40.11	38.36	1.75	47.44	5244.49	5205.69
SB09	02/19/16	38.17	NM	NM ¹	47.44	5244.49	5206.32
SB09	05/20/16	43.94	42.99	0.95	52.15	5248.20	5204.98
SB09	08/12/16	44.39	43.30	1.09	52.19	5248.20	5204.63
SB09	11/18/16	44.49	43.35	1.14	NM	5248.20	5204.57
SB09	02/13/17	44.32	43.29	1.03	NM	5248.20	5204.66
SB09	05/09/17	44.23	43.19	1.04	52.15	5248.20	5204.75
SB09	08/22/17	44.32	43.19	1.13	NM	5248.20	5204.73
SB09	11/17/17	43.51	42.65	0.86	NM	5248.20	5205.34
SB10	02/21/14	41.71	ND	0.00	50.49	5245.24	5203.53
SB10	05/16/14	41.17	ND	0.00	50.49	5245.24	5204.07

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB10	08/27/14	41.23	41.22	0.01	50.49	5245.24	5204.02
SB10	11/18/14	40.92	ND	0.00	50.49	5245.24	5204.32
SB10	02/11/15	41.18	ND	0.00	50.49	5245.24	5204.06
SB10	05/18/15	39.03	ND	0.00	48.35	5243.28	5204.25
SB10	08/25/15	37.39	ND	0.00	48.35	5243.28	5205.89
SB10	11/20/15	36.25	ND	0.00	48.35	5244.28	5208.03
SB10	02/19/16	35.65	ND	0.00 ¹	48.35	5244.28	5208.63
SB10	05/20/16	40.29	ND	0.00	51.89	5247.80	5207.51
SB10	08/12/16	40.19	ND	0.00	52.90	5247.80	5207.61
SB10	11/18/16	39.82	ND	0.00	52.96	5247.80	5207.98
SB10	02/13/17	39.56	ND	0.00	52.90	5247.80	5208.24
SB10	05/09/17	39.09	ND	0.00	52.92	5247.81	5208.72
SB10	08/22/17	38.94	ND	0.00	52.91	5247.81	5208.87
SB10	11/17/17	38.05	ND	0.00	52.90	5247.81	5209.76
SB11	02/21/14	40.03	ND	0.00	50.35	5244.09	5204.06
SB11	05/16/14	38.96	ND	0.00	50.35	5244.09	5205.13
SB11	08/27/14	39.70	ND	0.00	50.35	5244.09	5204.39
SB11	11/18/14	39.41	ND	0.00	50.35	5244.09	5204.68
SB11	02/11/15	39.65	ND	0.00	50.35	5244.09	5204.44
SB11	05/18/15	39.29	ND	0.00	50.35	5244.09	5204.80
SB11	08/25/15	35.30	ND	0.00	48.11	5241.88	5206.58
SB11	11/20/15	34.59	ND	0.00	48.11	5242.88	5208.29
SB11	02/19/16	34.32	ND	0.00	48.11	5242.88	5208.56
SB11	05/20/16	37.15	ND	0.00	51.54	5245.20	5208.05
SB11	08/12/16	36.65	ND	0.00	51.44	5245.20	5208.55
SB11	11/18/16	36.05	ND	0.00	51.51	5245.20	5209.15
SB11	02/13/17	35.69	ND	0.00	51.44	5245.20	5209.51
SB11	05/09/17	35.29	ND	0.00	51.46	5245.21	5209.92
SB11	08/22/17	35.19	ND	0.00	51.44	5245.21	5210.02
SB11	11/17/17	34.16	ND	0.00	51.45	5245.21	5211.05
SB12	02/21/14	39.44	ND	0.00	50.50	5243.18	5203.74
SB12	05/16/14	39.31	ND	0.00	50.50	5243.18	5203.87
SB12	08/27/14	39.30	ND	0.00	50.50	5243.18	5203.88
SB12	11/18/14	39.29	ND	0.00	50.50	5243.18	5203.89
SB12	02/11/15	39.14	ND	0.00	50.50	5243.18	5204.04
SB12	05/18/15	38.93	ND	0.00	50.50	5243.18	5204.25
SB12	08/25/15	36.31	ND	0.00	48.60	5241.41	5205.10
SB12	11/20/15	35.10	ND	0.00	48.60	5242.41	5207.31
SB12	02/19/16	34.22	ND	0.00	48.61	5242.41	5208.19
SB12	05/20/16	33.74	ND	0.00	48.61	5242.41	5208.67
SB12	08/12/16	32.90	ND	0.00	48.62	5242.41	5209.51
SB12	11/18/16	31.68	ND	0.00	48.70	5242.41	5210.73
SB12	02/13/17	30.93	ND	0.00	48.63	5242.41	5211.48
SB12	05/09/17	30.51	ND	0.00	48.62	5242.41	5211.90
SB12	08/22/17	34.40	ND	0.00	48.63	5242.41	5208.01
SB12	11/17/17	29.54	ND	0.00	48.64	5242.41	5212.87
SB13	02/21/14	42.93	ND	0.00	50.48	5244.13	5201.20
SB13	05/16/14	42.43	ND	0.00	50.48	5244.13	5201.70
SB13	08/27/14	41.30	ND	0.00	50.48	5244.13	5202.83
SB13	11/18/14	40.79	ND	0.00	50.48	5244.13	5203.34
SB13	02/11/15	40.65	ND	0.00	50.48	5244.13	5203.48
SB13	05/18/15	40.26	ND	0.00	50.48	5244.13	5203.87
SB13	08/25/15	36.95	ND	0.00	48.39	5242.18	5205.23
SB13	11/20/15	34.54	ND	0.00	48.39	5243.18	5208.64
SB13	02/19/16	33.83	ND	0.00	48.07	5243.18	5209.35
SB13	05/20/16	37.35	ND	0.00	51.69	5245.47	5208.12
SB13	08/12/16	36.46	ND	0.00	51.69	5245.47	5209.01
SB13	11/18/16	35.98	ND	0.00	51.74	5245.47	5209.49

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB13	02/13/17	35.74	ND	0.00	51.68	5245.47	5209.73
SB13	05/09/17	35.45	ND	0.00	51.69	5245.47	5210.02
SB13	08/22/17	35.29	ND	0.00	51.68	5245.47	5210.18
SB13	11/17/17	34.64	ND	0.00	49.99	5245.47	5210.83
SB14	02/21/14	41.04	ND	0.00	50.39	5244.82	5203.78
SB14	05/16/14	40.36	ND	0.00	50.39	5244.82	5204.46
SB14	08/27/14	40.67	ND	0.00	50.39	5244.82	5204.15
SB14	11/18/14	40.36	ND	0.00	50.39	5244.82	5204.46
SB14	02/11/15	40.64	ND	0.00	50.39	5244.82	5204.18
SB14	05/18/15	40.52	ND	0.00	50.39	5244.82	5204.30
SB14	08/25/15	36.86	ND	0.00	48.45	5243.02	5206.16
SB14	11/20/15	35.82	ND	0.00	48.45	5244.02	5208.20
SB14	02/19/16	35.34	ND	0.00	48.45	5244.02	5208.68
SB14	05/20/16	38.42	ND	0.00	51.94	5246.22	5207.80
SB14	08/12/16	38.23	ND	0.00	51.64	5246.22	5207.99
SB14	11/18/16	37.77	ND	0.00	51.69	5246.22	5208.45
SB14	02/13/17	37.41	ND	0.00	51.63	5246.22	5208.81
SB14	05/09/17	37.02	ND	0.00	51.65	5246.22	5209.20
SB14	08/22/17	36.93	ND	0.00	51.65	5246.22	5209.29
SB14	11/17/17	35.99	ND	0.00	51.65	5246.22	5210.23
SB15	02/21/14	40.67	ND	0.00	45.40	5244.25	5203.58
SB15	05/16/14	40.39	ND	0.00	45.40	5244.25	5203.86
SB15	08/27/14	40.38	ND	0.00	45.40	5244.25	5203.87
SB15	11/18/14	40.10	ND	0.00	45.40	5244.25	5204.15
SB15	02/11/15	40.23	ND	0.00	45.40	5244.25	5204.02
SB15	05/18/15	40.10	ND	0.00	45.10	5244.37	5204.27
SB15	08/25/15	38.88	ND	0.00	45.13	5244.37	5205.49
SB15	11/20/15	37.37	ND	0.00	45.13	5245.37	5208.00
SB15	02/19/16	37.15	ND	0.00	45.13	5245.37	5208.22
SB15	05/20/16	40.91	ND	0.00	48.72	5247.97	5207.06
SB15	08/12/16	40.86	ND	0.00	48.37	5247.97	5207.11
SB15	11/18/16	40.38	ND	0.00	48.77	5247.97	5207.59
SB15	02/13/17	40.04	ND	0.00	48.45	5247.97	5207.93
SB15	05/09/17	39.56	ND	0.00	48.41	5247.97	5208.41
SB15	08/22/17	39.28	ND	0.00	48.37	5247.97	5208.69
SB15	11/17/17	38.32	ND	0.00	48.38	5247.97	5209.65
SB16	02/21/14	42.53	ND	0.00	42.78	5247.56	DRY
SB16	05/16/14	42.53	ND	0.00	42.78	5247.56	DRY
SB16	08/27/14	42.54	ND	0.00	42.78	5247.56	DRY
SB16	11/18/14	42.56	ND	0.00	42.78	5247.56	DRY
SB16	02/11/15	42.55	ND	0.00	42.78	5247.56	DRY
SB16	05/18/15	42.50	ND	0.00	42.78	5247.56	DRY
SB16	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB16R	02/21/14	46.69	46.16	0.53	63.30	5247.81	5201.51
SB16R	05/16/14	46.59	ND	0.00	63.30	5247.81	5201.22
SB16R	08/27/14	45.94	45.85	0.09	63.30	5247.81	5201.93
SB16R	11/18/14	46.61	46.58	0.03	63.30	5247.81	5201.22
SB16R	02/11/15	46.85	46.48	0.37	63.30	5247.81	5201.23
SB16R	05/18/15	44.09	43.95	0.14	63.30	5245.56	5201.57
SB16R	08/25/15	42.65	41.29	1.36	60.35	5245.56	5203.93
SB16R	11/20/15	42.82	42.04	0.78	60.35	5246.56	5204.32
SB16R	02/19/16	42.81	41.57	1.24	60.35	5246.56	5204.68
SB16R	05/20/16	ND ²	45.19	> 0.51	45.70	5249.19	DRY ²
SB16R	08/12/16	ND ²	45.29	> 0.66	45.95	5249.19	DRY ²
SB16R	11/18/16	ND ²	45.14	>1.28	46.42	5249.19	DRY ²
SB16R	02/13/17	ND ²	45.34	> 1.42	46.76	5249.19	DRY ²
SB16R	05/09/17	Removed From Groundwater Monitoring Program - Well Casing Damaged					
SB16R2	08/22/17	45.23	ND	0.00	62.42	Not Surveyed	

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB16R2	11/17/17	44.69	44.65	0.04	NM	5248.93	5204.27
SB17	02/21/14	43.97	ND	0.00	50.40	5244.55	5200.58
SB17	05/16/14	42.99	ND	0.00	50.40	5244.55	5201.56
SB17	08/27/14	41.19	ND	0.00	50.40	5244.55	5203.36
SB17	11/18/14	40.81	ND	0.00	50.40	5244.55	5203.74
SB17	02/11/15	40.65	ND	0.00	50.40	5244.55	5203.90
SB17	05/18/15	40.40	ND	0.00	50.40	5244.55	5204.15
SB17	08/25/15	38.37	ND	0.00	48.44	5242.72	5204.35
SB17	11/20/15	38.22	ND	0.00	48.44	5243.72	5205.50
SB17	02/19/16	37.59	ND	0.00	48.44	5243.72	5206.13
SB17	05/20/16	36.77	ND	0.00	48.44	5243.72	5206.95
SB17	08/12/16	36.33	ND	0.00	48.43	5243.72	5207.39
SB17	11/18/16	35.52	ND	0.00	48.50	5243.72	5208.20
SB17	02/13/17	34.42	ND	0.00	48.43	5243.72	5209.30
SB17	05/09/17	33.59	ND	0.00	48.42	5243.72	5210.13
SB17	08/22/17	32.97	ND	0.00	48.44	5243.72	5210.75
SB17	11/17/17	32.15	ND	0.00	48.44	5243.72	5211.57
SB18	02/21/14	40.95	ND	0.00	50.38	5245.80	5204.85
SB18	05/16/14	40.98	ND	0.00	50.38	5245.80	5204.82
SB18	08/27/14	41.22	ND	0.00	50.38	5245.80	5204.58
SB18	11/18/14	41.22	ND	0.00	50.38	5245.80	5204.58
SB18	02/11/15	41.12	ND	0.00	50.38	5245.80	5204.68
SB18	05/18/15	37.38	ND	0.00	48.18	5243.72	5206.34
SB18	08/25/15	38.55	ND	0.00	48.19	5243.72	5205.17
SB18	11/20/15	38.14	ND	0.00	48.19	5244.72	5206.58
SB18	02/19/16	37.44	ND	0.00	48.09	5244.72	5207.28
SB18	05/20/16	36.69	ND	0.00	48.09	5244.72	5208.03
SB18	08/12/16	36.51	ND	0.00	48.22	5244.72	5208.21
SB18	11/18/16	35.87	ND	0.00	48.23	5244.72	5208.85
SB18	02/13/17	34.94	ND	0.00	48.18	5244.72	5209.78
SB18	05/09/17	34.12	ND	0.00	48.20	5244.72	5210.60
SB18	08/22/17	33.60	ND	0.00	48.20	5244.72	5211.12
SB18	11/17/17	32.77	ND	0.00	NM	5244.72	5211.95
SB19	02/21/14	43.53	ND	0.00	50.41	5246.58	5203.05
SB19	05/16/14	42.65	ND	0.00	50.41	5246.58	5203.93
SB19	08/27/14	41.44	ND	0.00	50.41	5246.58	5205.14
SB19	11/18/14	41.08	ND	0.00	50.41	5246.58	5205.50
SB19	02/11/15	40.81	ND	0.00	50.41	5246.58	5205.77
SB19	05/18/15	38.40	ND	0.00	48.37	5244.65	5206.25
SB19	08/25/15	38.30	ND	0.00	48.11	5244.65	5206.35
SB19	11/20/15	38.06	ND	0.00	48.11	5245.65	5207.59
SB19	02/19/16	37.23	ND	0.00	48.11	5245.65	5208.42
SB19	05/20/16	36.50	ND	0.00	48.11	5245.65	5209.15
SB19	08/12/16	36.24	ND	0.00	48.13	5245.65	5209.41
SB19	11/18/16	35.47	ND	0.00	48.25	5245.65	5210.18
SB19	02/13/17	34.29	ND	0.00	48.13	5245.65	5211.36
SB19	05/09/17	33.50	ND	0.00	48.12	5245.65	5212.15
SB19	08/22/17	32.79	ND	0.00	48.14	5245.65	5212.86
SB19	11/17/17	32.16	ND	0.00	48.13	5245.65	5213.49
SB20	02/21/14	47.62	ND	0.00	50.33	5247.52	5199.90
SB20	05/16/14	47.13	ND	0.00	50.33	5247.52	5200.39
SB20	08/27/14	46.44	ND	0.00	50.33	5247.52	5201.08
SB20	11/18/14	46.07	ND	0.00	50.33	5247.52	5201.45
SB20	02/11/15	45.94	ND	0.00	50.33	5247.52	5201.58
SB20	05/18/15	43.50	ND	0.00	48.10	5245.40	5201.90
SB20	08/25/15	43.44	ND	0.00	48.10	5245.40	5201.96
SB20	11/20/15	40.08	ND	0.00	48.10	5246.40	5206.32
SB20	02/19/16	34.31	ND	0.00	48.10	5246.40	5212.09

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB20	05/20/16	42.79	ND	0.00	51.31	5248.62	5205.83
SB20	08/12/16	44.06	ND	0.00	51.30	5248.62	5204.56
SB20	11/18/16	44.46	ND	0.00	51.34	5248.62	5204.16
SB20	02/13/17	44.19	ND	0.00	51.29	5248.62	5204.43
SB20	05/09/17	43.67	ND	0.00	51.30	5248.62	5204.95
SB20	08/22/17	43.10	ND	0.00	51.29	5248.62	5205.52
SB20	11/17/17	42.63	ND	0.00	51.29	5248.62	5205.99
SB20R	02/21/14	ND	ND	0.00	61.05	5247.80	DRY
SB20R	05/16/14	ND	ND	0.00	61.05	5247.80	DRY
SB20R	08/27/14	ND	ND	0.00	61.05	5247.80	DRY
SB20R	11/18/14	60.50	ND	0.00	61.05	5247.80	5187.30
SB20R	02/11/15	59.78	ND	0.00	61.05	5247.80	5188.02
SB20R	05/18/15	58.91	ND	0.00	61.05	5247.80	5188.89
SB20R	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB21	02/21/14	47.54	46.21	1.33	49.30	5248.31	5201.77
SB21	05/16/14	47.68	45.76	1.92	49.30	5248.31	5202.07
SB21	08/27/14	ND	46.10	> 1.72	47.82	5248.31	DRY
SB21	11/18/14	ND	46.22	> 1.60	47.82	5248.31	DRY
SB21	02/11/15	ND	46.52	> 1.38	47.90	5248.31	DRY
SB21	05/18/15	45.25	44.76	0.49	45.70	5246.33	DRY
SB21	08/25/15	45.39	43.65	1.74	45.70	5246.33	DRY
SB21	11/20/15	44.63	42.25	2.38	45.70	5246.33	5203.48
SB21	02/19/16	42.85	ND	TRACE	45.70	5246.33	5203.48
SB21	05/20/16	47.44	47.01	0.43	49.15	5249.71	5202.59
SB21	08/12/16	47.26	46.26 ³	1.00 ³	49.14	5249.71	5203.20
SB21	11/18/16	48.13	46.96	1.17	NM	5249.71	5203.20
SB21	02/13/17	48.59	46.93	1.66	NM	5249.71	5202.36
SB21	05/09/17	49.23	47.18	2.05	49.59	5250.32	5202.63
SB21	08/22/17	49.39	46.64	2.75	NM	5250.32	5202.99
SB21	11/17/17	47.56	47.45	0.11	NM	5250.32	5202.84
SB22	02/21/14	50.07	ND	0.00	50.30	5250.64	DRY
SB22	05/16/14	50.09	ND	0.00	50.30	5250.64	DRY
SB22	08/27/14	50.05	ND	0.00	50.30	5250.64	DRY
SB22	11/18/14	49.94	ND	0.00	50.30	5250.64	DRY
SB22	02/11/15	50.10	ND	0.00	50.30	5250.64	DRY
SB22	05/18/15	50.03	ND	0.00	50.30	5250.64	DRY
SB22	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB22R	02/21/14	50.03	ND	0.00	63.07	5250.65	5200.62
SB22R	05/16/14	50.07	ND	0.00	63.07	5250.65	5200.58
SB22R	08/27/14	49.94	ND	0.00	63.07	5250.65	5200.71
SB22R	11/18/14	49.92	ND	0.00	63.07	5250.65	5200.73
SB22R	02/11/15	50.32	ND	0.00	63.07	5250.65	5200.33
SB22R	05/18/15	47.15	ND	0.00	59.89	5247.58	5200.43
SB22R	08/25/15	48.92	ND	0.00	59.90	5247.58	5198.66
SB22R	11/20/15	46.44	ND	0.00	59.90	5248.58	5202.14
SB22R	02/19/16	45.63	ND	0.00	59.90	5248.58	5202.95
SB22R	05/20/16	49.55	ND	0.00	63.39	5251.08	5201.53
SB22R	08/12/16	49.76	ND	0.00	63.39	5251.08	5201.32
SB22R	11/18/16	49.58	ND	0.00	63.44	5251.08	5201.50
SB22R	02/13/17	49.86	ND	0.00	63.39	5251.08	5201.22
SB22R	05/09/17	49.55	ND	0.00	63.40	5251.08	5201.53
SB22R	08/22/17	49.47	ND	0.00	63.40	5251.08	5201.61
SB22R	11/17/17	48.96	ND	0.00	63.39	5251.08	5202.12
SB23	02/21/14	48.75	48.70	0.05	50.61	5249.95	5201.24
SB23	05/16/14	48.83	48.75	0.08	50.61	5249.95	5201.18
SB23	08/27/14	49.06	48.64	0.42	50.61	5249.95	5201.21
SB23	11/18/14	49.16	48.62	0.54	50.61	5249.95	5201.20

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB23	02/11/15	49.65	48.81	0.84	50.61	5249.95	5200.93
SB23	05/18/15	45.92	45.35	0.57	47.09	5246.61	5201.12
SB23	08/25/15	ND	ND	0.00	43.30	5246.61	DRY
SB23	11/20/15	ND	ND	0.00	43.30	5247.61	DRY
SB23	02/19/16	ND	ND	0.00	43.30	5247.61	DRY
SB23	05/20/16	ND	ND	0.00	41.38	5249.88	DRY
SB23	08/12/16	ND	ND	0.00	41.37	5249.88	DRY
SB23	11/18/16	ND	ND	0.00	41.41	5249.88	DRY
SB23	02/13/17	ND	ND	0.00	41.38	5249.88	DRY
SB23	05/09/17	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB23R	05/09/17	48.23	ND	0.00	60.65	5250.34	5202.11
SB23R	08/22/17	48.42	47.98	0.44	60.66	5250.34	5202.25
SB23R	11/17/17	47.39	ND	0.00	60.65	5250.34	5202.95
SB24	02/21/14	48.47	ND	0.00	49.82	5249.46	5200.99
SB24	05/16/14	48.35	ND	0.00	49.82	5249.46	5201.11
SB24	08/27/14	48.43	ND	0.00	49.82	5249.46	5201.03
SB24	11/18/14	48.33	ND	0.00	49.82	5249.46	5201.13
SB24	02/11/15	48.61	ND	0.00	49.82	5249.46	5200.85
SB24	05/18/15	48.66	ND	0.00	49.82	5249.46	5200.80
SB24	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB24R	02/21/14	49.08	ND	0.00	62.22	5250.04	5200.96
SB24R	05/16/14	48.86	ND	0.00	62.22	5250.04	5201.18
SB24R	08/27/14	48.96	ND	0.00	62.22	5250.04	5201.08
SB24R	11/18/14	48.85	ND	0.00	62.22	5250.04	5201.19
SB24R	02/11/15	49.20	ND	0.00	62.22	5250.04	5200.84
SB24R	05/18/15	46.90	ND	0.00	59.83	5247.80	5200.90
SB24R	08/25/15	46.78	ND	0.00	59.84	5247.80	5201.02
SB24R	11/20/15	46.52	ND	0.00	59.84	5248.80	5202.28
SB24R	02/19/16	46.38	ND	0.00	59.84	5248.80	5202.42
SB24R	05/20/16	46.19	ND	0.00	59.84	5248.80	5202.61
SB24R	08/12/16	46.52	ND	0.00	59.85	5248.80	5202.28
SB24R	11/18/16	46.51	ND	0.00	59.97	5248.80	5202.29
SB24R	02/13/17	46.39	ND	0.00	59.83	5248.80	5202.41
SB24R	05/09/17	46.13	ND	0.00	59.85	5248.80	5202.67
SB24R	08/22/17	46.17	ND	0.00	59.87	5248.80	5202.63
SB24R	11/17/17	45.51	ND	0.00	NM	5248.80	5203.29
SB25	02/21/14	50.19	ND	0.00	50.41	5249.20	DRY
SB25	05/16/14	50.15	ND	0.00	50.41	5249.20	DRY
SB25	08/27/14	50.20	ND	0.00	50.41	5249.20	DRY
SB25	11/18/14	50.22	ND	0.00	50.41	5249.20	DRY
SB25	02/11/15	50.22	ND	0.00	50.41	5249.20	DRY
SB25	05/18/15	50.20	ND	0.00	50.41	5249.20	DRY
SB25	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB25R	02/21/14	51.75	ND	0.00	67.30	5249.39	5197.64
SB25R	05/16/14	51.55	ND	0.00	67.30	5249.39	5197.84
SB25R	08/27/14	51.65	ND	0.00	67.30	5249.39	5197.74
SB25R	11/18/14	51.58	ND	0.00	67.30	5249.39	5197.81
SB25R	02/11/15	51.96	ND	0.00	67.30	5249.39	5197.43
SB25R	05/18/15	49.60	ND	0.00	64.97	5247.15	5197.55
SB25R	08/25/15	49.31	ND	0.00	65.00	5247.15	5197.84
SB25R	11/20/15	48.98	ND	0.00	65.00	5248.15	5199.17
SB25R	02/19/16	48.56	ND	0.00	65.00	5248.15	5199.59
SB25R	05/20/16	48.54	ND	0.00	65.00	5248.15	5199.61
SB25R	08/12/16	48.35	ND	0.00	65.00	5248.15	5199.80
SB25R	11/18/16	47.96	ND	0.00	65.05	5248.15	5200.19
SB25R	02/13/17	48.02	ND	0.00	64.99	5248.15	5200.13
SB25R	05/09/17	47.71	ND	0.00	65.00	5248.15	5200.44
SB25R	08/22/17	47.74	ND	0.00	65.00	5248.15	5200.41

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB25R	11/17/17	47.43	ND	0.00	65.00	5248.15	5200.72
SB26	02/21/14	43.87	ND	0.00	50.35	5246.92	5203.05
SB26	05/16/14	43.65	ND	0.00	50.35	5246.92	5203.27
SB26	08/27/14	43.63	ND	0.00	50.35	5246.92	5203.29
SB26	11/18/14	43.45	ND	0.00	50.35	5246.92	5203.47
SB26	02/11/15	43.68	ND	0.00	50.35	5246.92	5203.24
SB26	05/18/15	43.59	ND	0.00	50.35	5246.92	5203.33
SB26	08/25/15	41.24	ND	0.00	48.38	5245.12	5203.88
SB26	11/20/15	40.29	ND	0.00	48.38	5246.12	5205.83
SB26	02/19/16	39.89	ND	0.00	48.38	5246.12	5206.23
SB26	05/20/16	39.62	ND	0.00	48.38	5246.12	5206.50
SB26	08/12/16	39.43	ND	0.00	48.36	5246.12	5206.69
SB26	11/18/16	38.80	ND	0.00	48.45	5246.12	5207.32
SB26	02/13/17	38.39	ND	0.00	48.28	5246.12	5207.73
SB26	05/09/17	37.94	ND	0.00	48.34	5246.12	5208.18
SB26	08/22/17	37.75	ND	0.00	48.32	5246.12	5208.37
SB26	11/17/17	36.85	ND	0.00	NM	5246.12	5209.27
SB27	02/21/14	50.27	ND	0.00	50.52	5250.91	DRY
SB27	05/16/14	50.29	ND	0.00	50.52	5250.91	DRY
SB27	08/27/14	50.30	ND	0.00	50.52	5250.91	DRY
SB27	11/18/14	50.30	ND	0.00	50.52	5250.91	DRY
SB27	02/11/15	50.31	ND	0.00	50.52	5250.91	DRY
SB27	05/18/15	50.29	ND	0.00	50.52	5250.91	DRY
SB27	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB27R	02/21/14	53.59	ND	0.00	67.51	5251.23	5197.64
SB27R	05/16/14	53.36	ND	0.00	67.51	5251.23	5197.87
SB27R	08/27/14	53.48	ND	0.00	67.51	5251.23	5197.75
SB27R	11/18/14	53.39	ND	0.00	67.51	5251.23	5197.84
SB27R	02/11/15	53.79	ND	0.00	67.51	5251.23	5197.44
SB27R	05/18/15	51.35	ND	0.00	65.11	5248.92	5197.57
SB27R	08/25/15	51.22	ND	0.00	65.13	5248.92	5197.70
SB27R	11/20/15	50.98	ND	0.00	65.13	5249.92	5198.94
SB27R	02/19/16	50.83	ND	0.00	65.13	5249.92	5199.09
SB27R	05/20/16	50.62	ND	0.00	65.13	5249.92	5199.30
SB27R	08/12/16	50.84	ND	0.00	65.00	5249.92	5199.08
SB27R	11/18/16	50.82	ND	0.00	65.14	5249.92	5199.10
SB27R	02/13/17	50.52	ND	0.00	64.99	5249.92	5199.40
SB27R	05/09/17	50.27	ND	0.00	64.96	5249.92	5199.65
SB27R	08/22/17	54.10	ND	0.00	64.93	5249.92	5195.82
SB27R	11/17/17	49.72	ND	0.00	64.92	5249.92	5200.20
SB28	02/21/14	50.34	ND	0.00	50.56	5251.71	DRY
SB28	05/16/14	50.35	ND	0.00	50.56	5251.71	DRY
SB28	08/27/14	50.36	ND	0.00	50.56	5251.71	DRY
SB28	11/18/14	50.36	ND	0.00	50.56	5251.71	DRY
SB28	02/11/15	50.36	ND	0.00	50.56	5251.71	DRY
SB28	05/18/15	50.34	ND	0.00	50.56	5251.71	DRY
SB28	08/25/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned					
SB28R	02/21/14	50.98	ND	0.00	63.10	5251.40	5200.42
SB28R	05/16/14	50.84	ND	0.00	63.10	5251.40	5200.56
SB28R	08/27/14	50.95	ND	0.00	63.10	5251.40	5200.45
SB28R	11/18/14	50.88	ND	0.00	63.10	5251.40	5200.52
SB28R	02/11/15	51.14	ND	0.00	63.10	5251.40	5200.26
SB28R	05/18/15	48.72	ND	0.00	60.67	5249.05	5200.33
SB28R	08/25/15	48.74	ND	0.00	60.68	5249.05	5200.31
SB28R	11/20/15	48.45	ND	0.00	60.68	5250.05	5201.60
SB28R	02/19/16	48.31	ND	0.00	60.68	5250.05	5201.74
SB28R	05/20/16	48.15	ND	0.00	60.68	5250.05	5201.90
SB28R	08/12/16	48.44	ND	0.00	60.68	5250.05	5201.61

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB28R	11/18/16	ND	ND	0.00	25.22	5250.05	DRY
SB28R	02/13/17	48.36	ND	0.00	60.66	5250.05	5201.69
SB28R	05/09/17	48.12	ND	0.00	60.68	5250.05	5201.93
SB28R	08/22/17	48.18	ND	0.00	60.69	5250.05	5201.87
SB28R	11/17/17	47.59	ND	0.00	60.69	5250.05	5202.46
SB29	02/21/14	45.24	ND	0.00	60.46	5248.09	5202.85
SB29	05/16/14	45.10	ND	0.00	60.46	5248.09	5202.99
SB29	08/27/14	45.02	ND	0.00	60.46	5248.09	5203.07
SB29	11/18/14	44.89	ND	0.00	60.46	5248.09	5203.20
SB29	02/11/15	45.09	ND	0.00	60.46	5248.09	5203.00
SB29	05/18/15	42.69	ND	0.00	58.05	5245.86	5203.17
SB29	08/25/15	42.40	ND	0.00	57.79	5245.86	5203.46
SB29	11/20/15	41.67	ND	0.00	57.79	5246.86	5205.19
SB29	02/19/16	41.16	ND	0.00	57.79	5246.86	5205.70
SB29	05/20/16	40.92	ND	0.00	57.79	5246.86	5205.94
SB29	08/12/16	41.00	ND	0.00	57.54	5246.86	5205.86
SB29	11/18/16	40.59	ND	0.00	57.69	5246.86	5206.27
SB29	02/13/17	40.28	ND	0.00	57.63	5246.86	5206.58
SB29	05/09/17	39.81	ND	0.00	57.63	5246.86	5207.05
SB29	08/22/17	39.72	ND	0.00	57.65	5246.86	5207.14
SB29	11/17/17	38.90	ND	0.00	NM	5246.86	5207.96
SB30	02/21/14	47.77	44.80	2.97	61.00	5246.27	5200.73
SB30	05/16/14	47.19	44.70	2.49	61.00	5246.27	5200.95
SB30	08/27/14	46.24	44.82	1.42	61.00	5246.27	5201.10
SB30	11/18/14	46.02	45.79	0.23	61.00	5246.27	5200.43
SB30	02/11/15	47.22	45.82	1.40	61.00	5246.27	5200.10
SB30	05/18/15	47.58	45.28	2.30	61.00	5246.27	5200.42
SB30	08/25/15	48.56	40.95	7.61	59.65	5245.33	5202.48
SB30	11/20/15	48.14	40.07	8.07	59.65	5246.33	5204.24
SB30	02/19/16	39.60	39.59	0.01	59.65	5246.33	5206.74
SB30	05/20/16	52.25	44.05	8.20	63.68	5249.32	5203.22
SB30	08/12/16	52.21	44.35	7.86	63.66	5249.32	5203.01
SB30	11/18/16	51.74	44.42	7.32	NM	5249.32	5203.07
SB30	02/13/17	51.19	44.70	6.49	NM	5249.32	5203.00
SB30	05/09/17	NM	NM	NM	NM	5249.32	NM
SB30	08/22/17	48.59	46.15	2.44	NM	5249.32	5202.56
SB30	11/17/17	45.35	45.22	0.13	NM	5249.32	5204.07
SB31	02/21/14	50.11	48.01	2.10	64.30	5249.60	5201.06
SB31	05/16/14	51.47	48.07	3.40	64.30	5249.60	5200.68
SB31	08/27/14	49.65	47.72	1.93	64.30	5249.60	5201.40
SB31	11/18/14	50.76	50.36	0.40	64.30	5249.60	5199.14
SB31	02/11/15	49.88	48.94	0.94	64.30	5249.60	5200.42
SB31	05/18/15	50.22	48.44	1.78	64.30	5249.60	5200.71
SB31	08/25/15	49.39	42.84	6.55	59.26	5245.93	5201.45
SB31	11/20/15	49.95	41.61	8.34	59.26	5246.93	5203.24
SB31	02/19/16	41.09	40.96	0.13	59.26	5246.93	5205.94
SB31	05/20/16	54.20	45.00	9.20	63.13	5249.81	5202.51
SB31	08/12/16	53.61	45.16	8.45	63.10	5249.81	5202.54
SB31	11/18/16	53.22	45.13	8.09	NM	5249.81	5202.66
SB31	02/13/17	53.89	45.36	8.53	NM	5249.81	5202.32
SB31	05/09/17	NM	NM	NM	NM	5249.81	NM
SB31	08/22/17	48.38	47.62	0.76	NM	5249.81	5202.00
SB31	11/17/17	47.87	45.86	2.01	NM	5249.81	5203.45
SB32	02/21/14	48.27	ND	0.00	62.39	5249.31	5201.04
SB32	05/16/14	48.18	ND	0.00	62.39	5249.31	5201.13
SB32	08/27/14	48.19	ND	0.00	62.39	5249.31	5201.12
SB32	11/18/14	48.38	ND	0.00	62.39	5249.31	5200.93
SB32	02/11/15	48.83	ND	0.00	62.39	5249.31	5200.48

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB32	05/18/15	45.90	ND	0.00	59.62	5246.64	5200.74
SB32	08/25/15	ND	ND	0.00	41.08	5246.64	DRY
SB32	11/20/15	ND	ND	0.00	41.08	5247.64	DRY
SB32	02/19/16	ND	ND	0.00	41.08	5247.64	DRY
SB32	05/20/16	ND	ND	0.00	42.05	5250.72	DRY
SB32	08/12/16	ND	ND	0.00	42.06	5250.72	DRY
SB32	11/18/16	ND	ND	0.00	42.14	5250.72	DRY
SB32	02/13/17	ND	ND	0.00	42.06	5250.72	DRY
SB32	05/09/17	ND	ND	0.00	42.07	5250.72	DRY
SB32	08/22/17	ND	ND	0.00	42.09	5250.72	DRY
SB32	11/17/17	ND	ND	0.00	42.07	5250.72	DRY
SB33	02/21/14	62.26	ND	0.00	62.55	5246.16	DRY
SB33	05/16/14	62.02	ND	0.00	62.55	5246.16	5184.14
SB33	08/27/14	59.51	ND	0.00	62.55	5246.16	5186.65
SB33	11/18/14	57.49	ND	0.00	62.55	5246.16	5188.67
SB33	02/11/15	55.64	ND	0.00	62.55	5246.16	5190.52
SB33	05/18/15	53.86	ND	0.00	60.39	5246.16	5192.30
SB33	08/25/15	50.35	ND	0.00	60.69	5244.21	5193.86
SB33	11/20/15	49.16	ND	0.00	60.69	5245.21	5196.05
SB33	02/19/16	47.69	ND	0.00	60.69	5245.21	5197.52
SB33	05/20/16	46.33	ND	0.00	60.69	5245.21	5198.88
SB33	08/12/16	44.47	ND	0.00	60.60	5245.21	5200.74
SB33	11/18/16	41.65	ND	0.00	60.67	5245.21	5203.56
SB33	02/13/17	39.69	ND	0.00	60.60	5245.21	5205.52
SB33	05/09/17	38.56	ND	0.00	60.60	5245.21	5206.65
SB33	08/22/17	37.57	ND	0.00	60.60	5245.21	5207.64
SB33	11/17/17	37.32	ND	0.00	NM	5245.21	5207.89
SB34	02/21/14	54.88	ND	0.00	62.80	5252.59	5197.71
SB34	05/16/14	54.72	ND	0.00	62.80	5252.59	5197.87
SB34	08/27/14	54.78	ND	0.00	62.80	5252.59	5197.81
SB34	11/18/14	54.65	ND	0.00	62.80	5252.59	5197.94
SB34	02/11/15	55.04	ND	0.00	62.80	5252.59	5197.55
SB34	05/18/15	52.58	ND	0.00	60.36	5250.19	5197.61
SB34	08/25/15	52.47	ND	0.00	60.40	5250.19	5197.72
SB34	11/20/15	52.19	ND	0.00	60.40	5251.19	5199.00
SB34	02/19/16	52.13	ND	0.00	60.40	5251.19	5199.06
SB34	05/20/16	51.95	ND	0.00	60.40	5251.19	5199.24
SB34	08/12/16	52.22	ND	0.00	60.38	5251.19	5198.97
SB34	11/18/16	52.17	ND	0.00	60.45	5251.19	5199.02
SB34	02/13/17	52.02	ND	0.00	60.38	5251.19	5199.17
SB34	05/09/17	51.71	ND	0.00	60.39	5251.19	5199.48
SB34	08/22/17	51.86	ND	0.00	63.80	5251.19	5199.33
SB34	11/17/17	51.17	ND	0.00	NM	5251.19	5200.02
SB35	02/21/14	53.18	ND	0.00	63.40	5250.71	5197.53
SB35	05/16/14	52.97	ND	0.00	63.40	5250.71	5197.74
SB35	08/27/14	53.02	ND	0.00	63.40	5250.71	5197.69
SB35	11/18/14	52.93	ND	0.00	63.40	5250.71	5197.78
SB35	02/11/15	53.35	ND	0.00	63.40	5250.71	5197.36
SB35	05/18/15	50.25	ND	0.00	60.34	5247.79	5197.54
SB35	08/25/15	49.92	ND	0.00	63.40	5247.79	5197.87
SB35	11/20/15	49.67	ND	0.00	63.40	5248.79	5199.12
SB35	02/19/16	49.45	ND	0.00	63.40	5248.79	5199.34
SB35	05/20/16	49.22	ND	0.00	63.40	5248.79	5199.57
SB35	08/12/16	49.22	ND	0.00	60.32	5248.79	5199.57
SB35	11/18/16	49.10	ND	0.00	60.35	5248.79	5199.69
SB35	02/13/17	48.87	ND	0.00	60.34	5248.79	5199.92
SB35	05/09/17	48.51	ND	0.00	60.35	5248.79	5200.28
SB35	08/22/17	48.64	ND	0.00	63.50	5248.79	5200.15

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB35	11/17/17	48.04	ND	0.00	NM	5248.79	5200.75
SB36	02/21/14	42.65	ND	0.00	63.05	5243.07	5200.42
SB36	05/16/14	42.40	ND	0.00	63.05	5243.07	5200.67
SB36	08/27/14	41.97	ND	0.00	63.05	5243.07	5201.10
SB36	11/18/14	41.76	ND	0.00	63.05	5243.07	5201.31
SB36	02/11/15	41.71	ND	0.00	63.05	5243.07	5201.36
SB36	05/18/15	41.45	ND	0.00	63.05	5243.07	5201.62
SB36	08/25/15	34.09	ND	0.00	59.72	5239.97	5205.88
SB36	11/20/15	32.82	ND	0.00	59.72	5240.97	5208.15
SB36	02/19/16	32.76	ND	0.00	59.75	5240.97	5208.21
SB36	05/20/16	31.31	ND	0.00	59.75	5240.97	5209.66
SB36	08/12/16	30.21	ND	0.00	59.78	5240.97	5210.76
SB36	11/18/16	29.05	ND	0.00	59.89	5240.97	5211.92
SB36	02/13/17	28.62	ND	0.00	59.68	5240.97	5212.35
SB36	05/09/17	32.32	ND	0.00	63.69	5243.94	5211.62
SB36	08/22/17	31.82	ND	0.00	63.66	5243.94	5212.12
SB36	11/17/17	30.84	ND	0.00	63.65	5243.94	5213.10
SB37	02/21/14	63.00	ND	0.00	66.40	5249.25	5186.25
SB37	05/16/14	51.38	ND	0.00	66.40	5249.25	5197.87
SB37	08/27/14	48.05	ND	0.00	66.40	5249.25	5201.20
SB37	11/18/14	48.09	ND	0.00	66.40	5249.25	5201.16
SB37	02/11/15	48.36	ND	0.00	66.40	5249.25	5200.89
SB37	05/18/15	48.20	ND	0.00	66.40	5249.25	5201.05
SB37	08/25/15	46.33	ND	0.00	64.81	5246.31	5199.98
SB37	11/20/15	45.58	ND	0.00	64.81	5247.31	5201.73
SB37	02/19/16	45.44	ND	0.00	64.81	5247.31	5201.87
SB37	05/20/16	47.92	47.85	0.07	66.81	5249.79	5201.93
SB37	08/12/16	47.81	47.72	0.09	66.84	5249.79	5202.05
SB37	11/18/16	47.65	47.43	0.22	NM	5249.79	5202.31
SB37	02/13/17	48.35	47.90	0.45	NM	5249.79	5201.78
SB37	05/09/17	47.70	47.38	0.32	66.85	5249.79	5202.33
SB37	08/22/17	47.47	47.15	0.32	NM	5249.79	5202.56
SB37	11/17/17	47.06	46.87	0.19	NM	5249.79	5202.88
SB38	02/21/14	40.48	ND	0.00	63.58	5243.61	5203.13
SB38	05/16/14	40.16	ND	0.00	63.58	5243.61	5203.45
SB38	08/27/14	40.32	ND	0.00	63.58	5243.61	5203.29
SB38	11/18/14	40.08	ND	0.00	63.58	5243.61	5203.53
SB38	02/11/15	40.35	ND	0.00	63.58	5243.61	5203.26
SB38	05/18/15	40.31	ND	0.00	63.58	5243.61	5203.30
SB38	08/25/15	35.63	ND	0.00	60.51	5240.73	5205.10
SB38	11/20/15	34.68	ND	0.00	60.51	5241.73	5207.05
SB38	02/19/16	34.39	ND	0.00	60.42	5241.73	5207.34
SB38	05/20/16	33.19	ND	0.00	60.42	5241.73	5208.54
SB38	08/12/16	31.54	ND	0.00	60.34	5241.73	5210.19
SB38	11/18/16	30.69	ND	0.00	60.61	5241.73	5211.04
SB38	02/13/17	29.97	ND	0.00	60.28	5241.73	5211.76
SB38	05/09/17	33.85	ND	0.00	64.49	5244.87	5211.02
SB38	08/22/17	33.49	ND	0.00	64.45	5244.87	5211.38
SB38	11/17/17	32.34	ND	0.00	64.46	5244.87	5212.53
SB39	02/21/14	50.54	ND	0.00	61.57	5241.88	5191.34
SB39	05/16/14	45.38	ND	0.00	61.57	5241.88	5196.50
SB39	08/27/14	44.19	ND	0.00	61.57	5241.88	5197.69
SB39	11/18/14	43.98	ND	0.00	61.57	5241.88	5197.90
SB39	02/11/15	44.01	ND	0.00	61.57	5241.88	5197.87
SB39	05/18/15	43.74	ND	0.00	61.57	5241.88	5198.14
SB39	08/25/15	36.44	ND	0.00	59.14	5239.65	5203.21
SB39	11/20/15	36.68	ND	0.00	59.14	5240.65	5203.97
SB39	02/19/16	36.05	ND	0.00	59.11	5240.65	5204.60

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB39	05/20/16	31.67	ND	0.00	59.11	5240.65	5208.98
SB39	08/12/16	30.51	ND	0.00	59.12	5240.65	5210.14
SB39	11/18/16	29.46	ND	0.00	59.15	5240.65	5211.19
SB39	02/13/17	28.66	ND	0.00	59.04	5240.65	5211.99
SB39	05/09/17	32.64	ND	0.00	63.23	5243.84	5211.20
SB39	08/22/17	32.38	ND	0.00	63.13	5243.84	5211.46
SB39	11/17/17	31.64	ND	0.00	63.20	5243.84	5212.20
SB40	02/21/14	54.94	ND	0.00	62.83	5240.63	5185.69
SB40	05/16/14	45.58	ND	0.00	62.83	5240.63	5195.05
SB40	08/27/14	40.55	ND	0.00	62.83	5240.63	5200.08
SB40	11/18/14	40.14	ND	0.00	62.83	5240.63	5200.49
SB40	02/11/15	39.79	ND	0.00	62.83	5240.63	5200.84
SB40	05/18/15	38.77	ND	0.00	62.83	5240.63	5201.86
SB40	08/25/15	32.11	ND	0.00	59.71	5237.59	5205.48
SB40	11/20/15	30.30	ND	0.00	59.71	5238.59	5208.29
SB40	02/19/16	28.98	ND	0.00	59.04	5238.59	5209.61
SB40	05/20/16	27.41	ND	0.00	59.04	5238.59	5211.18
SB40	08/12/16	25.87	ND	0.00	58.95	5238.59	5212.72
SB40	11/18/16	25.24	ND	0.00	58.98	5238.59	5213.35
SB40	02/13/17	24.98	ND	0.00	58.82	5238.59	5213.61
SB40	05/09/17	29.16	ND	0.00	62.89	5241.74	5212.58
SB40	08/22/17	28.02	ND	0.00	62.82	5241.74	5213.72
SB40	11/17/17	26.90	ND	0.00	NM	5241.74	5214.84
SB41	02/21/14	39.90	ND	0.00	62.96	5242.91	5203.01
SB41	05/16/14	39.66	ND	0.00	62.96	5242.91	5203.25
SB41	08/27/14	39.75	ND	0.00	62.96	5242.91	5203.16
SB41	11/18/14	39.59	ND	0.00	62.96	5242.91	5203.32
SB41	02/11/15	39.79	ND	0.00	62.96	5242.91	5203.12
SB41	05/18/15	39.77	ND	0.00	62.96	5242.91	5203.14
SB41	08/25/15	35.69	ND	0.00	59.89	5239.96	5204.27
SB41	11/20/15	34.89	ND	0.00	59.89	5240.96	5206.07
SB41	02/19/16	34.51	ND	0.00	59.84	5240.96	5206.45
SB41	05/20/16	33.31	ND	0.00	59.84	5240.96	5207.65
SB41	08/12/16	31.29	ND	0.00	59.60	5240.96	5209.67
SB41	11/18/16	30.45	ND	0.00	59.74	5240.96	5210.51
SB41	02/13/17	29.82	ND	0.00	59.60	5240.96	5211.14
SB41	05/09/17	33.68	ND	0.00	63.80	5244.16	5210.48
SB41	08/22/17	33.34	ND	0.00	63.80	5244.16	5210.82
SB41	11/17/17	32.09	ND	0.00	NM	5244.16	5212.07
SB42	02/21/14	41.20	ND	0.00	60.60	5244.36	5203.16
SB42	05/16/14	40.68	ND	0.00	60.60	5244.36	5203.68
SB42	08/27/14	40.80	ND	0.00	60.60	5244.36	5203.56
SB42	11/18/14	40.57	ND	0.00	60.60	5244.36	5203.79
SB42	02/11/15	40.78	ND	0.00	60.60	5244.36	5203.58
SB42	05/18/15	40.74	ND	0.00	60.60	5244.36	5203.62
SB42	08/25/15	38.61	ND	0.00	59.23	5243.19	5204.58
SB42	11/20/15	37.53	ND	0.00	59.23	5244.19	5206.66
SB42	02/19/16	37.18	ND	0.00	59.21	5244.19	5207.01
SB42	05/20/16	36.85	ND	0.00	59.21	5244.19	5207.34
SB42	08/12/16	36.35	ND	0.00	59.22	5244.19	5207.84
SB42	11/18/16	35.59	ND	0.00	59.30	5244.19	5208.60
SB42	02/13/17	35.15	ND	0.00	59.23	5244.19	5209.04
SB42	05/09/17	34.69	ND	0.00	59.22	5244.19	5209.50

TABLE 2
GROUNDWATER AND LNAPL ELEVATION DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	DTW (ft. BTOC)	DTP (ft. BTOC)	LNAPL Thickness (ft.)	TD ⁴ (ft. BTOC)	Top of Casing Elevation (ft. AMSL)	Groundwater Elevation* (ft. AMSL)
SB42	08/22/17	34.40	ND	0.00	59.22	5244.19	5209.79
SB42	11/17/17	33.53	ND	0.00	NM	5244.19	5210.66

Notes:

DTW = Depth to water

DTP = Depth to Product (LNAPL)

ft. BTOC = Feet below top of well casing

ft. AMSL = Feet above mean sea level

TD = Total depth of well below top of well casing (based on the most recent measurement)

LNAPL = Light non-aqueous phase liquid

ND = Not detected

NM = Not measured

DRY = Well contained less than 0.5 feet of water

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

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

LNAPL relative density was measured to be approximately 0.75

¹ LNAPL detected in groundwater sample collected on 02/22/16

² Well SB16R obstructed above oil/water interface, groundwater not encountered above obstruction

³ LNAPL thickness is approximate, checked with bailer

⁴ Total Depth of Well is only measured for wells that are to be sampled.

This table presents data collected by Tasman Geosciences. Historical data is presented in Attachment A of the Form 27 Site Assessment Report (COGCC Document #2148980)

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
PR01	03/07/14 ¹	10.98	6.960	6.63	-132.0	14.60
PR01	05/19/14	Removed From Groundwater Monitoring Program - LNAPL Recovery Well				
PR02	03/07/14 ¹	10.09	5.560	6.71	-72.9	11.56
PR02	05/19/14	Removed From Groundwater Monitoring Program - LNAPL Recovery Well				
PR03	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR04	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR05	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR06	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR07	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR08	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR09	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR10	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR11	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR12	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR13	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR14	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR15	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR16	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR17	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR18	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR19	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR20	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR21	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR22	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR23	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR24	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR25	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
PR26	11/21/14	Not in Groundwater Monitoring Program - LNAPL Recovery Well				
SB01	02/24/14	12.41	5.240	7.16	92.2	0.56
SB01	05/19/14	Removed From Groundwater Monitoring Program - Submerged Well Screen				
SB01	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB02	02/24/14	12.52	3.222	7.25	47.1	0.25
SB02	05/19/14	Removed From Groundwater Monitoring Program - Submerged Well Screen				
SB02	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB03	02/24/14	12.55	1.941	7.44	70.0	0.21
SB03	05/19/14	12.57	2.135	7.00	207.5	1.61
SB03	08/29/14	12.41	2.004	7.39	126.0	0.03
SB03	11/21/14	12.53	2.188	8.08	-182.9	0.96
SB03	02/13/15	12.34	1.881	7.30	27.6	0.60
SB03	05/21/15	12.20	1.814	7.09	158.8	0.55
SB03	08/27/15	12.61	2.068	7.28	12.0	0.20
SB03	11/24/15	12.01	2.139	6.65	-15.4	0.47
SB03	02/22/16	12.22	2.363	7.68	-49.4	0.23
SB03	05/23/16	12.46	2.380	7.06	-36.4	0.28

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB03	08/15/16	13.21	2.151	7.33	100.1	0.22
SB03	11/21/16	12.20	2.394	7.31	-1.8	0.93
SB03	02/16/17	12.40	3.026	7.34	112.6	0.50
SB03	05/09/17	16.55	3.030	6.68	96.6	2.13
SB03	08/24/17	13.52	2.980	7.72	97.6	0.03
SB03	11/20/17	13.40	3.100	6.96	125.6	4.72
SB04	02/24/14	12.00	3.138	7.29	71.3	0.16
SB04	05/19/14	12.81	3.097	7.08	224.5	0.45
SB04	08/29/14	12.37	3.083	7.65	155.6	0.16
SB04	11/21/14	12.29	3.076	7.60	-7.6	0.47
SB04	02/13/15	12.34	3.018	7.34	50.5	0.99
SB04	05/21/15	12.24	2.953	7.06	120.8	0.36
SB04	08/27/15	12.69	3.054	7.84	52.7	0.13
SB04	11/24/15	12.11	2.198	6.77	-64.4	0.27
SB04	02/22/16	12.15	2.317	7.31	-120.9	0.23
SB04	05/23/16	12.55	2.363	6.56	-166.8	1.07
SB04	08/15/16	12.45	2.597	7.33	-58.5	0.81
SB04	11/21/16	12.16	2.131	7.20	-112.0	0.25
SB04	02/16/17	12.30	3.003	7.40	-76.4	0.60
SB04	05/09/17	17.47	1.830	7.28	-90.4	0.56
SB04	08/24/17	13.40	2.070	7.69	-184.2	0.03
SB04	11/20/17	13.50	2.170	7.29	-160.9	0.25
SB05	03/07/14 ¹	11.20	6.192	6.43	-152.9	3.55
SB05	05/19/14		Not Measured - LNAPL Present			
SB05	08/29/14		Not Measured - LNAPL Present			
SB05	11/21/14		Not Measured - LNAPL Present			
SB05	02/13/15		Not Measured - LNAPL Present			
SB05	05/21/15		Not Measured - LNAPL Present			
SB05	08/27/15		Not Measured - LNAPL Present			
SB05	11/24/15		Not Measured - LNAPL Present			
SB05	02/22/16		Not Measured - LNAPL Present			
SB05	05/23/16		Not Measured - LNAPL Present			
SB05	08/15/16		Not Measured - LNAPL Present			
SB05	11/21/16		Not Measured - LNAPL Present			
SB05	02/16/17		Not Measured - LNAPL Present			
SB05	05/09/17		Not Measured - LNAPL Present			
SB05	08/24/17		Not Measured - LNAPL Present			
SB05	11/20/17		Not Measured - LNAPL Present			
SB06	02/24/14	12.57	3.446	7.20	144.4	0.34
SB06	05/19/14	12.74	3.933	6.99	268.9	0.19
SB06	08/29/14	12.54	3.952	7.22	156.0	0.04
SB06	11/21/14	12.46	3.767	7.60	153.6	2.25
SB06	02/13/15	12.48	3.879	6.99	54.2	0.22
SB06	05/21/15	12.52	3.765	6.91	3.4	0.08
SB06	08/27/15	12.51	5.039	7.17	101.4	0.12
SB06	11/24/15	12.19	5.367	6.62	1.2	0.38
SB06	02/22/16	12.31	5.379	7.03	-10.6	3.50
SB06	05/23/16	12.47	5.721	6.41	113.8	0.73
SB06	08/15/16	12.98	5.983	6.81	147.5	0.26

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB06	11/21/16	12.22	5.782	6.77	12.8	0.70
SB06	02/16/17	12.40	5.896	6.83	165.4	0.28
SB06	05/09/17	17.13	5.090	6.86	91.9	1.10
SB06	08/24/17	14.84	5.480	7.22	135.8	0.69
SB06	11/20/17	13.14	5.510	6.80	42.8	0.36
SB07	02/24/14	12.85	5.639	6.64	-101.3	0.57
SB07	05/19/14	13.19	5.564	6.68	-97.3	0.19
SB07	08/29/14	12.99	5.318	7.18	-68.5	0.05
SB07	11/21/14	12.88	5.280	7.10	-238.1	1.22
SB07	02/13/15	12.71	5.083	7.11	-76.8	1.69
SB07	05/21/15	12.85	5.033	7.01	-175.8	0.09
SB07	08/27/15	12.92	4.059	8.47	-216.8	0.16
SB07	11/24/15	12.70	2.305	12.49 ²	-248.3	0.19
SB07	02/22/16	12.80	1.896	6.99	-264.9	-0.40 ³
SB07	05/23/16	13.25	2.450	7.12	-241.0	-0.1 ³
SB07	08/15/16	13.64	2.511	7.03	-126.6	0.17
SB07	11/21/16	12.74	3.010	7.05	-86.8	0.19
SB07	02/16/17	12.90	3.980	7.20	-108.9	0.33
SB07	05/09/17	17.76	2.710	6.90	-87.5	0.35
SB07	08/24/17	16.15	3.040	7.31	-176.2	0.02
SB07	11/20/17	14.18	3.480	6.81	-169.2	0.08
SB08	03/07/14 ¹	11.12	4.866	6.29	-170.9	3.95
SB08	05/19/14	13.39	5.197	6.80	-153.5	0.33
SB08	08/29/14	12.92	5.358	6.68	-74.4	0.34
SB08	11/21/14		Not Measured - LNAPL Present			
SB08	02/13/15		Not Measured - LNAPL Present			
SB08	05/21/15		Not Measured - LNAPL Present			
SB08	08/27/15	13.05	3.466	8.00	-187.6	0.07
SB08	11/24/15		Not Measured - LNAPL Present			
SB08	02/22/16	12.67	0.577	6.85	-197.4	-0.34 ³
SB08	05/23/16	13.23	1.630	6.73	-220.2	0.23
SB08	08/15/16	12.84	1.574	6.93	-97.7	0.25
SB08	11/21/16	12.69	2.008	6.80	-88.8	0.34
SB08	02/16/17	12.90	4.557	7.00	-175.9	0.33
SB08	05/09/17	18.69	1.870	6.81	-84.63	0.32
SB08	08/24/17	16.18	2.090	7.25	-153.2	0.06
SB08	11/20/17	14.23	2.150	6.87	-134.0	0.05
SB09	03/07/14 ¹	10.00	4.415	6.64	-123.5	8.81
SB09	05/19/14		Not Measured - LNAPL Present			
SB09	08/29/14		Not Measured - LNAPL Present			
SB09	11/21/14		Not Measured - LNAPL Present			
SB09	02/13/15		Not Measured - LNAPL Present			
SB09	05/21/15		Not Measured - LNAPL Present			
SB09	08/27/15		Not Measured - LNAPL Present			
SB09	11/24/15		Not Measured - LNAPL Present			
SB09	02/22/16		Not Measured - LNAPL Present			
SB09	05/23/16		Not Measured - LNAPL Present			

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB09	08/15/16	Not Measured - LNAPL Present				
SB09	11/21/16	Not Measured - LNAPL Present				
SB09	02/16/17	Not Measured - LNAPL Present				
SB09	05/09/17	Not Measured - LNAPL Present				
SB09	08/24/17	Not Measured - LNAPL Present				
SB09	11/20/17	Not Measured - LNAPL Present				
SB10	03/07/14 ¹	11.48	8.344	6.31	-183.9	5.90
SB10	05/19/14	13.26	9.942	6.35	-158.5	0.14
SB10	08/29/14	Not Measured - LNAPL Present				
SB10	11/21/14	12.85	11.050	6.57	-136.7	0.38
SB10	02/13/15	12.91	11.395	6.51	-7.3	0.72
SB10	05/21/15	Not Measured - LNAPL Present				
SB10	08/27/15	13.90	12.480	7.85	-134.40	0.28
SB10	11/24/15	12.79	13.700	11.82 ²	-215.20	0.11
SB10	02/22/16	12.80	1.982	6.77	-249.90	-0.70 ³
SB10	05/23/16	13.33	5.112	6.56	-192.50	0.16
SB10	08/15/16	14.06	7.100	6.66	-87.70	0.17
SB10	11/21/16	12.84	8.444	6.47	-100.8	0.29
SB10	02/16/17	12.90	9.152	6.61	-128.3	0.39
SB10	05/09/17	18.69	7.950	6.55	-72.8	0.43
SB10	08/24/17	15.75	8.750	6.93	-186.1	0.01
SB10	11/20/17	13.62	9.120	6.65	-195.4	0.03
SB11	02/24/14	12.60	2.218	7.38	20.2	0.49
SB11	05/19/14	13.03	2.312	7.25	130.9	6.69
SB11	08/29/14	12.65	2.423	7.49	118.1	0.10
SB11	11/21/14	12.49	2.524	7.39	-104.9	0.65
SB11	02/13/15	12.54	2.548	7.23	28.2	0.30
SB11	05/21/15	12.57	2.712	7.07	-2.5	0.11
SB11	08/27/15	12.55	2.787	8.21	-117.6	0.11
SB11	11/24/15	12.23	2.778	6.87	-35.7	0.26
SB11	02/22/16	12.37	2.840	7.25	-79.9	0.40
SB11	05/23/16	12.55	2.953	5.10 ²	134.2	0.31
SB11	08/15/16	12.64	2.953	7.09	51.2	0.26
SB11	11/21/16	12.27	2.852	7.02	-11.6	0.92
SB11	02/16/17	12.40	2.838	7.16	-77.3	0.40
SB11	05/09/17	16.51	2.350	6.84	95.8	1.09
SB11	08/24/17	18.76	2.320	7.72	73.2	0.20
SB11	11/20/17	14.22	2.690	7.06	38.0	0.29
SB12	02/24/14	12.86	5.748	7.17	70.2	2.79
SB12	05/19/14	12.68	5.941	7.31	137.2	0.20
SB12	08/29/14	12.46	5.920	7.46	159.6	0.17
SB12	11/21/14	12.41	5.969	7.75	177.3	1.22
SB12	02/13/15	12.33	5.842	7.35	53.5	0.33
SB12	05/21/15	12.35	5.566	7.13	17.6	0.39
SB12	08/27/15	12.47	5.864	7.52	87.4	0.33
SB12	11/24/15	11.96	5.667	6.74	44.1	0.56
SB12	02/22/16	12.14	5.649	7.52	16.5	0.34
SB12	05/23/16	12.35	5.561	7.15	87.9	4.5

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB12	08/15/16	12.63	5.643	7.36	167.5	0.19
SB12	11/21/16	12.09	5.682	7.40	-11.0	0.09
SB12	02/16/17	12.20	5.709	7.49	166.7	0.60
SB12	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB12	08/24/17	16.02	7.720	7.92	8.10	0.51
SB12	11/20/17	14.45	3.610	6.89	-138.0	0.14
SB13	02/24/14	12.72	3.556	7.98	23.5	0.16
SB13	05/19/14	13.75	4.699	7.52	202.2	0.14
SB13	08/29/14	12.89	4.605	7.58	154.6	0.10
SB13	11/21/14	12.75	4.651	7.83	164.4	1.37
SB13	02/13/15	12.65	4.861	7.35	42.9	0.41
SB13	05/21/15	12.72	4.708	7.10	-10.9	0.10
SB13	08/27/15	12.70	4.958	7.54	44.1	0.07
SB13	11/24/15	12.41	5.028	6.54	59.7	0.45
SB13	02/22/16	12.59	4.902	7.15	-29.5	0.25
SB13	05/23/16	13.14	5.040	7.10	-154.3	0.14
SB13	08/15/16	13.90	4.547	6.87	76.5	0.39
SB13	11/21/16	12.49	4.885	6.85	-9.5	0.42
SB13	02/16/17	12.60	5.213	7.30	-30.4	0.64
SB13	05/09/17	17.65	4.350	6.97	-36.7	1.04
SB13	08/24/17	14.22	4.790	7.36	-94.4	0.18
SB13	11/20/17	13.24	5.110	6.92	-106.0	0.27
SB14	02/24/14	12.91	2.000	7.29	63.6	0.15
SB14	05/19/14	12.99	2.071	6.96	62.0	0.13
SB14	08/29/14	12.87	2.051	7.17	5.2	0.22
SB14	11/21/14	12.72	2.063	7.48	-122.5	0.51
SB14	02/13/15	12.77	1.977	7.10	-52.0	0.50
SB14	05/21/15	12.83	1.979	7.01	-122.2	0.18
SB14	08/27/15	12.78	2.079	8.30	-148.2	0.08
SB14	11/24/15	12.65	1.896	10.77 ²	-125.3	0.51
SB14	02/22/16	12.66	1.890	7.25	-234.1	0.33
SB14	05/23/16	13.15	1.985	6.95	-228.7	0.05
SB14	08/15/16	13.88	2.674	7.09	-83.5	0.20
SB14	11/21/16	12.61	2.154	6.87	-56.4	1.91
SB14	02/16/17	12.70	2.245	7.00	-81.4	0.60
SB14	05/09/17	16.54	1.950	6.69	-35.6	0.38
SB14	08/24/17	17.38	1.990	7.51	-133.5	0.03
SB14	11/20/17	13.22	2.240	7.06	-123.2	0.11
SB15	02/24/14	12.50	3.080	6.97	-204.4	0.33
SB15	05/19/14	13.42	2.698	6.67	-46.9	0.60
SB15	08/29/14	12.91	2.588	6.92	17.6	0.57
SB15	11/21/14	12.55	2.404	6.97	-156.4	0.81
SB15	02/13/15	12.13	2.526	6.97	-47.2	1.12
SB15	05/21/15	12.74	1.857	6.98	-124.0	0.13
SB15	08/27/15	13.06	0.025	7.56	-62.2	9.29
SB15	11/24/15	12.55	1.124	10.12 ²	-88.3	0.29
SB15	02/22/16	12.52	1.089	7.54	-79.5	0.20
SB15	05/23/16	12.87	2.028	6.83	-178.8	0.12

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB15	08/15/16	13.03	2.481	6.88	-8.6	0.20
SB15	11/21/16	12.61	2.891	6.79	-30.2	0.22
SB15	02/16/17	13.00	3.557	6.94	-3.1	0.16
SB15	05/09/17	16.39	3.490	6.86	95.7	0.20
SB15	08/24/17	18.43	2.860	7.36	-94.0	0.07
SB15	11/20/17	13.90	4.130	6.81	86.9	0.47
SB16	02/24/14	Not Measured - Insufficient Water				
SB16	05/19/14	Not Measured - Insufficient Water				
SB16	08/29/14	Not Measured - Insufficient Water				
SB16	11/21/14	Not Measured - Insufficient Water				
SB16	02/13/15	Not Measured - Insufficient Water				
SB16	05/21/15	Not Measured - Insufficient Water				
SB16	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB16R	03/07/14 ¹	10.84	3.736	6.84	-97.4	9.04
SB16R	05/19/14	12.95	4.355	7.15	-28.9	0.60
SB16R	08/29/14	Not Measured - LNAPL Present				
SB16R	11/21/14	Not Measured - LNAPL Present				
SB16R	02/13/15	Not Measured - LNAPL Present				
SB16R	05/21/15	Not Measured - LNAPL Present				
SB16R	08/27/15	Not Measured - LNAPL Present				
SB16R	11/24/15	Not Measured - LNAPL Present				
SB16R	02/22/16	Not Measured - LNAPL Present				
SB16R	05/23/16	Not Measured - LNAPL Present				
SB16R	08/15/16	Not Measured - LNAPL Present				
SB16R	11/21/16	Not Measured - LNAPL Present				
SB16R	02/16/17	Not Measured - LNAPL Present				
SB16R	05/09/07	Not Measured - Well Damaged and Removed from Monitoring Program				
SB16R2	08/24/17	19.10	4.18	7.66	-56.3	0.03
SB16R2	11/20/17	Not Measured - LNAPL Present				
SB17	02/24/14	12.27	5.859	7.17	49.0	1.01
SB17	05/19/14	13.08	5.904	7.15	155.9	0.38
SB17	08/29/14	12.79	5.908	7.49	158.3	0.27
SB17	11/21/14	12.68	5.913	7.53	135.9	0.99
SB17	02/13/15	12.57	5.832	7.19	38.5	0.32
SB17	05/21/15	12.67	5.643	7.06	-13.9	0.67
SB17	08/27/15	12.67	5.729	7.57	51.0	0.95
SB17	11/24/15	12.29	5.647	6.77	52.5	2.33
SB17	02/22/16	12.38	5.734	7.37	9.6	0.26
SB17	05/23/16	12.83	5.683	7.20	38.7	0.20
SB17	08/15/16	12.99	5.710	7.30	171.8	0.63
SB17	11/21/16	12.40	5.724	7.34	8.4	0.41
SB17	02/16/17	12.50	5.834	7.34	112.0	0.31
SB17	05/09/17	16.96	4.930	7.16	49.3	0.35
SB17	08/24/17	18.35	5.300	7.62	10.5	0.02
SB17	11/20/17	13.90	5.360	7.05	-34.3	0.10
SB18	02/24/14	12.56	5.622	7.18	59.6	0.50
SB18	05/19/14	12.84	5.669	7.13	169.2	0.41
SB18	08/29/14	12.98	5.644	7.38	13.4	0.07

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB18	11/21/14	12.54	5.812	7.43	-72.9	0.95
SB18	02/13/15	12.53	5.597	7.19	24.8	0.37
SB18	05/21/15	12.49	2.299	7.08	-69.0	0.16
SB18	08/27/15	12.72	4.188	8.15	-129.6	0.14
SB18	11/24/15	12.28	5.283	6.68	20.9	0.29
SB18	02/22/16	12.33	5.263	7.33	-46.8	0.21
SB18	05/23/16	12.80	5.221	7.11	-19.7	0.68
SB18	08/15/16	12.95	5.464	7.13	117.1	0.81
SB18	11/21/16	12.39	5.533	7.20	6.9	0.17
SB18	02/16/17	12.50	5.620	7.31	17.6	0.38
SB18	05/09/17	17.17	4.600	6.88	-58.5	0.45
SB18	08/24/17	Not Measured - Removed From Groundwater Monitoring Program				
SB18	11/20/17	Not Measured - Removed From Groundwater Monitoring Program				
SB19	02/24/14	12.24	5.457	7.16	19.5	0.91
SB19	05/19/14	13.17	5.473	7.18	82.7	0.30
SB19	08/29/14	12.68	5.376	7.34	-2.2	0.11
SB19	11/21/14	12.47	5.578	7.31	-101.9	1.20
SB19	02/13/15	12.45	5.469	7.04	25.5	1.80
SB19	05/21/15	12.44	5.145	7.00	-49.4	0.33
SB19	08/27/15	12.61	5.408	8.12	-119.5	0.20
SB19	11/24/15	12.15	5.243	6.63	-14.9	0.80
SB19	02/22/16	12.25	5.290	7.31	-111.8	0.21
SB19	05/23/16	12.75	5.209	7.18	-109.4	0.13
SB19	08/15/16	12.76	5.301	7.16	7.4	0.56
SB19	11/21/16	12.28	5.298	7.18	-31.2	0.70
SB19	02/16/17	12.40	5.398	7.30	52.7	0.96
SB19	05/09/17	16.85	4.500	7.02	-50.2	0.45
SB19	08/24/17	14.15	1.950	7.90	-154.7	0.03
SB19	11/20/17	13.15	2.260	7.22	-95.8	0.34
SB20	02/24/14	Not Measured - Insufficient Water				
SB20	05/19/14	13.97	4.530	7.17	181.4	0.95
SB20	08/29/14	12.72	4.834	7.27	43.4	0.15
SB20	11/21/14	12.41	4.888	7.41	-6.2	1.86
SB20	02/13/15	12.41	4.802	6.74	50.0	1.08
SB20	05/21/15	12.54	4.722	6.97	71.5	1.61
SB20	08/27/15	13.78	0.045	7.77	-26.8	10.71
SB20	11/24/15	12.39	3.669	11.22 ²	-203.2	0.11
SB20	02/22/16	12.44	0.903	7.34	-82.8	0.73
SB20	05/23/16	12.98	1.720	7.36	-110.4	0.19
SB20	08/15/16	12.88	1.716	7.37	-29.8	0.42
SB20	11/21/16	12.42	2.671	7.15	-28.4	0.41
SB20	02/16/17	12.50	3.913	7.13	-71.4	0.55
SB20	05/09/17	16.64	3.520	6.92	-2.8	0.45
SB20	08/24/17	14.44	3.530	7.55	-87.9	0.16
SB20	11/20/17	13.07	2.580	7.21	-76.4	0.09
SB20R	02/24/14	Not Measured - Insufficient Water				
SB20R	05/19/14	Not Measured - Insufficient Water				
SB20R	08/29/14	Not Measured - Insufficient Water				

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB20R	11/21/14		Not Measured - Insufficient Water			
SB20R	02/13/15		Not Measured - Insufficient Water			
SB20R	05/21/15		Not Measured - Insufficient Water			
SB20R	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB21	02/24/14		Not Measured - Insufficient Water			
SB21	05/19/14		Not Measured - LNAPL Present			
SB21	08/29/14		Not Measured - LNAPL Present			
SB21	11/21/14		Not Measured - LNAPL Present			
SB21	02/13/15		Not Measured - LNAPL Present			
SB21	05/21/15		Not Measured - LNAPL Present			
SB21	08/27/15		Not Measured - LNAPL Present			
SB21	11/24/15		Not Measured - LNAPL Present			
SB21	02/22/16		Not Measured - LNAPL Present			
SB21	05/23/16		Not Measured - LNAPL Present			
SB21	08/15/16		Not Measured - LNAPL Present			
SB21	11/21/16		Not Measured - LNAPL Present			
SB21	02/16/17		Not Measured - LNAPL Present			
SB21	05/09/17		Not Measured - LNAPL Present			
SB21	08/24/17		Not Measured - LNAPL Present			
SB21	11/20/17		Not Measured - LNAPL Present			
SB22	02/24/14		Not Measured - Insufficient Water			
SB22	05/19/14		Not Measured - Insufficient Water			
SB22	08/29/14		Not Measured - Insufficient Water			
SB22	11/21/14		Not Measured - Insufficient Water			
SB22	02/13/15		Not Measured - Insufficient Water			
SB22	05/21/15		Not Measured - Insufficient Water			
SB22	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB22R	02/24/14	12.29	3.073	7.19	83.1	0.20
SB22R	05/19/14	12.83	3.560	7.05	118.9	0.20
SB22R	08/29/14	12.53	2.767	6.99	-70.0	0.12
SB22R	11/21/14	12.48	3.792	7.45	12.6	1.53
SB22R	02/13/15	12.32	3.100	6.95	41.0	0.24
SB22R	05/21/15	12.32	2.598	7.06	-142.2	0.17
SB22R	08/27/15	12.77	3.703	7.83	-101.5	0.27
SB22R	11/24/15	12.31	2.760	9.79	-55.3	0.31
SB22R	02/22/16	12.19	1.353	7.09	-167.8	0.22
SB22R	05/23/16	12.64	1.731	7.07	-172.7	0.17
SB22R	08/15/16	12.54	2.838	6.97	-46.5	0.14
SB22R	11/21/16	12.35	1.536	7.04	-46.9	0.18
SB22R	02/16/17	12.40	4.735	7.00	-42.7	0.29
SB22R	05/09/17	17.35	1.430	6.99	-66.8	0.42
SB22R	08/24/17	17.87	1.530	7.38	-159.6	0.01
SB22R	11/20/17	13.28	2.030	6.99	-166.7	0.21
SB23	03/07/14 ¹	11.26	1.978	7.07	-162.2	4.18
SB23	05/19/14		Not Measured - LNAPL Present			
SB23	08/29/14		Not Measured - LNAPL Present			
SB23	11/21/14		Not Measured - LNAPL Present			
SB23	02/13/15		Not Measured - LNAPL Present			

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB23	05/21/15	Not Measured - LNAPL Present				
SB23	08/27/15	Not Measured - Insufficient Water				
SB23	11/24/15	Not Measured - Insufficient Water				
SB23	02/22/16	Not Measured - Insufficient Water				
SB23	05/23/16	Not Measured - Insufficient Water				
SB23	08/15/16	Not Measured - Insufficient Water				
SB23	11/21/16	Not Measured - Insufficient Water				
SB23	02/16/17	Not Measured - Insufficient Water				
SB23	05/09/17	Not Measured - Removed from Groundwater Monitoring Program				
SB23R	08/24/17	Not Measured - LNAPL Present				
SB23R	11/20/17	13.43	2.22	7.17	-205.8	0.04
SB24	02/24/14	Not Measured - Insufficient Water				
SB24	05/19/14	Not Measured - Insufficient Water				
SB24	08/29/14	Not Measured - Insufficient Water				
SB24	11/21/14	Not Measured - Insufficient Water				
SB24	02/13/15	Not Measured - Insufficient Water				
SB24	05/21/15	Not Measured - Insufficient Water				
SB24	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB24R	02/24/14	12.29	2.768	7.19	129.5	0.37
SB24R	05/19/14	12.75	3.496	6.88	226.0	0.21
SB24R	08/29/14	12.39	3.007	7.49	108.5	0.36
SB24R	11/21/14	12.30	4.164	7.45	152.4	1.49
SB24R	02/13/15	12.24	3.734	7.15	70.8	6.50
SB24R	05/21/15	12.27	2.891	7.13	10.7	0.20
SB24R	08/27/15	12.30	4.031	7.71	12.2	0.10
SB24R	11/24/15	12.22	2.667	8.45	-11.4	0.47
SB24R	02/22/16	12.07	2.758	7.55	59.5	0.34
SB24R	05/23/16	12.56	2.661	7.42	-108.2	0.49
SB24R	08/15/16	12.29	3.303	7.23	110.6	0.18
SB24R	11/21/16	12.20	3.962	7.01	19.6	0.35
SB24R	02/16/17	12.20	4.113	7.12	153.4	0.58
SB24R	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB25	02/24/14	Not Measured - Insufficient Water				
SB25	05/19/14	Not Measured - Insufficient Water				
SB25	08/29/14	Not Measured - Insufficient Water				
SB25	11/21/14	Not Measured - Insufficient Water				
SB25	02/13/15	Not Measured - Insufficient Water				
SB25	05/21/15	Not Measured - Insufficient Water				
SB25	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB25R	02/24/14	12.16	3.008	7.22	174.2	2.00
SB25R	05/19/14	12.65	3.214	7.11	219.5	0.18
SB25R	08/29/14	12.47	3.054	7.50	135.1	0.04
SB25R	11/21/14	12.38	3.195	7.55	22.9	0.85
SB25R	02/13/15	12.25	3.180	7.12	44.6	1.00
SB25R	05/21/15	12.41	2.960	7.09	38.8	0.14
SB25R	08/27/15	12.62	3.412	7.82	-52.2	0.10
SB25R	11/24/15	12.35	3.095	6.73	0.3	0.62
SB25R	02/22/16	12.12	0.317	7.22	-80.6	0.35

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB25R	05/23/16	12.53	2.652	7.18	-115.4	0.30
SB25R	08/15/16	12.60	0.585	7.55	-20.7	0.30
SB25R	11/21/16	12.31	1.002	7.56	-46.5	0.33
SB25R	02/16/17	12.30	0.816	7.65	-110.6	0.11
SB25R	05/09/17	16.01	1.200	7.19	-13.1	0.39
SB25R	08/24/17	14.31	1.240	8.08	-113.6	0.06
SB25R	11/20/17	12.94	1.840	7.24	-18.7	0.61
SB26	02/24/14	12.80	2.212	7.60	171.0	0.56
SB26	05/19/14	12.89	1.999	7.75	216.9	0.62
SB26	08/29/14	12.51	2.026	7.85	96.0	0.10
SB26	11/21/14	12.20	2.260	7.99	86.4	1.81
SB26	02/13/15	12.23	1.836	7.59	140.6	0.77
SB26	05/21/15	12.39	1.753	7.35	20.5	0.30
SB26	08/27/15	12.43	1.833	7.74	65.3	0.15
SB26	11/24/15	12.20	1.025	9.87	-63.2	0.34
SB26	02/22/16	12.13	0.663	7.96	-69.5	0.23
SB26	05/23/16	12.64	0.637	7.62	-149.1	0.22
SB26	08/15/16	12.41	1.075	7.33	166.0	0.18
SB26	11/21/16	12.13	1.523	7.65	4.0	0.35
SB26	02/16/17	12.30	1.836	6.67	156.2	0.71
SB26	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB27	02/24/14	Not Measured - Insufficient Water				
SB27	05/19/14	Not Measured - Insufficient Water				
SB27	08/29/14	Not Measured - Insufficient Water				
SB27	11/21/14	Not Measured - Insufficient Water				
SB27	02/13/15	Not Measured - Insufficient Water				
SB27	05/21/15	Not Measured - Insufficient Water				
SB27	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB27R	02/24/14	11.95	3.014	7.35	152.0	4.99
SB27R	05/19/14	12.68	3.275	7.08	245.3	0.22
SB27R	08/29/14	12.41	3.053	7.59	103.5	0.06
SB27R	11/21/14	12.31	3.329	7.54	199.7	1.84
SB27R	02/13/15	12.26	3.157	7.25	25.6	0.44
SB27R	05/21/15	12.34	2.955	7.08	59.3	0.33
SB27R	08/27/15	12.45	3.411	7.58	9.8	0.39
SB27R	11/24/15	12.31	2.981	6.89	47.2	2.00
SB27R	02/22/16	12.17	3.030	7.38	17.3	0.22
SB27R	05/23/16	12.57	2.913	7.33	-76.6	1.65
SB27R	08/15/16	12.56	2.931	7.22	17.2	0.42
SB27R	11/21/16	12.30	3.021	7.19	-2.5	0.35
SB27R	02/16/17	12.30	3.449	7.12	36.8	0.45
SB27R	05/09/17	15.65	2.620	6.81	104.7	1.61
SB27R	08/24/17	17.43	2.670	7.92	174.2	0.32
SB27R	11/20/17	13.25	2.950	7.29	62.7	1.41
SB28	02/24/14	Not Measured - Insufficient Water				
SB28	05/19/14	Not Measured - Insufficient Water				
SB28	08/29/14	Not Measured - Insufficient Water				
SB28	11/21/14	Not Measured - Insufficient Water				

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB28	02/13/15	Not Measured - Insufficient Water				
SB28	05/21/15	Not Measured - Insufficient Water				
SB28	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned				
SB28R	02/24/14	12.41	2.326	7.25	135.9	0.47
SB28R	05/19/14	12.49	3.130	7.50	254.3	0.83
SB28R	08/29/14	12.47	2.725	7.49	74.8	0.16
SB28R	11/21/14	12.35	3.429	7.60	153.4	2.06
SB28R	02/13/15	12.30	2.971	7.25	73.9	0.67
SB28R	05/21/15	12.32	2.204	7.22	23.5	0.17
SB28R	08/27/15	12.85	1.927	7.74	6.1	1.16
SB28R	11/24/15	12.25	2.276	8.32	-3.2	0.54
SB28R	02/22/16	12.17	2.809	7.43	44.3	0.36
SB28R	05/23/16	12.45	2.618	7.35	-99.8	0.32
SB28R	08/15/16	12.59	1.937	7.38	38.7	1.20
SB28R	11/21/16	Not Measured - Insufficient Water				
SB28R	02/16/17	Not Measured - Well Obstructed ⁴				
SB28R	05/09/17	Not Measured - Well Obstructed ⁴				
SB28R	08/24/17	Not Measured - Well Obstructed ⁴				
SB28R	11/20/17	Not Measured - Well Obstructed ⁴				
SB29	02/24/14	12.59	2.630	7.22	75.8	0.56
SB29	05/19/14	12.73	3.306	7.32	526.9	0.46
SB29	08/29/14	12.69	2.328	7.61	90.9	0.31
SB29	11/21/14	12.41	3.778	7.70	118.9	0.86
SB29	02/13/15	12.37	3.586	7.38	143.2	0.50
SB29	05/21/15	12.41	2.242	7.24	-28.0	0.20
SB29	08/27/15	12.50	3.900	7.67	-11.7	0.06
SB29	11/24/15	12.21	2.435	9.68	-50.3	0.69
SB29	02/22/16	12.21	1.198	7.57	24.5	0.16
SB29	05/23/16	12.58	1.616	7.44	-147.6	0.50
SB29	08/15/16	12.50	1.626	7.54	-19.8	0.21
SB29	11/21/16	12.26	1.995	7.76	5.0	0.34
SB29	02/16/17	12.40	3.075	7.48	191.5	0.59
SB29	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB30	03/07/14 ¹	9.64	3.415	6.83	-57.1	15.51
SB30	05/19/14	Not Measured - LNAPL Present				
SB30	08/29/14	Not Measured - LNAPL Present				
SB30	11/21/14	Not Measured - LNAPL Present				
SB30	02/13/15	Not Measured - LNAPL Present				
SB30	05/21/15	Not Measured - LNAPL Present				
SB30	08/27/15	Not Measured - LNAPL Present				
SB30	11/24/15	Not Measured - LNAPL Present				
SB30	02/22/16	Not Measured - LNAPL Present				
SB30	05/23/16	Not Measured - LNAPL Present				
SB30	08/15/16	Not Measured - LNAPL Present				
SB30	11/21/16	Not Measured - LNAPL Present				
SB30	02/16/17	Not Measured - LNAPL Present				
SB30	05/09/17	Not Measured -Spill Buster Present				
SB30	08/24/17	Not Measured - LNAPL Present				

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB30	11/20/17	Not Measured - LNAPL Present				
SB31	03/07/14 ¹	9.15	3.096	6.85	-47.2	14.40
SB31	05/19/14	Not Measured - LNAPL Present				
SB31	08/29/14	Not Measured - LNAPL Present				
SB31	11/21/14	Not Measured - LNAPL Present				
SB31	02/13/15	Not Measured - LNAPL Present				
SB31	05/21/15	Not Measured - LNAPL Present				
SB31	08/27/15	Not Measured - LNAPL Present				
SB31	11/24/15	Not Measured - LNAPL Present				
SB31	02/22/16	Not Measured - LNAPL Present				
SB31	05/23/16	Not Measured - LNAPL Present				
SB31	08/15/16	Not Measured - LNAPL Present				
SB31	11/21/16	Not Measured - LNAPL Present				
SB31	02/16/17	Not Measured - LNAPL Present				
SB31	05/09/17	Not Measured - Spill Buster Present				
SB31	08/24/17	Not Measured - LNAPL Present				
SB31	11/20/17	Not Measured - LNAPL Present				
SB32	02/24/14	12.42	2.781	7.15	107.8	0.36
SB32	03/31/14	12.54	2.934	6.82	109.5	0.25
SB32	05/19/14	12.89	3.511	7.39	174.1	0.40
SB32	08/29/14	12.66	2.750	6.99	35.0	0.45
SB32	11/21/14	12.61	4.066	7.18	-145.9	1.22
SB32	02/13/15	12.47	3.926	6.92	-53.3	0.28
SB32	05/21/15	12.51	2.637	6.99	-82.0	0.11
SB32	08/27/15	Not Measured - Insufficient Water				
SB32	11/24/15	Not Measured - Insufficient Water				
SB32	02/22/16	Not Measured - Insufficient Water				
SB32	05/23/16	Not Measured - Insufficient Water				
SB32	08/15/16	Not Measured - Insufficient Water				
SB32	11/21/16	Not Measured - Insufficient Water				
SB32	02/16/17	Not Measured - Insufficient Water				
SB32	05/09/17	Not Measured - Insufficient Water				
SB32	08/24/17	Not Measured - Insufficient Water				
SB32	11/20/17	Not Measured - Insufficient Water				
SB33	02/24/14	Not Measured - Insufficient Water				
SB33	05/19/14	Not Measured - Insufficient Water				
SB33	08/29/14	12.37	6.177	7.08	131.8	0.11
SB33	11/21/14	12.28	6.165	7.18	-11.5	1.73
SB33	02/13/15	12.16	6.050	7.02	54.9	0.35
SB33	05/21/15	12.30	5.910	6.75	79.0	0.27
SB33	08/27/15	12.40	6.035	7.78	-98.4	0.12
SB33	11/24/15	12.22	5.976	6.65	-23.4	0.32
SB33	02/22/16	12.18	6.032	7.06	-42.7	0.20
SB33	05/23/16	12.48	5.933	6.92	-52.9	0.15
SB33	08/15/16	12.29	5.925	6.85	170.8	1.50
SB33	11/21/16	12.10	5.913	6.95	-3.9	0.12
SB33	02/16/17	12.10	5.920	7.07	32.3	0.65
SB33	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB34	02/24/14	12.36	2.316	7.14	188.9	0.72
SB34	05/19/14	12.99	2.366	7.31	245.1	0.34

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB34	08/29/14	12.61	2.328	7.20	127.4	0.30
SB34	11/21/14	12.32	2.393	7.72	176.6	1.77
SB34	02/13/15	12.17	2.308	7.10	64.4	4.30
SB34	05/21/15	12.49	2.247	7.07	33.6	0.15
SB34	08/27/15	12.57	2.298	7.60	18.9	0.23
SB34	11/24/15	12.30	2.303	8.13	26.5	1.08
SB34	02/22/16	12.21	2.292	7.34	37.7	0.20
SB34	05/23/16	12.63	2.283	7.20	-91.0	0.33
SB34	08/15/16	12.43	2.310	7.08	128.6	0.11
SB34	11/21/16	12.29	2.308	7.19	2.2	1.94
SB34	02/16/17	12.30	2.466	7.25	-59.8	0.51
SB34	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB35	03/31/14	12.42	2.861	6.69	118.3	0.39
SB35	05/19/14	12.56	2.905	4.38	184.8	0.30
SB35	08/29/14	12.46	2.887	7.55	107.5	0.11
SB35	11/21/14	12.44	3.078	7.69	89.1	1.40
SB35	02/13/15	12.29	2.897	7.26	31.9	0.72
SB35	05/21/15	12.38	2.787	7.06	46.1	0.14
SB35	08/27/15	12.54	3.036	7.75	-15.3	8.30
SB35	11/24/15	12.31	1.763	6.99	-16.9	0.41
SB35	02/22/16	12.18	1.881	7.40	-95.9	0.18
SB35	05/23/16	12.47	2.132	7.27	-103.7	0.20
SB35	08/15/16	12.44	2.261	7.17	-40.9	0.22
SB35	11/21/16	12.30	2.610	7.26	-16.0	0.46
SB35	02/16/17	12.30	2.990	7.30	19.0	0.35
SB35	05/09/17	16.19	2.410	7.03	89.7	0.49
SB35	08/24/17	Not Measured - Removed From Groundwater Monitoring Program				
SB36	03/31/14	12.56	3.638	6.95	86.3	0.19
SB36	05/19/14	12.42	4.010	7.39	250.8	0.32
SB36	08/29/14	12.37	3.134	7.13	26.0	0.17
SB36	11/21/14	12.32	3.121	7.68	145.8	1.63
SB36	02/13/15	12.01	3.096	6.84	156.7	0.75
SB36	05/21/15	12.17	2.926	7.06	77.2	0.30
SB36	08/27/15	12.13	5.125	7.27	79.2	0.18
SB36	11/24/15	11.96	4.449	6.31	90.8	0.40
SB36	02/22/16	12.15	4.534	6.97	-14.8	0.32
SB36	05/23/16	12.33	3.978	6.58	-59.2	0.45
SB36	08/15/16	12.48	3.383	6.94	168.0	0.23
SB36	11/21/16	12.08	3.701	6.93	-78.8	0.13
SB36	02/16/17	12.20	4.224	6.89	-83.2	0.64
SB36	05/09/17	14.42	2.809	7.03	-112.7	0.16
SB36	08/24/17	13.14	3.640	7.45	-125.2	0.07
SB36	11/20/17	13.49	3.610	6.73	-207.0	0.16
SB37	03/31/14	Not Measured - Insufficient Water				
SB37	05/19/14	12.92	3.378	6.97	245.5	0.22
SB37	08/29/14	12.69	2.263	7.09	-48.9	0.09
SB37	11/21/14	12.51	3.562	7.22	-30.0	1.57
SB37	02/13/15	12.54	3.581	6.88	47.3	0.24
SB37	05/21/15	12.53	2.066	7.18	-166.9	0.04
SB37	08/27/15	12.71	1.964	8.26	-203.4	0.29

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB37	11/24/15	12.48	1.874	8.70	-40.6	0.28
SB37	02/22/16	12.40	2.040	7.39	-205.9	0.04
SB37	05/23/16		Not Measured - LNAPL Present			
SB37	08/15/16		Not Measured - LNAPL Present			
SB37	11/21/16		Not Measured - LNAPL Present			
SB37	02/16/17		Not Measured - LNAPL Present			
SB37	05/09/17		Not Measured - LNAPL Present			
SB37	08/24/17		Not Measured - LNAPL Present			
SB37	11/20/17		Not Measured - LNAPL Present			
SB38	03/31/14	12.49	2.701	7.03	77.0	2.09
SB38	05/19/14	12.60	2.728	7.45	250.8	0.22
SB38	08/29/14	12.33	2.378	7.47	27.3	0.19
SB38	11/21/14	12.32	2.658	7.69	151.3	0.41
SB38	02/13/15	12.22	2.640	7.37	167.3	2.17
SB38	05/21/15	12.21	2.286	6.98	215.5	0.36
SB38	08/27/15	12.69	2.596	7.55	90.0	0.90
SB38	11/24/15	12.04	2.417	6.66	88.6	0.83
SB38	02/22/16	12.14	2.550	7.58	23.1	0.40
SB38	05/23/16	12.35	2.017	6.89	128.6	0.33
SB38	08/15/16	12.45	2.230	7.18	241.9	0.25
SB38	11/21/16	12.09	2.491	7.17	-18.8	0.16
SB38	02/16/17	12.30	2.648	7.20	2.6	0.49
SB38	05/09/17	15.84	2.028	6.86	54.0	0.44
SB38	08/24/17	14.08	2.080	7.62	125.4	0.60
SB38	11/20/17	14.19	2.320	6.80	99.3	0.54
SB39	04/18/14	13.52	6.588	6.98	160.8	2.90
SB39	05/19/14	12.51	6.540	7.19	258.0	0.35
SB39	08/29/14	12.30	6.203	7.51	126.6	0.07
SB39	11/21/14	12.22	6.402	7.53	216.0	2.12
SB39	02/13/15	12.15	6.336	7.00	65.1	0.61
SB39	05/21/15	12.10	5.814	6.77	226.3	0.23
SB39	08/27/15	12.41	4.085	7.23	94.9	0.59
SB39	11/24/15	11.72	4.033	6.27	91.6	1.32
SB39	02/22/16	11.90	3.954	7.08	23.2	0.31
SB39	05/23/16		Not Measured - Probe Malfunction			
SB39	08/15/16	12.36	3.704	7.05	280.1	3.48
SB39	11/21/16	11.86	3.846	6.97	111.5	2.52
SB39	02/16/17	12.00	3.862	6.93	411.2	1.79
SB39	05/09/17	16.37	2.92	6.75	94.83	1.36
SB39	08/24/17	14.40	2.98	7.52	220.2	7.70
SB39	11/20/17	13.21	3.74	6.93	28.4	0.71
SB40	04/18/14	12.58	3.878	7.22	140.1	1.17
SB40	05/19/14	12.36	3.888	7.54	232.0	0.58
SB40	08/29/14	12.14	3.561	7.61	88.0	3.20
SB40	11/21/14	11.49	3.553	7.60	88.4	2.20
SB40	02/13/15	12.11	3.559	7.13	76.0	2.01
SB40	05/21/15	12.12	3.485	6.50	250.1	0.90
SB40	08/27/15	12.22	3.721	7.34	116.2	0.12
SB40	11/24/15	11.91	2.703	6.65	108.7	4.74
SB40	02/22/16	12.03	2.260	7.24	192.0	0.41

TABLE 3
GROUNDWATER GEOCHEMICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION

Monitoring Well ID	Date	Temp (°C)	EC (mS/cm)	pH	ORP (mV)	DO (mg/L)
SB40	05/23/16	12.03	2.281	6.64	108.8	5.43
SB40	08/15/16	12.43	2.111	7.50	263.8	7.10
SB40	11/21/16	11.96	2.012	7.28	142.4	1.89
SB40	02/16/17	12.20	2.363	7.27	414.0	0.71
SB40	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB41	04/18/14	12.92	2.001	7.54	115.8	3.36
SB41	05/19/14	12.51	2.419	7.39	208.1	0.25
SB41	08/29/14	12.30	2.012	7.76	43.3	0.22
SB41	11/21/14	11.97	1.980	8.10	122.2	2.05
SB41	02/13/15	12.14	2.094	7.47	109.0	0.45
SB41	05/21/15	12.19	1.910	7.09	217.0	0.34
SB41	08/27/15	12.53	1.945	7.49	118.3	0.10
SB41	11/24/15	11.97	1.932	6.70	97.8	1.95
SB41	02/22/16	12.05	0.868	7.63	-68.5	0.38
SB41	05/23/16	12.28	1.846	6.97	105.0	0.53
SB41	08/15/16	12.48	2.570	7.38	250.9	0.22
SB41	11/21/16	12.04	2.546	7.17	240.9	1.39
SB41	02/16/17	12.20	2.379	7.43	421.4	0.54
SB41	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				
SB42	04/18/14	12.61	2.645	7.37	205.9	6.44
SB42	05/19/14	12.66	3.096	7.23	250.0	0.44
SB42	08/29/14	12.54	2.304	7.64	143.0	0.54
SB42	11/21/14	12.42	2.259	7.84	58.6	0.84
SB42	02/13/15	12.44	3.195	7.22	37.3	0.69
SB42	05/21/15	12.29	2.030	7.21	128.8	0.25
SB42	08/27/15	12.56	2.059	7.56	84.0	0.08
SB42	11/24/15	12.20	2.034	6.75	8.5	0.25
SB42	02/22/16	12.17	1.923	7.65	-59.8	0.28
SB42	05/23/16	12.56	1.888	7.52	-145.9	0.42
SB42	08/15/16	12.65	1.884	7.47	48.5	0.43
SB42	11/21/16	12.15	1.941	7.42	-15.5	1.65
SB42	02/16/17	12.30	2.520	7.58	117.9	0.31
SB42	05/09/17	Not Measured - Removed From Groundwater Monitoring Program				

NOTES:

Temp (°C) = Temperature in degrees Celsius (°C)

EC (mS/cm) = Electrical conductivity in millisiemens per centimeter (mS/cm)

pH = Acidity or alkalinity in standard units

ORP (mV) = Oxidation reduction potential in millivolts (mV)

DO (mg/L) = Dissolved oxygen concentration in milligrams per liter (mg/L)

LNAPL = Light non-aqueous phase liquid

¹ Measured ex-situ due to the presence of LNAPL

² pH values appear anomalous for wells SB07, SB10, SB14, SB15, SB20 measured on 11/24/15, and for well SB11 o

³ DO values appear anomalous for wells SB07, SB08, SB10 measured on 02/22/16, and for well SB07 measured on

⁴ Obstruction in well large enough to block meter sensor, but did not block hydrasleeve deployment.

This table presents data collected by Tasman Geosciences. Historical data is presented in Attachment A of the Form 27 Site Assessment Report (COGCC Document #2148980)

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB01	02/24/14	1.5	13.5	1.2	33.8
SB01	05/19/14	Removed From Groundwater Monitoring Program - Submerged Well Screen			
SB01	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB02	02/24/14	25.1	<4.0	<4.0	<4.0
SB02	05/19/14	Removed From Groundwater Monitoring Program - Submerged Well Screen			
SB02	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB03	02/24/14	<1.0	<1.0	<1.0	<1.0
SB03	05/19/14	<1.0	<5.0	<1.0	<3.0
SB03	08/29/14	<1.0	<5.0	<1.0	<3.0
SB03	11/21/14	<1.0	<5.0	<1.0	<3.0
SB03	02/13/15	<1.0	<5.0	<1.0	<3.0
SB03	05/21/15	<1.0	<5.0	<1.0	<3.0
SB03	08/27/15	<1.0	<5.0	<1.0	<3.0
SB03	11/24/15	1.45	<5.0	1.33	<3.0
SB03	02/22/16	2.57	<5.0	5.53	<3.0
SB03	05/23/16	3.2	<1.0	6.2	2.5
SB03	08/15/16	<1.0	<1.0	<1.0	<1.0
SB03	11/21/16	<1.0	<1.0	<1.0	<1.0
SB03	02/16/17	<1.0	<1.0	<1.0	<1.0
SB03	05/12/17	<1.0	<1.0	<1.0	<2.0
SB03	08/24/17	<1.0	<1.0	<1.0	<2.0
SB03	11/20/17	<1.0	<1.0	<1.0	<2.0
SB04	02/24/14	72.3	<1.0	<1.0	<1.0
SB04	05/19/14	6.4	<5.0	<1.0	<3.0
SB04	08/29/14	42	<5.0	<1.0	<3.0
SB04	11/21/14	7.9	<5.0	<1.0	<3.0
SB04	02/13/15	8.8	<5.0	<1.0	<3.0
SB04	05/21/15	100	<5.0	6.1	4.8
SB04	08/27/15	174	<5.0	3.26	3.28
SB04	11/24/15	1,760	<125	543	371
SB04	02/22/16	1,010	<5.0	223	366
SB04	05/23/16	490	<1.0	300	150
SB04	08/15/16	910	<1.0	640	150
SB04	11/21/16	970	1.4	1,100	<1.0
SB04	02/16/17	770	1.3	1,100	22
SB04	05/12/17	620	1.5	930	64
SB04	08/24/17	36	1.9	150	31
SB04 ³	11/20/17	53	<1.0	110	<2.0

Table 4-1

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB05	02/24/14	Not Sampled - LNAPL Present			
SB05	05/19/14	Not Sampled - LNAPL Present			
SB05	08/29/14	Not Sampled - LNAPL Present			
SB05	11/21/14	Not Sampled - LNAPL Present			
SB05	02/13/15	Not Sampled - LNAPL Present			
SB05	05/21/15	Not Sampled - LNAPL Present			
SB05	08/27/15	Not Sampled - LNAPL Present			
SB05	11/24/15	Not Sampled - LNAPL Present			
SB05	02/22/16	Not Sampled - LNAPL Present			
SB05	05/23/16	Not Sampled - LNAPL Present			
SB05	08/15/16	Not Sampled - LNAPL Present			
SB05	11/21/16	Not Sampled - LNAPL Present			
SB05	02/16/17	Not Sampled - LNAPL Present			
SB05	05/12/17	Not Sampled - LNAPL Present			
SB05	08/24/17	Not Sampled - LNAPL Present			
SB05	11/20/17	Not Sampled - LNAPL Present			
SB06	02/24/14	<1.0	<1.0	<1.0	<1.0
SB06	05/19/14	<1.0	<5.0	<1.0	<3.0
SB06	08/29/14	<1.0	<5.0	<1.0	<3.0
SB06	11/21/14	<1.0	<5.0	<1.0	<3.0
SB06	02/13/15	<1.0	<5.0	<1.0	<3.0
SB06	05/21/15	<1.0	<5.0	<1.0	<3.0
SB06	08/27/15	23.2	<5.0	<1.0	4.97
SB06	11/24/15	2.39	<5.0	<1.0	<3.0
SB06	02/22/16	2.48	<5.0	<1.0	<3.0
SB06	05/23/16	2.6	<1.0	<1.0	2.7
SB06	08/15/16	<1.0	<1.0	<1.0	<1.0
SB06	11/21/16	<1.0	<1.0	<1.0	<1.0
SB06	02/16/17	2.0	<1.0	2.1	<1.0
SB06	05/12/17	<1.0	<1.0	<1.0	<2.0
SB06	08/24/17	<1.0	<1.0	<1.0	2.3
SB06	11/20/17	<1.0	<1.0	<1.0	<2.0

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB07	02/24/14	8,600	9,910	54.0	1,800
SB07	05/19/14	7,800	9,900	88	3,200
SB07	08/29/14	5,900	<2,500	<500	<1,500
SB07	11/21/14	8,600	6,000	<500	3,600
SB07	02/13/15	2,200	<250	<50	310
SB07	05/21/15	4,400	720	<50	430
SB07	08/27/15	642	784	<50	336
SB07	11/24/15	9,560	27,000	445	8,730
SB07	02/22/16	7,860	10,400	304	6,720
SB07	05/23/16	9,900	2,000	500	6,200
SB07	08/15/16	4,200	350	220	2,100
SB07	11/21/16	1,100	110	60	560
SB07	02/16/17	3,500	230	270	5,800
SB07	05/12/17	2,700	66	200	5,400
SB07	08/24/17	2,300	300	160	3,700
SB07	11/20/17	1,800	160	170	2,700
SB08	02/24/14	Not Sampled - LNAPL Present			
SB08	05/19/14	5,500	12,000	480	10,000
SB08	08/29/14	5,000	4,100	600	12,000
SB08	11/21/14	Not Sampled - LNAPL Present			
SB08	02/13/15	Not Sampled - LNAPL Present			
SB08	05/21/15	Not Sampled - LNAPL Present			
SB08	08/27/15	4,710	7,120	252	8,720
SB08	11/24/15	Not Sampled - LNAPL Present			
SB08	02/22/16	3,600	5,950	459	10,100
SB08	05/23/16	5,200	5,000	920	16,000
SB08	08/15/16	6,400	5,300	780	17,000
SB08	11/21/16	6,500	6,100	840	13,000
SB08	02/16/17	4,600	5,000	750	13,000
SB08	05/12/17	5,400	4,800	530	12,000
SB08	08/24/17	4,800	3,000	770	12,000
SB08	11/20/17	6,200	750	440	10,000

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB09	02/24/14	Not Sampled - LNAPL Present			
SB09	05/19/14	Not Sampled - LNAPL Present			
SB09	08/29/14	Not Sampled - LNAPL Present			
SB09	11/21/14	Not Sampled - LNAPL Present			
SB09	02/13/15	Not Sampled - LNAPL Present			
SB09	05/21/15	Not Sampled - LNAPL Present			
SB09	08/27/15	Not Sampled - LNAPL Present			
SB09	11/24/15	Not Sampled - LNAPL Present			
SB09	02/22/16	Not Sampled - LNAPL Present			
SB09	05/23/16	Not Sampled - LNAPL Present			
SB09	08/15/16	Not Sampled - LNAPL Present			
SB09	11/21/16	Not Sampled - LNAPL Present			
SB09	02/16/17	Not Sampled - LNAPL Present			
SB09	05/12/17	Not Sampled - LNAPL Present			
SB09	08/24/17	Not Sampled - LNAPL Present			
SB09	11/20/17	Not Sampled - LNAPL Present			
SB10	02/24/14	Not Sampled - LNAPL Present			
SB10	05/19/14	14,000	18,000	640	12,000
SB10	08/29/14	Not Sampled - LNAPL Present			
SB10	11/21/14	15,000	24,000	1,100	21,000
SB10	02/13/15	15,000	33,000	620	13,000
SB10	05/21/15	Not Sampled - LNAPL Present			
SB10	08/27/15	14,900	32,900	713	11,300
SB10	11/24/15	9,920	20,700	<1,000	9,280
SB10	02/22/16	3,520	6,670	458	9,620
SB10	05/23/16	7,200	16,000	1,200	18,000
SB10	08/15/16	6,700	14,000	710	18,000
SB10	11/21/16	6,900	5,600	1,000	13,000
SB10	02/16/17	4,800	2,600	790	10,000
SB10	05/12/17	5,700	2,700	590	10,000
SB10	08/24/17	4,900	1,300	880	8,900
SB10	11/20/17	3,500	140	450	6,400
SB11	02/24/14	1,550	<1.0	127	<1.0
SB11	05/19/14	49	<5.0	<1.0	<3.0
SB11	08/29/14	170	<5.0	20	<3.0
SB11	11/21/14	250	<5.0	22	<3.0
SB11	02/13/15	94	<5.0	28	<3.0
SB11	05/21/15	120	<5.0	16	<3.0
SB11	08/27/15	48.2	<5.0	<1.0	3.61
SB11	11/24/15	50.6	<5.0	111	<3.0
SB11	02/22/16	11.5	<5.0	59.4	<3.0
SB11	05/23/16	64	<1.0	38	<1.0

Table 4-4

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB11	08/15/16	<1.0	<1.0	<1.0	<1.0
SB11	11/21/16	2.1	<1.0	14	<1.0
SB11	02/16/17	<1.0	<1.0	<1.0	<1.0
SB11	05/12/17	<1.0	<1.0	<1.0	<2.0
SB11	08/24/17	<1.0	<1.0	<1.0	<2.0
SB11	11/20/17	<1.0	<1.0	<1.0	<2.0
SB12	02/24/14	<1.0	<1.0	<1.0	<1.0
SB12	05/19/14	<1.0	<5.0	<1.0	<3.0
SB12	08/29/14	<1.0	<5.0	<1.0	<3.0
SB12	11/21/14	<1.0	<5.0	<1.0	<3.0
SB12	02/13/15	<1.0	<5.0	<1.0	<3.0
SB12	05/21/15	<1.0	<5.0	<1.0	<3.0
SB12	08/27/15	<1.0	<5.0	<1.0	<3.0
SB12	11/24/15	<1.0	<5.0	<1.0	<3.0
SB12	02/22/16	<1.0	<5.0	<1.0	<3.0
SB12	05/23/16	<1.0	<1.0	<1.0	<1.0
SB12	08/15/16	<1.0	<1.0	<1.0	<1.0
SB12	11/21/16	<1.0	<1.0	<1.0	<1.0
SB12	02/16/17	<1.0	<1.0	<1.0	<1.0
SB12	05/12/17	Well Not Sampled This Event ²			
SB12	08/24/17	<1.0	<1.0	<1.0	<2.0
SB12	11/20/17	<1.0	<1.0	<1.0	<2.0
SB13	02/24/14	<1.0	<1.0	<1.0	1.4
SB13	05/19/14	<1.0	<5.0	<1.0	<3.0
SB13	08/29/14	1.3	<5.0	<1.0	<3.0
SB13	11/21/14	<1.0	<5.0	<1.0	<3.0
SB13	02/13/15	<1.0	<5.0	<1.0	<3.0
SB13	05/21/15	<1.0	<5.0	<1.0	<3.0
SB13	08/27/15	<1.0	<5.0	<1.0	<3.0
SB13	11/24/15	1.15	<5.0	<1.0	<3.0
SB13	02/22/16	10.6	<5.0	8.85	16
SB13	05/23/16	14	7.0	40	40
SB13	08/15/16	<1.0	<1.0	<1.0	<1.0
SB13	11/21/16	30	2.8	31	57
SB13	02/16/17	51	1.6	61	42
SB13	05/12/17	21	<1.0	48	<2.0
SB13	08/24/17	<1.0	<1.0	<1.0	<2.0
SB13	11/20/17	<1.0	<1.0	6.2	<2.0
SB14	02/24/14	1,220	62.4	88.3	314
SB14	05/19/14	140	<5.0	1.4	4.8

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB14	08/29/14	2,600	<5.0	130	50
SB14	11/21/14	2,100	<500	120	<300
SB14	02/13/15	1,700	<100	210	<60
SB14	05/21/15	1,400	<100	310	<60
SB14	08/27/15	2,570	<100	394	<60
SB14	11/24/15	5,070	334	978	797
SB14	02/22/16	4,390	648	717	1,080
SB14	05/23/16	2,600	8.8	1,200	170
SB14	08/15/16	1,700	<1.0	1.9	48
SB14	11/21/16	400	1.6	680	53
SB14	02/16/17	<1.0	<1.0	<1.0	<1.0
SB14	05/12/17	15	<1.0	180	<2.0
SB14	08/24/17	<1.0	<1.0	<1.0	<2.0
SB14	11/20/17	1.8	<1.0	<1.0	<2.0
SB15	02/24/14	4,610	8,690	553	10,900
SB15	05/19/14	3,900	2,500	530	9,700
SB15	08/29/14	2,000	<120	700	4,100
SB15	11/21/14	480	<120	190	880
SB15	02/13/15	100	<25	70	420
SB15	05/21/15	64	<25	30	230
SB15	08/27/15	91.7	<25	40.8	379
SB15	11/24/15	8.84	<5.0	<1.0	5.11
SB15	02/22/16	10.8	<5.0	<1.0	8.21
SB15	05/23/16	4.1	<1.0	5.7	26
SB15	08/15/16	<1.0	<1.0	<1.0	<1.0
SB15	11/21/16	<1.0	<1.0	<1.0	<1.0
SB15	02/16/17	<1.0	<1.0	<1.0	<1.0
SB15	05/12/17	14	<1.0	<1.0	2.1
SB15	08/24/17	<1.0	<1.0	<1.0	<2.0
SB15	11/20/17	<1.0	<1.0	<1.0	<2.0
SB16	02/24/14	Not Sampled - Insufficient Water			
SB16	05/19/14	Not Sampled - Insufficient Water			
SB16	08/29/14	Not Sampled - Insufficient Water			
SB16	11/21/14	Not Sampled - Insufficient Water			
SB16	02/13/15	Not Sampled - Insufficient Water			
SB16	05/21/15	Not Sampled - Insufficient Water			
SB16	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB16R	02/24/14	Not Sampled - LNAPL Present			
SB16R	05/19/14	6,000	26,000	770	14,000
SB16R	08/29/14	Not Sampled - LNAPL Present			
SB16R	11/21/14	Not Sampled - LNAPL Present			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB16R	02/13/15	Not Sampled - LNAPL Present			
SB16R	05/21/15	Not Sampled - LNAPL Present			
SB16R	08/27/15	Not Sampled - LNAPL Present			
SB16R	11/24/15	Not Sampled - LNAPL Present			
SB16R	02/22/16	Not Sampled - LNAPL Present			
SB16R	05/23/16	Not Sampled - LNAPL Present			
SB16R	08/15/16	Not Sampled - LNAPL Present			
SB16R	11/21/16	Not Sampled - LNAPL Present			
SB16R	02/16/17	Not Sampled - LNAPL Present			
SB16R	05/12/17	Not Sampled - Monitoring Well Damaged and Removed from Monitoring Program			
SB16R2	08/24/17	1,200	3,100	45	2,300
SB16R2	11/20/17	Not Sampled - LNAPL Present			
SB17	02/24/14	<1.0	<1.0	<1.0	<1.0
SB17	05/19/14	<1.0	<5.0	<1.0	<3.0
SB17	08/29/14	<1.0	<5.0	<1.0	<3.0
SB17	11/21/14	<1.0	<5.0	<1.0	<3.0
SB17	02/13/15	<1.0	<5.0	<1.0	<3.0
SB17	05/21/15	<1.0	<5.0	<1.0	<3.0
SB17	08/27/15	<1.0	<5.0	<1.0	<3.0
SB17	11/24/15	<1.0	<5.0	<1.0	<3.0
SB17	02/22/16	<1.0	<5.0	<1.0	<3.0
SB17	05/23/16	<1.0	<1.0	<1.0	<1.0
SB17	08/15/16	<1.0	<1.0	<1.0	<1.0
SB17	11/21/16	<1.0	<1.0	<1.0	<1.0
SB17	02/16/17	<1.0	<1.0	<1.0	<1.0
SB17	05/12/17	<1.0	<1.0	<1.0	<2.0
SB17	08/24/17	<1.0	<1.0	<1.0	<2.0
SB17	11/20/17	<1.0	<1.0	<1.0	<2.0
SB18	02/24/14	<1.0	<1.0	<1.0	<1.0
SB18	05/19/14	<1.0	<5.0	<1.0	<3.0
SB18	08/29/14	<1.0	<5.0	<1.0	<3.0
SB18	11/21/14	<1.0	<5.0	<1.0	<3.0
SB18	02/13/15	<1.0	<5.0	<1.0	<3.0
SB18	05/21/15	<1.0	<5.0	<1.0	<3.0
SB18	08/27/15	<1.0	<5.0	<1.0	<3.0
SB18	11/24/15	<1.0	<5.0	<1.0	<3.0
SB18	02/22/16	<1.0	<5.0	<1.0	<3.0
SB18	05/23/16	1.9	<1.0	<1.0	<1.0
SB18	08/15/16	<1.0	<1.0	<1.0	<1.0
SB18	11/21/16	<1.0	<1.0	<1.0	<1.0
SB18	02/16/17	<1.0	<1.0	<1.0	<1.0
SB18	05/12/17	<1.0	<1.0	<1.0	<2.0
SB18	08/24/17	Not Sampled - Removed From Groundwater Monitoring Program			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB19	02/24/14	<1.0	<1.0	<1.0	<1.0
SB19	05/19/14	<1.0	<5.0	<1.0	<3.0
SB19	08/29/14	<1.0	<5.0	<1.0	3.4
SB19	11/21/14	<1.0	<5.0	<1.0	<3.0
SB19	02/13/15	<1.0	<5.0	<1.0	<3.0
SB19	05/21/15	<1.0	<5.0	<1.0	<3.0
SB19	08/27/15	<1.0	<5.0	<1.0	<3.0
SB19	11/24/15	<1.0	<5.0	<1.0	<3.0
SB19	02/22/16	<1.0	<5.0	<1.0	<3.0
SB19	05/23/16	<1.0	<1.0	<1.0	<1.0
SB19	08/15/16	<1.0	<1.0	<1.0	<1.0
SB19	11/21/16	<1.0	<1.0	<1.0	<1.0
SB19	02/16/17	<1.0	<1.0	<1.0	<1.0
SB19	05/12/17	<1.0	<1.0	<1.0	<2.0
SB19	08/24/17	<1.0	<1.0	<1.0	<2.0
SB19	11/20/17	<1.0	<1.0	<1.0	<2.0
SB20	02/24/14	Not Sampled - Insufficient Water			
SB20	05/19/14	<1.0	<5.0	<1.0	<3.0
SB20	08/29/14	<1.0	<5.0	<1.0	3.5
SB20	11/21/14	<1.0	<5.0	<1.0	<3.0
SB20	02/13/15	<1.0	<5.0	<1.0	<3.0
SB20	05/21/15	<1.0	<5.0	<1.0	<3.0
SB20	08/27/15	<1.0	<5.0	<1.0	<3.0
SB20	11/24/15	<1.0	<5.0	<1.0	<3.0
SB20	02/22/16	<1.0	<5.0	<1.0	<3.0
SB20	05/23/16	<1.0	<1.0	<1.0	<1.0
SB20	08/15/16	<1.0	<1.0	<1.0	<1.0
SB20	11/21/16	<1.0	<1.0	<1.0	<1.0
SB20	02/16/17	<1.0	<1.0	<1.0	<1.0
SB20	05/12/17	<1.0	<1.0	<1.0	<2.0
SB20	08/24/17	<1.0	<1.0	<1.0	<2.0
SB20	11/20/17	<1.0	<1.0	<1.0	<2.0
SB20R	02/24/14	Not Sampled - Insufficient Water			
SB20R	05/19/14	Not Sampled - Insufficient Water			
SB20R	08/29/14	Not Sampled - Insufficient Water			
SB20R	11/21/14	Not Sampled - Insufficient Water			
SB20R	02/13/15	Not Sampled - Insufficient Water			
SB20R	05/21/15	Not Sampled - Insufficient Water			
SB20R	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB21	02/24/14	Not Sampled - LNAPL Present			
SB21	05/19/14	Not Sampled - LNAPL Present			
SB21	08/29/14	Not Sampled - LNAPL Present			
SB21	11/21/14	Not Sampled - LNAPL Present			
SB21	02/13/15	Not Sampled - LNAPL Present			
SB21	05/21/15	Not Sampled - LNAPL Present			
SB21	08/27/15	Not Sampled - LNAPL Present			
SB21	11/24/15	Not Sampled - LNAPL Present			
SB21	02/22/16	Not Sampled - LNAPL Present			
SB21	05/23/16	Not Sampled - LNAPL Present			
SB21	08/15/16	Not Sampled - LNAPL Present			
SB21	11/21/16	Not Sampled - LNAPL Present			
SB21	02/16/17	Not Sampled - LNAPL Present			
SB21	05/12/17	Not Sampled - LNAPL Present			
SB21	08/24/17	Not Sampled - LNAPL Present			
SB21	11/20/17	Not Sampled - LNAPL Present			
SB22	02/24/14	Not Sampled - Insufficient Water			
SB22	05/19/14	Not Sampled - Insufficient Water			
SB22	08/29/14	Not Sampled - Insufficient Water			
SB22	11/21/14	Not Sampled - Insufficient Water			
SB22	02/13/15	Not Sampled - Insufficient Water			
SB22	05/21/15	Not Sampled - Insufficient Water			
SB22	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB22R	02/24/14	270	1,190	6.9	598
SB22R	05/19/14	110	1,900	5.0	1,600
SB22R	08/29/14	270	730	19	2,100
SB22R	11/21/14	110	220	<10	1,100
SB22R	02/13/15	22	5.5	2.4	110
SB22R	05/21/15	31	<5.0	<1.0	140
SB22R	08/27/15	<1.0	<5.1	<1.1	8.46
SB22R	11/24/15	2.34	<5.2	<1.2	21.8
SB22R	02/22/16	86.4	829	31.0	2,380
SB22R	05/23/16	190	150	43	750
SB22R	08/15/16	<1.0	<1.0	<1.0	<1.0
SB22R	11/21/16	2.2	2.7	2.5	<1.0
SB22R	02/16/17	4.4	<1.0	2.0	1.1
SB22R	05/12/17	1.5	1.6	<1.0	<2.0
SB22R	08/24/17	<1.0	<1.0	<1.0	<2.0
SB22R	11/20/17	1.1	2.0	<1.0	3.8

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB23	02/24/14	Not Sampled - LNAPL Present			
SB23	05/19/14	Not Sampled - LNAPL Present			
SB23	08/29/14	Not Sampled - LNAPL Present			
SB23	11/21/14	Not Sampled - LNAPL Present			
SB23	02/13/15	Not Sampled - LNAPL Present			
SB23	05/21/15	Not Sampled - LNAPL Present			
SB23	08/27/15	Not Sampled - Insufficient Water			
SB23	11/24/15	Not Sampled - Insufficient Water			
SB23	02/22/16	Not Sampled - Insufficient Water			
SB23	05/23/16	Not Sampled - Insufficient Water			
SB23	08/15/16	Not Sampled - Insufficient Water			
SB23	11/21/16	Not Sampled - Insufficient Water			
SB23	02/16/17	Not Sampled - Insufficient Water			
SB23	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB23R	08/24/17	Not Sampled - LNAPL Present			
SB23R	11/20/17	6,500	24,000	540	18,000
SB24	02/24/14	Not Sampled - Insufficient Water			
SB24	05/19/14	Not Sampled - Insufficient Water			
SB24	08/29/14	Not Sampled - Insufficient Water			
SB24	11/21/14	Not Sampled - Insufficient Water			
SB24	02/13/15	Not Sampled - Insufficient Water			
SB24	05/21/15	Not Sampled - Insufficient Water			
SB24	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB24R	02/24/14	<1.0	<1.0	<1.0	<1.0
SB24R	05/19/14	1.3	<5.0	<1.0	<3.0
SB24R	08/29/14	<1.0	<5.0	<1.0	<3.0
SB24R	11/21/14	<1.0	<5.0	<1.0	<3.0
SB24R	02/13/15	<1.0	<5.0	<1.0	4.0
SB24R	05/21/15	<1.0	<5.0	<1.0	<3.0
SB24R	08/27/15	<1.0	<5.0	<1.0	<3.0
SB24R	11/24/15	<1.0	<5.0	<1.0	<3.0
SB24R	02/22/16	<1.0	<5.0	<1.0	<3.0
SB24R	05/23/16	<1.0	<1.0	<1.0	<1.0
SB24R	08/15/16	<1.0	<1.0	<1.0	<1.0
SB24R	11/21/16	<1.0	<1.0	<1.0	<1.0
SB24R	02/16/17	<1.0	<1.0	<1.0	<1.0
SB24R	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB25	02/24/14	Not Sampled - Insufficient Water			
SB25	05/19/14	Not Sampled - Insufficient Water			
SB25	08/29/14	Not Sampled - Insufficient Water			
SB25	11/21/14	Not Sampled - Insufficient Water			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB25	02/13/15	Not Sampled - Insufficient Water			
SB25	05/21/15	Not Sampled - Insufficient Water			
SB25	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB25R	02/24/14	<1.0	<1.0	<1.0	<1.0
SB25R	05/19/14	<1.0	<5.0	<1.0	<3.0
SB25R	08/29/14	<1.0	<5.0	<1.0	<3.0
SB25R	11/21/14	<1.0	<5.0	<1.0	<3.0
SB25R	02/13/15	<1.0	<5.0	<1.0	<3.0
SB25R	05/21/15	<1.0	<5.0	<1.0	<3.0
SB25R	08/27/15	<1.0	<5.0	<1.0	<3.0
SB25R	11/24/15	<1.0	<5.0	<1.0	<3.0
SB25R	02/22/16	<1.0	<5.0	<1.0	<3.0
SB25R	05/23/16	<1.0	<1.0	<1.0	<1.0
SB25R	08/15/16	<1.0	<1.0	<1.0	<1.0
SB25R	11/21/16	<1.0	<1.0	<1.0	<1.0
SB25R	02/16/17	<1.0	<1.0	<1.0	<1.0
SB25R	05/12/17	<1.0	<1.0	<1.0	<2.0
SB25R	08/24/17	<1.0	<1.0	<1.0	<2.0
SB25R	11/20/17	<1.0	<1.0	<1.0	<2.0
SB26	02/24/14	<1.0	<1.0	<1.0	<1.0
SB26	05/19/14	3.0	<5.0	<1.0	<3.0
SB26	08/29/14	<1.0	<5.0	<1.0	<3.0
SB26	11/21/14	<1.0	<5.0	<1.0	<3.0
SB26	02/13/15	<1.0	<5.0	<1.0	<3.0
SB26	05/21/15	<1.0	<5.0	<1.0	<3.0
SB26	08/27/15	<1.0	<5.0	<1.0	<3.0
SB26	11/24/15	<1.0	<5.0	<1.0	<3.0
SB26	02/22/16	<1.0	<5.0	<1.0	<3.0
SB26	05/23/16	<1.0	<1.0	<1.0	<1.0
SB26	08/15/16	<1.0	<1.0	<1.0	<1.0
SB26	11/21/16	<1.0	<1.0	<1.0	<1.0
SB26	02/16/17	<1.0	<1.0	<1.0	<1.0
SB26	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB27	02/24/14	Not Sampled - Insufficient Water			
SB27	05/19/14	Not Sampled - Insufficient Water			
SB27	08/29/14	Not Sampled - Insufficient Water			
SB27	11/21/14	Not Sampled - Insufficient Water			
SB27	02/13/15	Not Sampled - Insufficient Water			
SB27	05/21/15	Not Sampled - Insufficient Water			
SB27	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB27R	02/24/14	<1.0	<1.0	<1.0	<1.0
SB27R	05/19/14	16	<5.0	<1.0	<3.0
SB27R	08/29/14	<1.0	<5.0	<1.0	<3.0
SB27R	11/21/14	<1.0	<5.0	<1.0	<3.0
SB27R	02/13/15	<1.0	<5.0	<1.0	<3.0
SB27R	05/21/15	<1.0	<5.0	<1.0	<3.0
SB27R	08/27/15	<1.00	<5.00	<1.00	<3.00
SB27R	11/24/15	<1.00	<5.00	<1.00	<3.00
SB27R	02/22/16	<1.00	<5.00	<1.00	<3.00
SB27R	05/23/16	<1.0	<1.0	<1.0	<1.0
SB27R	08/15/16	<1.0	<1.0	<1.0	<1.0
SB27R	11/21/16	<1.0	<1.0	<1.0	<1.0
SB27R	02/16/17	<1.0	<1.0	<1.0	<1.0
SB27R	05/12/17	<1.0	<1.0	<1.0	<2.0
SB27R	08/24/17	<1.0	<1.0	<1.0	<2.0
SB27R	11/20/17	<1.0	<1.0	<1.0	11
SB28	02/24/14	Not Sampled - Insufficient Water			
SB28	05/19/14	Not Sampled - Insufficient Water			
SB28	08/29/14	Not Sampled - Insufficient Water			
SB28	11/21/14	Not Sampled - Insufficient Water			
SB28	02/13/15	Not Sampled - Insufficient Water			
SB28	05/21/15	Not Sampled - Insufficient Water			
SB28	08/27/15	Removed From Groundwater Monitoring Program - Plugged and Abandoned			
SB28R	02/24/14	<1.0	<1.0	<1.0	3.01
SB28R	05/19/14	<1.0	<5.0	<1.0	<3.0
SB28R	08/29/14	<1.0	<5.0	<1.0	<3.0
SB28R	11/21/14	<1.0	<5.0	<1.0	<3.0
SB28R	02/13/15	<1.0	<5.0	<1.0	<3.0
SB28R	05/21/15	<1.0	<5.0	<1.0	<3.0
SB28R	08/27/15	<1.0	<5.0	<1.0	<3.0
SB28R	11/24/15	<1.0	<5.0	<1.0	<3.0
SB28R	02/22/16	<1.0	<5.0	<1.0	<3.0
SB28R	05/23/16	<1.0	<1.0	<1.0	<1.0
SB28R	08/15/16	<1.0	<1.0	<1.0	<1.0
SB28R	11/21/16	Not Sampled - Insufficient Water			
SB28R	02/16/17	<1.0	<1.0	<1.0	<1.0
SB28R	05/12/17	<1.0	<1.0	<1.0	<2.0
SB28R ¹	08/24/17	<1.0	<1.0	<1.0	<2.0
SB28R ¹	11/20/17	<1.0	<1.0	<1.0	<2.0

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TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB29	02/24/14	<1.0	<1.0	<1.0	<1.0
SB29	05/19/14	<1.0	<5.0	<1.0	<3.0
SB29	08/29/14	<1.0	<5.0	<1.0	<3.0
SB29	11/21/14	<1.0	<5.0	<1.0	<3.0
SB29	02/13/15	<1.0	<5.0	<1.0	<3.0
SB29	05/21/15	<1.0	<5.0	<1.0	<3.0
SB29	08/27/15	<1.0	<5.0	<1.0	<3.0
SB29	11/24/15	<1.0	<5.0	<1.0	<3.0
SB29	02/22/16	<1.0	<5.0	<1.0	<3.0
SB29	05/23/16	<1.0	<1.0	<1.0	<1.0
SB29	08/15/16	<1.0	<1.0	<1.0	<1.0
SB29	11/21/16	<1.0	<1.0	<1.0	<1.0
SB29	02/16/17	<1.0	<1.0	<1.0	<1.0
SB29	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB30	02/24/14	Not Sampled - LNAPL Present			
SB30	05/19/14	Not Sampled - LNAPL Present			
SB30	08/29/14	Not Sampled - LNAPL Present			
SB30	11/21/14	Not Sampled - LNAPL Present			
SB30	02/13/15	Not Sampled - LNAPL Present			
SB30	05/21/15	Not Sampled - LNAPL Present			
SB30	08/27/15	Not Sampled - LNAPL Present			
SB30	11/24/15	Not Sampled - LNAPL Present			
SB30	02/22/16	Not Sampled - LNAPL Present			
SB30	02/22/16	Not Sampled - LNAPL Present			
SB30	08/15/16	Not Sampled - LNAPL Present			
SB30	11/21/16	Not Sampled - LNAPL Present			
SB30	02/16/17	Not Sampled - LNAPL Present			
SB30	05/12/17	Not Sampled - Spill Buster Present			
SB30	08/24/17	Not Sampled - LNAPL Present			
SB30	11/20/17	Not Sampled - LNAPL Present			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB31	02/24/14	Not Sampled - LNAPL Present			
SB31	05/19/14	Not Sampled - LNAPL Present			
SB31	08/29/14	Not Sampled - LNAPL Present			
SB31	11/21/14	Not Sampled - LNAPL Present			
SB31	02/13/15	Not Sampled - LNAPL Present			
SB31	05/21/15	Not Sampled - LNAPL Present			
SB31	08/27/15	Not Sampled - LNAPL Present			
SB31	02/22/16	Not Sampled - LNAPL Present			
SB31	02/22/16	Not Sampled - LNAPL Present			
SB31	05/23/16	Not Sampled - LNAPL Present			
SB31	08/15/16	Not Sampled - LNAPL Present			
SB31	11/21/16	Not Sampled - LNAPL Present			
SB31	02/16/17	Not Sampled - LNAPL Present			
SB31	05/12/17	Not Sampled - Spill Buster Present			
SB31	08/24/17	Not Sampled - LNAPL Present			
SB31	11/20/17	Not Sampled - LNAPL Present			
SB32	02/24/14	1.1	6.2	<1.0	7.3
SB32	03/31/14	3.6	15	<1.0	18
SB32	05/19/14	5.2	38	1.2	91
SB32	08/29/14	4.9	30	1.8	220
SB32	11/21/14	<1.0	<5.0	<1.0	7.1
SB32	02/13/15	<1.0	<5.0	<1.0	<3.0
SB32	05/21/15	<1.0	<5.0	<1.0	3.3
SB32	08/27/15	Not Sampled - Insufficient Water			
SB32	11/24/15	Not Sampled - Insufficient Water			
SB32	02/22/16	Not Sampled - Insufficient Water			
SB32	05/23/16	Not Sampled - Insufficient Water			
SB32	08/15/16	Not Sampled - Insufficient Water			
SB32	11/21/16	Not Sampled - Insufficient Water			
SB32	02/16/17	Not Sampled - Insufficient Water			
SB32	05/12/17	Not Sampled - Insufficient Water			
SB32	08/24/17	Not Sampled - Insufficient Water			
SB32	11/20/17	Not Sampled - Insufficient Water			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB33	02/24/14	Not Sampled - Insufficient Water			
SB33	05/19/14	Not Sampled - Insufficient Water			
SB33	08/29/14	<1.0	<5.0	<1.0	<3.0
SB33	11/21/14	<1.0	<5.0	<1.0	<3.0
SB33	02/13/15	<1.0	<5.0	<1.0	6.2
SB33	05/21/15	<1.0	<5.0	<1.0	<3.0
SB33	08/27/15	<1.0	<5.0	<1.0	<3.0
SB33	11/24/15	<1.0	<5.0	<1.0	<3.0
SB33	02/22/16	<1.0	<5.0	<1.0	<3.0
SB33	05/23/16	<1.0	<1.0	<1.0	<1.0
SB33	08/15/16	<1.0	<1.0	<1.0	<1.0
SB33	11/21/16	<1.0	<1.0	<1.0	<1.0
SB33	02/16/17	<1.0	<1.0	<1.0	<1.0
SB33	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB34	02/24/14	<1.0	<1.0	<1.0	<1.0
SB34	05/19/14	1.1	<5.0	<1.0	<3.0
SB34	08/29/14	<1.0	<5.0	<1.0	<3.0
SB34	11/21/14	<1.0	<5.0	<1.0	<3.0
SB34	02/13/15	<1.0	<5.0	<1.0	<3.0
SB34	05/21/15	<1.0	<5.0	<1.0	<3.0
SB34	08/27/15	<1.0	<5.0	<1.0	<3.0
SB34	11/24/15	<1.0	<5.0	<1.0	<3.0
SB34	02/22/16	<1.0	<5.0	<1.0	<3.0
SB34	05/23/16	<1.0	<1.0	<1.0	<1.0
SB34	08/15/16	<1.0	<1.0	<1.0	<1.0
SB34	11/21/16	<1.0	<1.0	<1.0	<1.0
SB34	02/16/17	<1.0	<1.0	<1.0	<1.0
SB34	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB35	03/31/14	<1.0	<5.0	<1.0	<3.0
SB35	05/19/14	<1.0	<5.0	<1.0	<3.0
SB35	08/29/14	<1.0	<5.0	<1.0	<3.0
SB35	11/21/14	<1.0	<5.0	<1.0	<3.0
SB35	02/13/15	<1.0	<5.0	<1.0	<3.0
SB35	05/21/15	<1.0	<5.0	<1.0	<3.0
SB35	08/27/15	<1.0	<5.0	<1.0	<3.0
SB35	11/24/15	<1.0	<5.0	<1.0	<3.0
SB35	02/22/16	<1.0	<5.0	<1.0	<3.0
SB35	05/23/16	<1.0	<1.0	<1.0	<1.0
SB35	08/15/16	<1.0	<1.0	<1.0	<1.0
SB35	11/21/16	<1.0	<1.0	<1.0	<1.0

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB35	02/16/17	<1.0	<1.0	<1.0	<1.0
SB35	05/12/17	<1.0	<1.0	<1.0	<2.0
SB35	08/24/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB36	03/31/14	77	<5.0	3.2	<3.0
SB36	05/19/14	220	<5.0	<1.0	<3.0
SB36	08/29/14	240	<5.0	4.7	<3.0
SB36	11/21/14	120	<25	6	<15
SB36	02/13/15	64	<25	170	<15
SB36	05/21/15	36	<25	480	<15
SB36	08/27/15	140	<25	27.5	2,460
SB36	11/24/15	22.5	<5.0	<1.0	714
SB36	02/22/16	<5.0	<25	<5.0	114
SB36	05/23/16	<1.0	<1.0	<1.0	140
SB36	08/15/16	<1.0	<1.0	<1.0	21
SB36	11/21/16	3.2	1.5	21	160
SB36	02/16/17	4.4	<1.0	49	100
SB36	05/12/17	6.0	1.7	54	46
SB36	08/24/17	<1.0	<1.0	<1.0	<2.0
SB36	11/20/17	5.6	4.3	50	6.7
SB37	03/31/14	Not Sampled - Insufficient Water			
SB37	05/19/14	40	80	<1.0	1,100
SB37	08/29/14	680	1,000	<20	2,700
SB37	11/21/14	390	470	<20	1,300
SB37	02/13/15	370	940	<20	5,000
SB37	05/21/15	150	200	<20	1,300
SB37	08/27/15	162	872	20.2	1,980
SB37	11/24/15	263	4,100	129	7,670
SB37	02/22/16	488	8,070	290	10,200
SB37	05/23/16	Not Sampled - LNAPL Present			
SB37	08/15/16	Not Sampled - LNAPL Present			
SB37	11/21/16	Not Sampled - LNAPL Present			
SB37	02/16/17	Not Sampled - LNAPL Present			
SB37	05/12/17	Not Sampled - LNAPL Present			
SB37	08/24/17	Not Sampled - LNAPL Present			
SB37	11/20/17	Not Sampled - LNAPL Present			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB38	03/31/14	14	10	3.1	32
SB38	05/19/14	16	<5.0	<1.0	<3.0
SB38	08/29/14	<1.0	<5.0	<1.0	<3.0
SB38	11/21/14	<1.0	<5.0	<1.0	<3.0
SB38	02/13/15	<1.0	<5.0	<1.0	<3.0
SB38	05/21/15	<1.0	<5.0	<1.0	<3.0
SB38	08/27/15	136	<5.0	<1.0	<3.0
SB38	11/24/15	3.16	<5.0	<1.0	<3.0
SB38	02/22/16	2.11	<5.0	<1.0	<3.0
SB38	05/23/16	1.7	<1.0	<1.0	<1.0
SB38	08/15/16	<1.0	<1.0	<1.0	<1.0
SB38	11/21/16	<1.0	<1.0	<1.0	<1.0
SB38	02/16/17	<1.0	<1.0	<1.0	<1.0
SB38	05/12/17	<1.0	<1.0	<1.0	<2.0
SB38	08/24/17	<1.0	<1.0	<1.0	<2.0
SB38	11/20/17	<1.0	<1.0	<1.0	4.2
SB39	04/18/14	<1.0	<5.0	<1.0	<3.0
SB39	05/19/14	<1.0	<5.0	<1.0	<3.0
SB39	08/29/14	<1.0	<5.0	<1.0	<3.0
SB39	11/21/14	<1.0	<5.0	<1.0	<3.0
SB39	02/13/15	<1.0	<5.0	<1.0	<3.0
SB39	05/21/15	<1.0	<5.0	<1.0	<3.0
SB39	08/27/15	<1.0	<5.0	<1.0	<3.0
SB39	11/24/15	<1.0	<5.0	<1.0	<3.0
SB39	02/22/16	<1.0	<5.0	<1.0	<3.0
SB39	05/23/16	<1.0	<1.0	<1.0	<1.0
SB39	08/15/16	<1.0	<1.0	<1.0	<1.0
SB39	11/21/16	<1.0	<1.0	<1.0	<1.0
SB39	02/16/17	<1.0	<1.0	<1.0	<1.0
SB39	05/12/17	<1.0	<1.0	<1.0	<2.0
SB39	08/24/17	<1.0	<1.0	<1.0	<2.0
SB39	11/20/17	<1.0	<1.0	<1.0	<2.0

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB40	04/18/14	<1.0	<5.0	<1.0	<3.0
SB40	05/19/14	<1.0	<5.0	<1.0	<3.0
SB40	08/29/14	<1.0	<5.0	<1.0	<3.0
SB40	11/21/14	<1.0	<5.0	<1.0	<3.0
SB40	02/13/15	<1.0	<5.0	<1.0	<3.0
SB40	05/21/15	<1.0	<5.0	<1.0	<3.0
SB40	08/27/15	<1.0	<5.0	<1.0	<3.0
SB40	11/24/15	<1.0	<5.0	<1.0	<3.0
SB40	02/22/16	<1.0	<5.0	<1.0	<3.0
SB40	05/23/16	<1.0	<1.0	<1.0	<1.0
SB40	08/15/16	<1.0	<1.0	<1.0	<1.0
SB40	11/21/16	<1.0	<1.0	<1.0	<1.0
SB40	02/16/17	<1.0	<1.0	<1.0	<1.0
SB40	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
SB41	04/18/14	<1.0	<5.0	<1.0	<3.0
SB41	05/19/14	<1.0	<5.0	<1.0	<3.0
SB41	08/29/14	<1.0	<5.0	<1.0	<3.0
SB41	11/21/14	<1.0	<5.0	<1.0	<3.0
SB41	02/13/15	<1.0	<5.0	<1.0	<3.0
SB41	05/21/15	<1.0	<5.0	<1.0	<3.0
SB41	08/27/15	<1.0	<5.0	<1.0	<3.0
SB41	11/24/15	<1.0	<5.0	<1.0	<3.0
SB41	02/22/16	<1.0	<5.0	<1.0	<3.0
SB41	05/23/16	<1.0	<1.0	<1.0	<1.0
SB41	08/15/16	<1.0	<1.0	<1.0	<1.0
SB41	11/21/16	<1.0	<1.0	<1.0	<1.0
SB41	02/16/17	<1.0	<1.0	<1.0	<1.0
SB41	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400
SB42	04/18/14	<1.0	<5.0	<1.0	<3.0
SB42	05/19/14	<1.0	<5.0	<1.0	<3.0
SB42	08/29/14	<1.0	<5.0	<1.0	<3.0
SB42	11/21/14	<1.0	<5.0	<1.0	<3.0
SB42	02/13/15	<1.0	<5.0	<1.0	<3.0
SB42	05/21/15	<1.0	<5.0	<1.0	<3.0
SB42	08/27/15	<1.0	<5.0	<1.0	<3.0
SB42	11/24/15	<1.0	<5.0	<1.0	<3.0
SB42	02/22/16	<1.0	<5.0	<1.0	<3.0
SB42	05/23/16	<1.0	<1.0	<1.0	<1.0
SB42	08/15/16	<1.0	<1.0	<1.0	<1.0
SB42	11/21/16	<1.0	<1.0	<1.0	<1.0
SB42	02/16/17	<1.0	<1.0	<1.0	<1.0
SB42	05/12/17	Not Sampled - Removed From Groundwater Monitoring Program			
DUP (SB06)	02/24/14	<1.0	<1.0	<1.0	<1.0
DUP (SB08)	05/19/14	6,000	16,000	540	12,000
DUP (SB22R)	08/29/14	290	700	<20	2,200
DUP (SB37)	11/21/14	400	530	<20	1,400
DUP (SB37)	08/27/15	176	899	20.3	2,000
DUPE (SB37)	11/24/15	233	1,080	70.5	1,730
DUPE (SB37)	02/22/16	295	4,310	170	6,270
Dupe01 (SB10)	02/16/17	5,100	2,600	840	11,000
Dup (SB07)	08/24/17	2,500	260	170	3,700
Dup (SB23R)	11/20/17	4,500	17,000	410	14,000
Trip Blank	02/24/14	<1.0	<1.0	<1.0	<1.0
Trip Blank	04/18/14	<1.0	<5.0	<1.0	<3.0
Trip Blank	05/19/14	<1.0	<5.0	<1.0	<3.0
Trip Blank	08/29/14	<1.0	<5.0	<1.0	<3.0
Trip Blank	11/21/14	<1.0	<5.0	<1.0	<3.0
Trip Blank	08/27/15	<1.0	<5.0	<1.0	<3.0
Trip Blank	11/24/15	<1.0	<5.0	<1.0	<3.0
Trip Blank	02/22/16	<1.0	<5.0	<1.0	<3.0
Red Cooler (TB-1)	11/18/16	<1.0	<1.0	<1.0	<1.0
Blue Cooler (TB-2)	11/18/16	<1.0	<1.0	<1.0	<1.0
Trip Blank Blue	02/16/17	<1.0	<1.0	<1.0	<1.0
Trip Blank Red	02/16/17	<1.0	<1.0	<1.0	<1.0
Trip Blank	05/11/17	<1.0	<1.0	<1.0	<2.0
Trip Blank 01	08/24/17	<1.0	<1.0	<1.0	<2.0
Trip Blank 1	11/20/17	<1.0	<1.0	<1.0	<2.0

TABLE 4
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - PLUGGED AND ABANDONED FRI 2-18
TANK BATTERY AND WELLHEAD LOCATION



Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)
COGCC Groundwater Standard (µg/L)		5	560	700	1,400

Notes:

COGCC = Colorado Oil and Gas Conservation Commission

µg/L = Micrograms per liter

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

LNAPL = Light non-aqueous phase liquid

DUP = Duplicate sample

¹ Well obstruction large enough to block meter sensor, small enough to allow hydrasleeve deployment.

² Tasman recommended a reduced groundwater monitoring well network to Noble Energy on March 29, 2017 based on historical groundwater data.

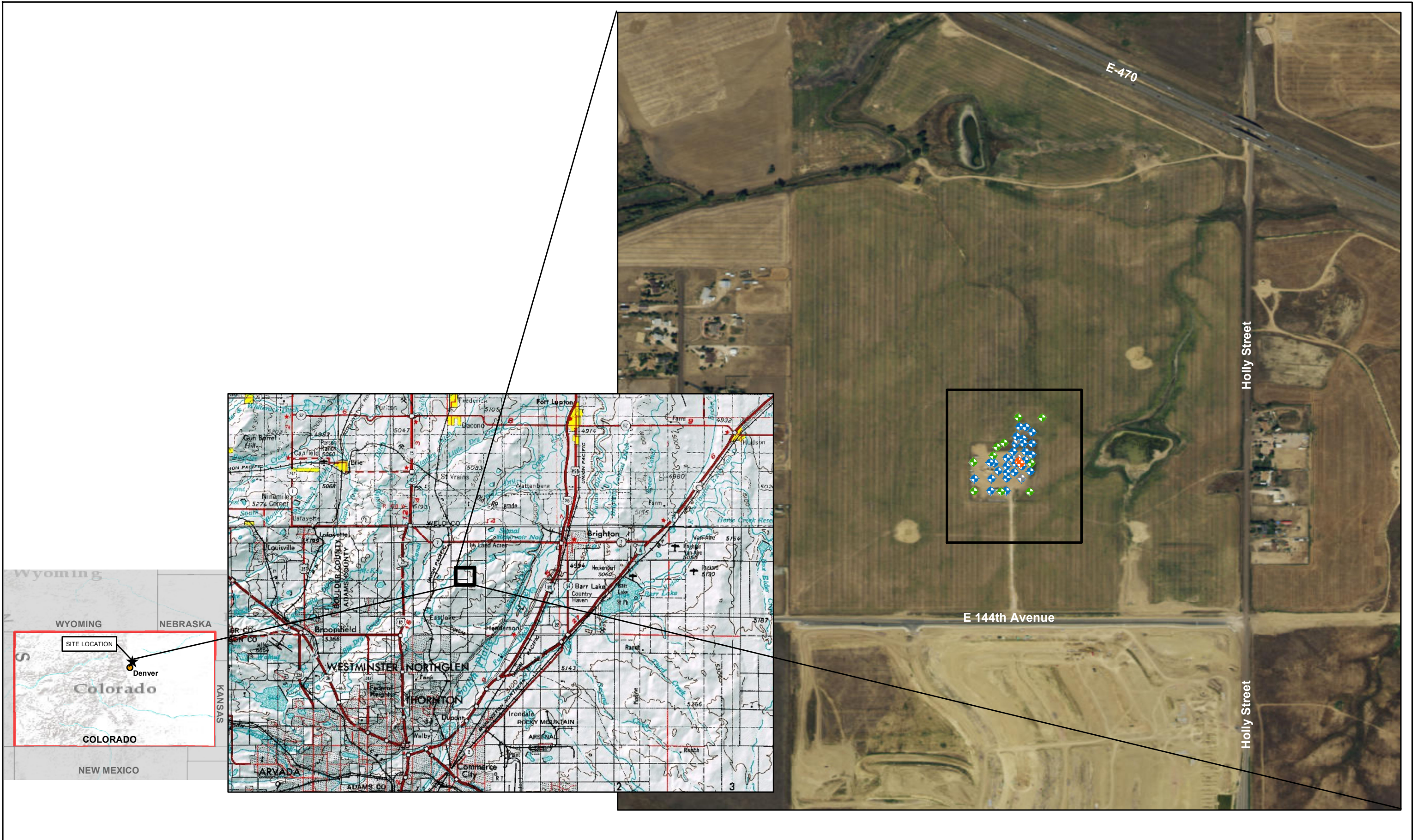
³ Diluted sample run was analyzed outside of holding time, but results are comparable with previous quarter. Therefore, sample results are viewed as estimated, but acceptable.

Groundwater standards referenced from COGCC Table 910-1

Highlighted results exceed the COGCC Table 910-1 standard

This table presents data collected by Tasman Geosciences. Historical data is presented in Attachment A of the Form 27 Site Assessment Report (COGCC Document #2148980)

FIGURES



DATE:	September 2017
DESIGNED BY:	B. Bruns
DRAWN BY:	D. Arnold



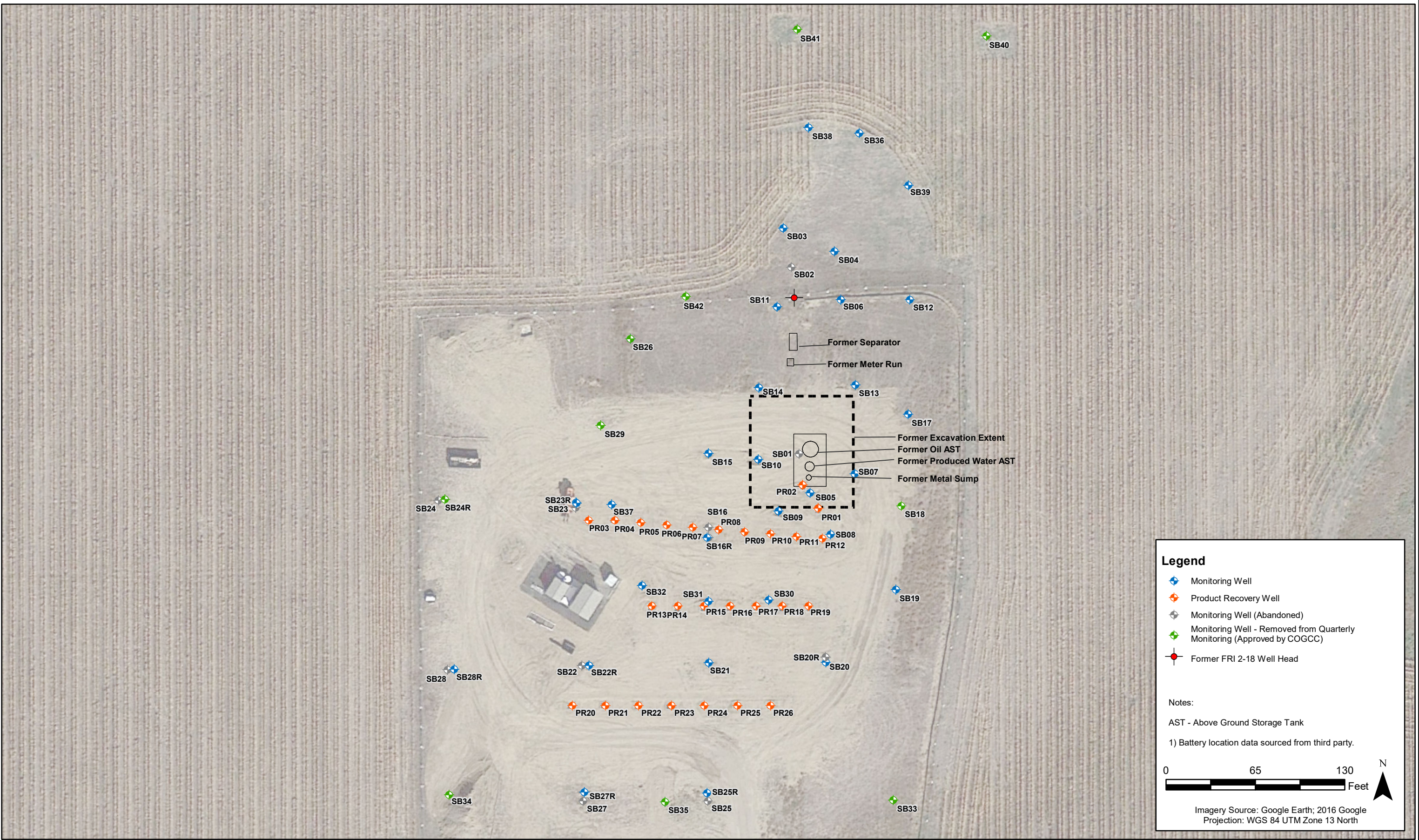
TASMAN
GEOSCIENCES

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

Noble Energy, Inc.
Plugged & Abandoned Fri 2-18 Tank Battery & Wellhead Location
Section 18, Township 1 South, Range 67 West
Adams County, Colorado

Site Location
Map

Figure
1



DATE:	December 2017
DESIGNED BY:	B. Bruns
DRAWN BY:	D. Arnold

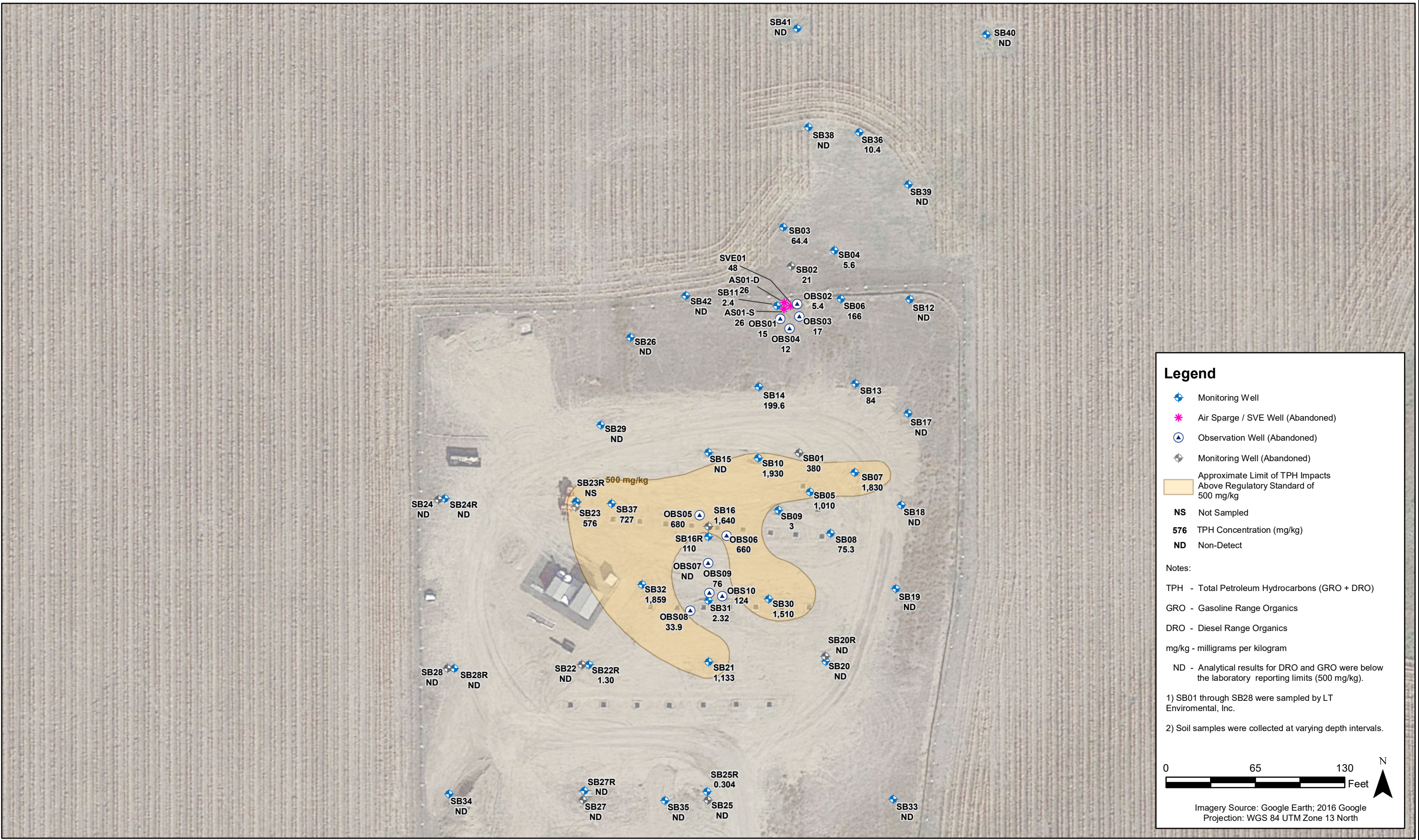


Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

Noble Energy, Inc. - DJ Basin
Plugged & Abandoned Fri 2-18 Tank Battery & Wellhead Location
Section 18, Township 1 South, Range 67 West
Adams County, Colorado

Site Overview
Map

Figure
2



DATE:	December 2017
DESIGNED BY:	B. Bruns
DRAWN BY:	D. Arnold

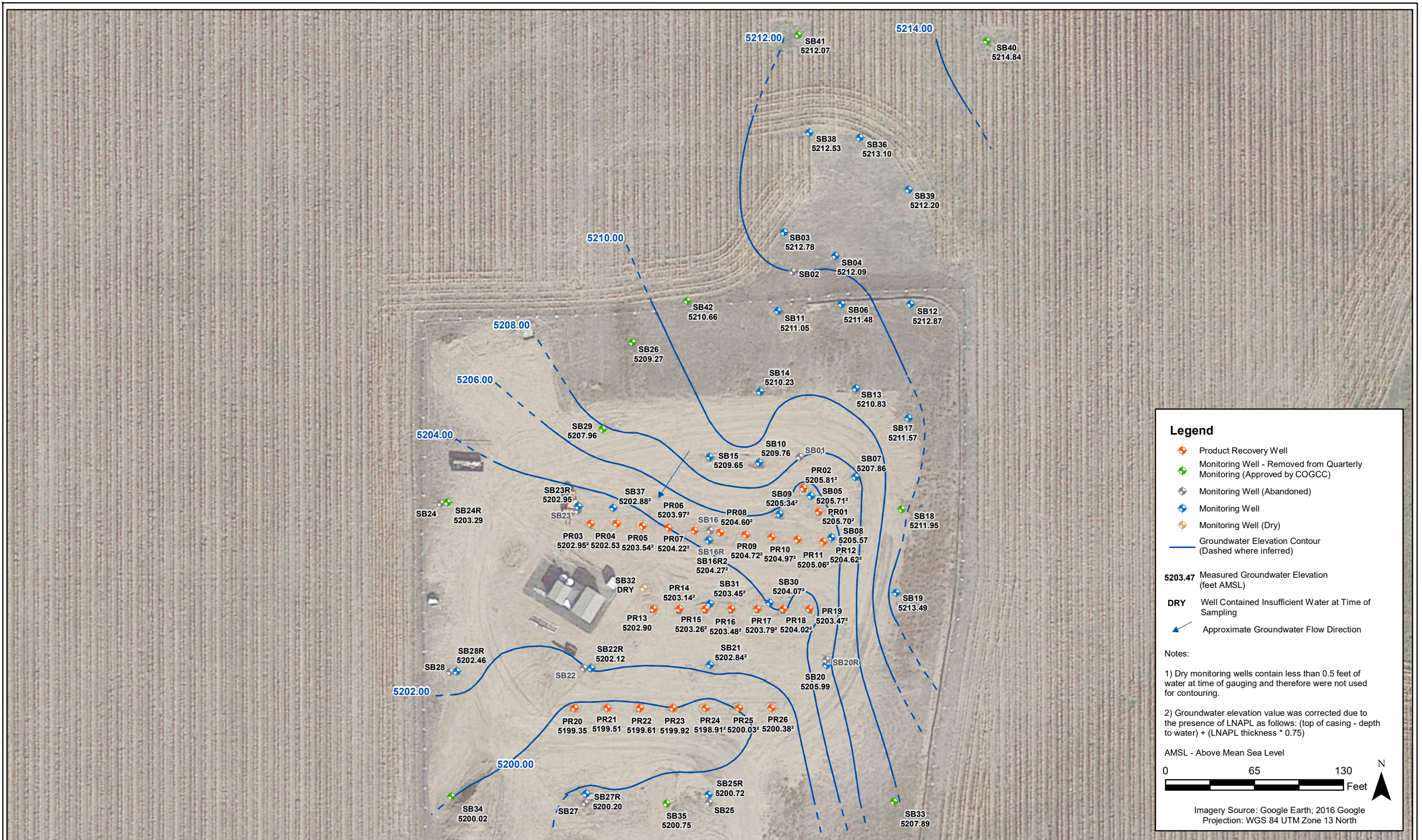


Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

Noble Energy, Inc. - DJ Basin
Plugged & Abandoned Fri 2-18 Tank Battery & Wellhead Location
Section 18, Township 1 South, Range 67 West
Adams County, Colorado

TPH in Soil
Map

Figure
3



DATE:	December 2017
DESIGNED BY:	B. Bruns
DRAWN BY:	D. Arnold

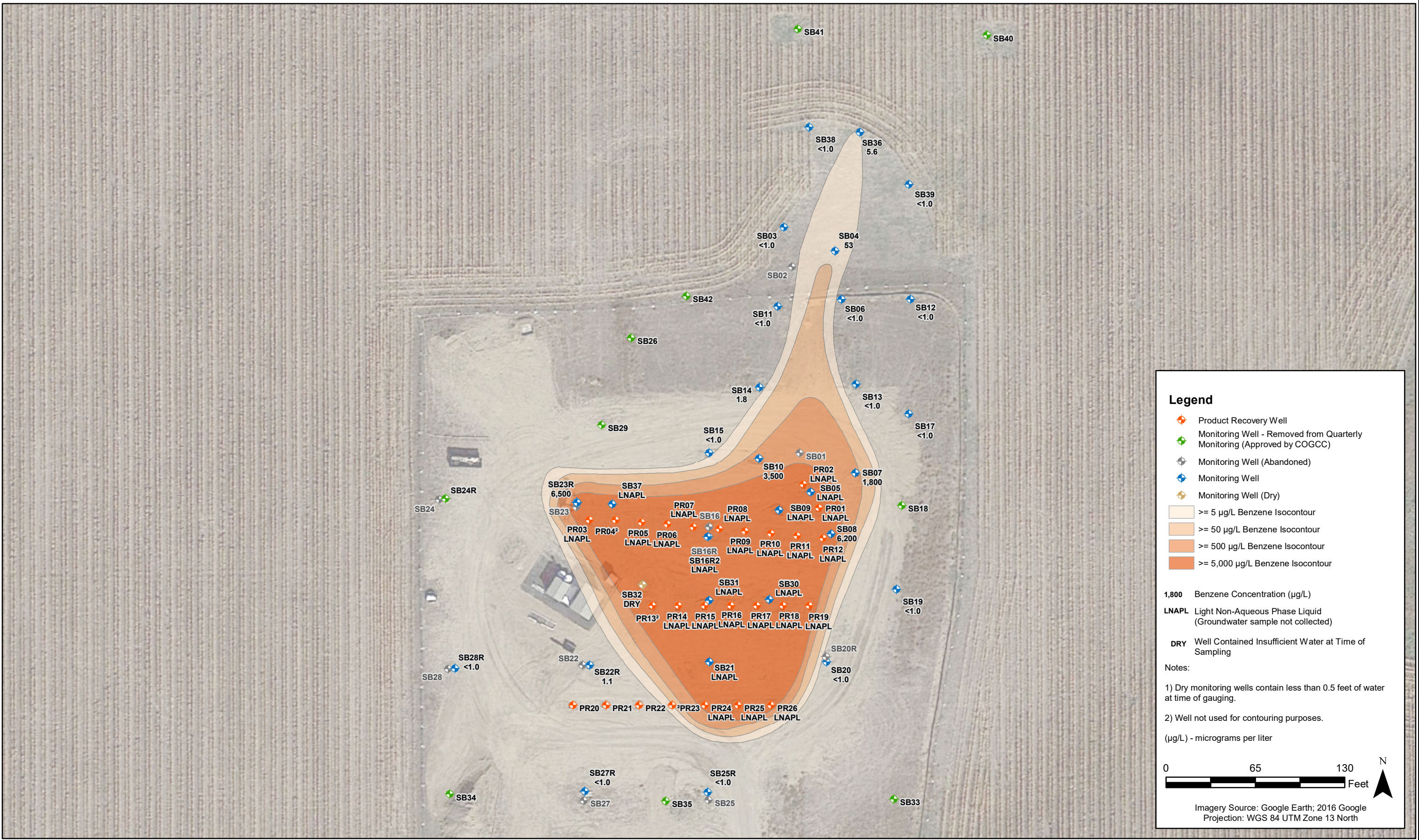


Tasman Geosciences, Inc.
6899 Pecos Street - Unit C
Denver, CO 80221

Noble Energy, Inc. - DJ Basin
Plugged & Abandoned Fri 2-18 Tank Battery & Wellhead Location
Section 18, Township 1 South, Range 67 West
Adams County, Colorado

Groundwater Potentiometric
Surface Contour Map
(11/17/2017)

Figure
5



DATE:	December 2017
DESIGNED BY:	B. Bruns
DRAWN BY:	D. Arnold



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

Noble Energy, Inc. - DJ Basin
Plugged & Abandoned Fri 2-18 Tank Battery & Wellhead Location
Section 18, Township 1 South, Range 67 West
Adams County, Colorado

Benzene in Groundwater,
Isoconcentration Contour
Map
(11/20/2017)

Figure
6

ATTACHMENT A

LABORATORY ANALYTICAL DATA REPORT

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 29, 2017

Brandon Bruns
Tasman Geosciences
6899 Pecos Street
Denver, CO 80221
RE: FRI 2-18

Enclosed are the results of analyses for samples received by Summit Scientific on 11/20/17 17:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'P. Shrewsbury', with a stylized, flowing script.

Paul Shrewsbury For Ben Shrewsbury
Laboratory Manager



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB03	1711256-01	Water	11/20/17 09:03	11/20/17 17:00
SB04	1711256-02	Water	11/20/17 10:46	11/20/17 17:00
SB06	1711256-03	Water	11/20/17 09:30	11/20/17 17:00
SB07	1711256-04	Water	11/20/17 10:55	11/20/17 17:00
SB08	1711256-05	Water	11/20/17 11:00	11/20/17 17:00
SB10	1711256-06	Water	11/20/17 11:05	11/20/17 17:00
SB11	1711256-07	Water	11/20/17 09:36	11/20/17 17:00
SB12	1711256-08	Water	11/20/17 09:25	11/20/17 17:00
SB13	1711256-09	Water	11/20/17 09:42	11/20/17 17:00
SB14	1711256-10	Water	11/20/17 10:40	11/20/17 17:00
SB15	1711256-11	Water	11/20/17 10:30	11/20/17 17:00
SB17	1711256-12	Water	11/20/17 09:45	11/20/17 17:00
SB19	1711256-13	Water	11/20/17 09:52	11/20/17 17:00
SB20	1711256-14	Water	11/20/17 09:57	11/20/17 17:00
SB22R	1711256-15	Water	11/20/17 10:15	11/20/17 17:00
SB23R	1711256-16	Water	11/20/17 11:10	11/20/17 17:00
SB25R	1711256-17	Water	11/20/17 10:00	11/20/17 17:00
SB27R	1711256-18	Water	11/20/17 10:10	11/20/17 17:00
SB28R	1711256-19	Water	11/20/17 10:25	11/20/17 17:00
SB36	1711256-20	Water	11/20/17 09:15	11/20/17 17:00
SB38	1711256-21	Water	11/20/17 09:10	11/20/17 17:00
SB39	1711256-22	Water	11/20/17 09:20	11/20/17 17:00
Dup	1711256-23	Water	11/20/17 00:00	11/20/17 17:00
Trip Blank 1	1711256-24	Water	11/20/17 00:00	11/20/17 17:00

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.


1711256.1

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

Page 1 of 3

Project Manager:	Brandon Bruns, Invoice: Jacob Evans
E-Mail:	bbruns@tasman-geo.com
Project Name:	Fri 2-18
Project Number:	

				Preservative				Matrix				Analyze For:															
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)													Special Instructions			
SB03	11-20-17	0903	3	X				X				X															
SB04		1046	3			X																					
SB06		0930	3	X																							
SB07		1055	3			X																					
SB08		1100	3			X																					
SB10		1105	3			X																					
SB11		0936	3	X																							
SB12		0925	3	X																							
SB13		0942	3	X																							
SB14	✓	1040	3	X				✓				✓															

Relinquished by: 


Relinquished by: _____

Relinquished by: _____

Date/Time: 11/20/17 17:00

Date/Time: _____

Date/Time: _____

Received by:  11-20-17

Received by: _____

Received in Lab by: _____

Date/Time: 17:00

Date/Time: _____

Date/Time: _____

Turn Around Time (Check)

Same Day ☐ 72 Hours ☐

24 Hours ☐ Standard ☒

48 Hours ☐

Sample Integrity:

Temperature Upon Receipt: 7.9

Intact: Yes ☒ No ☐

Notes:

on ice

1711256.2

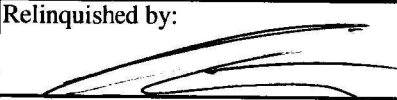
741 Corporate Circle Suite I ♦ Golden, Colorado 80401
303-277-9310 ♦ 303-374-5933 Fax

Page 2 of 3

Client:	Noble/Tasman	
Address:	—	
City/State/Zip:	—	
Phone:	7206168383	Fax:
Sampler Name:	J. Whritenour	

Project Manager:	Brandon Bruns, Invoice: Jacob Evans
E-Mail:	bbruns@tasman-geo.com
Project Name:	Fri 2-18
Project Number:	—

				Preservative				Matrix			Analyze For:										Special Instructions
Sample Description	Date Sampled	Time Sampled	Number of Containers	HCl	HNO ₃	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)										
SB15	11-20-17	1030	3	X				X				X									
SB17		0945	3																		
SB19		0952	3																		
SB20		0957	3																		
SB22R		1015	3																		
SB23R		1110	3																		
SB25R		1000	3																		
SB27R		1010	3																		
SB28R		1025	3																		
SB36		0945	3																		

Relinquished by: 


Date/Time: 11/20/17 17:00

Relinquished by:

Date/Time:

Relinquished by:

Date/Time:

Received by: 

Date/Time: 11-20-17 17:00

Received by:

Date/Time:

Received in Lab by:

Date/Time:

Turn Around Time (Check)

Same Day

72 Hours

24 Hours

Standard

48 Hours

Sample Integrity:

Temperature Upon Receipt: 7.9

Intact: Yes No

Notes:

1711256.3

Page 3 of 3

Project Number:

www.s2scientific.com

Sample Receipt Checklist

1711256

S2 Work Order: _____

Client: NOBLE/TASMANClient Project ID: FRI 2-18Shipped Via: P.U.

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

Airbill #: _____

Matrix (check all that apply): Air Soil/Solid x Water Other: _____
(Describe)

Cooler ID					
Temp (°C)	7.9				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature at 4°C +/- 2°C ⁽¹⁾ ?				
NOTE: If samples are delivered the same day of sampling, this requirement is met provided that there is evidence that cooling has begun.	x			
Were all samples received intact ⁽¹⁾ ?	x			
Was adequate sample volume provided ⁽¹⁾ ?	x			
If custody seals are present, are they intact ⁽¹⁾ ?	x			Trip Blank
Are short holding time analytes or samples with HTs due within 48 hours present?			x	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	x			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	x			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	x			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	x			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.		x		
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	x			HCL
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			x	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			x	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.Muri P.
Custodian Printed Name11-20-17
Signature or Initials of Custodian17:30
Date/Time



Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB03
1711256-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/23/17	11/23/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		101 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB04
1711256-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	53	1.0	ug/l	1	1711322	11/28/17	11/28/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	110	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		83.8 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB06
1711256-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/23/17	11/23/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	45-146		"	"	"	"	

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB07
1711256-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1800	100	ug/l	100	1711322	11/23/17	11/23/17	EPA 8260B	
Toluene	160	100	"	"	"	"	"	"	
Ethylbenzene	170	100	"	"	"	"	"	"	
Xylenes (total)	2700	200	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		112 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB08
1711256-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	6200	100	ug/l	100	1711322	11/23/17	11/23/17	EPA 8260B	
Toluene	750	100	"	"	"	"	"	"	
Ethylbenzene	440	100	"	"	"	"	"	"	
Xylenes (total)	10000	200	"	"	"	"	"	"	

Date Sampled: **11/20/17 11:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		113 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB10
1711256-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	3500	100	ug/l	100	1711322	11/23/17	11/23/17	EPA 8260B	
Toluene	140	100	"	"	"	"	"	"	
Ethylbenzene	450	100	"	"	"	"	"	"	
Xylenes (total)	6400	200	"	"	"	"	"	"	

Date Sampled: **11/20/17 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.8 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB11
1711256-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/23/17	11/23/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		116 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	45-146		"	"	"	"	

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB12
1711256-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB13
1711256-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	6.2	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB14
1711256-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.8	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB15
1711256-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB17
1711256-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB19
1711256-13 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB20
1711256-14 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:57**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	45-146		"	"	"	"	

Summit Scientific

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Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB22R
1711256-15 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.1	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	2.0	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	3.8	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		118 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		108 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB23R
1711256-16 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	6500	100	ug/l	100	1711322	11/27/17	11/27/17	EPA 8260B	
Toluene	24000	100	"	"	"	"	"	"	
Ethylbenzene	540	100	"	"	"	"	"	"	
Xylenes (total)	18000	200	"	"	"	"	"	"	

Date Sampled: **11/20/17 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		97.3 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB25R
1711256-17 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/28/17	11/28/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		87.8 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	45-146		"	"	"	"	

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB27R
1711256-18 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	11	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		113 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	45-146		"	"	"	"	

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB28R
1711256-19 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711322	11/28/17	11/28/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 10:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		91.6 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.1 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	45-146		"	"	"	"	

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB36
1711256-20 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	5.6	1.0	ug/l	1	1711322	11/24/17	11/24/17	EPA 8260B	
Toluene	4.3	1.0	"	"	"	"	"	"	
Ethylbenzene	50	1.0	"	"	"	"	"	"	
Xylenes (total)	6.7	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		116 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		99.7 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	45-146		"	"	"	"	

Summit Scientific

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

SB38
1711256-21 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711321	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	4.2	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		83.4 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		92.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.9 %	45-146		"	"	"	"	

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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Brunns

Reported:
11/29/17 15:37

SB39
1711256-22 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711321	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		97.7 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.6 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street
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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

Dup
1711256-23 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	4500	100	ug/l	100	1711321	11/27/17	11/27/17	EPA 8260B	
Toluene	17000	100	"	"	"	"	"	"	
Ethylbenzene	410	100	"	"	"	"	"	"	
Xylenes (total)	14000	200	"	"	"	"	"	"	

Date Sampled: **11/20/17 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		94.4 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %	45-146		"	"	"	"	

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6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

Trip Blank 1
1711256-24 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/20/17 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1711321	11/24/17	11/24/17	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	

Date Sampled: **11/20/17 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		95.0 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	45-146		"	"	"	"	

Summit Scientific

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6899 Pecos Street
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Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch 1711321 - EPA 5030 Water MS

Blank (1711321-BLK1)

Prepared & Analyzed: 11/23/17

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.2	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.6	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	45-146			

LCS (1711321-BS1)

Prepared & Analyzed: 11/23/17

Benzene	22.1	1.0	ug/l	33.3		66.4	51-132			
Toluene	27.3	1.0	"	33.3		81.8	51-138			
Ethylbenzene	31.4	1.0	"	33.1		94.9	58-146			
m,p-Xylene	61.6	2.0	"	66.5		92.6	57-144			
o-Xylene	31.1	1.0	"	32.7		95.1	53-146			
Surrogate: 1,2-Dichloroethane-d4	13.3		"	13.3		99.8	37-154			
Surrogate: Toluene-d8	12.9		"	13.3		97.0	45-149			
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3		98.9	45-146			

Matrix Spike (1711321-MS1)

Source: 1711256-21

Prepared & Analyzed: 11/23/17

Benzene	21.4	1.0	ug/l	33.3	ND	64.1	34-141			
Toluene	26.8	1.0	"	33.3	ND	80.4	27-151			
Ethylbenzene	31.3	1.0	"	33.1	ND	94.7	29-160			
m,p-Xylene	63.5	2.0	"	66.5	3.07	90.8	20-166			
o-Xylene	31.6	1.0	"	32.7	1.14	93.3	33-159			
Surrogate: 1,2-Dichloroethane-d4	13.4		"	13.3		101	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		95.9	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	45-146			

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

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

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

Batch 1711321 - EPA 5030 Water MS

Matrix Spike Dup (1711321-MSD1)				Source: 1711256-21		Prepared & Analyzed: 11/24/17				
Benzene	22.7	1.0	ug/l	33.3	ND	68.0	34-141	5.86	32	
Toluene	27.6	1.0	"	33.3	ND	82.8	27-151	2.98	25	
Ethylbenzene	32.0	1.0	"	33.1	ND	96.9	29-160	2.24	50	
m,p-Xylene	64.3	2.0	"	66.5	3.07	92.0	20-166	1.22	36	
o-Xylene	31.9	1.0	"	32.7	1.14	94.2	33-159	0.913	26	
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102	45-146			

Batch 1711322 - EPA 5030 Water MS

Blank (1711322-BLK1)				Prepared & Analyzed: 11/23/17						
Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	2.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.3		109	37-154			
Surrogate: Toluene-d8	13.3		"	13.3		99.9	45-149			
Surrogate: 4-Bromofluorobenzene	14.2		"	13.3		106	45-146			

LCS (1711322-BS1)				Prepared & Analyzed: 11/23/17						
Benzene	34.7	1.0	ug/l	33.3		104	51-132			
Toluene	35.2	1.0	"	33.3		106	51-138			
Ethylbenzene	40.6	1.0	"	33.1		123	58-146			
m,p-Xylene	76.8	2.0	"	66.5		115	57-144			
o-Xylene	38.9	1.0	"	32.7		119	53-146			
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		98.6	45-149			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105	45-146			

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18
Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

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

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

Batch 1711322 - EPA 5030 Water MS

Matrix Spike (1711322-MS1)		Source: 1711256-01			Prepared & Analyzed: 11/23/17					
Benzene	36.2	1.0	ug/l	33.3	ND	109	34-141			
Toluene	36.5	1.0	"	33.3	ND	109	27-151			
Ethylbenzene	42.4	1.0	"	33.1	ND	128	29-160			
m,p-Xylene	80.0	2.0	"	66.5	ND	120	20-166			
o-Xylene	40.6	1.0	"	32.7	ND	124	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.4		"	13.3		115	37-154			
Surrogate: Toluene-d8	13.2		"	13.3		99.4	45-149			
Surrogate: 4-Bromofluorobenzene	13.9		"	13.3		104	45-146			
Matrix Spike Dup (1711322-MSD1)		Source: 1711256-01			Prepared & Analyzed: 11/23/17					
Benzene	35.8	1.0	ug/l	33.3	ND	107	34-141	1.14	32	
Toluene	36.2	1.0	"	33.3	ND	109	27-151	0.743	25	
Ethylbenzene	42.4	1.0	"	33.1	ND	128	29-160	0.236	50	
m,p-Xylene	80.1	2.0	"	66.5	ND	120	20-166	0.125	36	
o-Xylene	40.3	1.0	"	32.7	ND	123	33-159	0.519	26	
Surrogate: 1,2-Dichloroethane-d4	15.2		"	13.3		114	37-154			
Surrogate: Toluene-d8	13.1		"	13.3		98.3	45-149			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103	45-146			

Summit Scientific

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Tasman Geosciences
6899 Pecos Street
Denver CO, 80221

Project: FRI 2-18

Project Number: [none]
Project Manager: Brandon Bruns

Reported:
11/29/17 15:37

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