

# Fourth Quarter 2016 Groundwater Monitoring Summary Report

## Tampa Compressor Station Release Weld County, Colorado Remediation #9353

Prepared for:



370 17<sup>th</sup> St., Suite 2500  
Denver, CO 80202

*Prepared by:*



6899 Pecos Street, Unit C  
Denver, Colorado 80221

**January 4, 2017**

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## 1. Introduction

This report summarizes the groundwater monitoring activities conducted during the fourth quarter 2016 at the Tampa Compressor Station, Weld County, Colorado (Figure 1). Tasman Geosciences (Tasman) performed these activities on behalf of DCP Midstream, LP (DCP). The field activities were conducted with the purpose of monitoring groundwater flow and quality conditions in the Site subsurface. Current Site conditions were evaluated from field data and analytical laboratory results collected during the reporting period on November 9, 2016.

## 2. Site Location and Background

The Site is located in the southwestern quarter of the southwestern quarter of Section 31, Township 3 North, Range 63 West (approximate coordinates 40.176595 degrees north and -104.489837 degrees west), approximately 5 miles north on County Road (CR) 59 from Keenesburg, Colorado.

A petroleum hydrocarbon release originating from an underground pipeline occurred at the Site resulting in surface soil staining. DCP submitted an initial Form 19 on February 2, 2015, with a Supplemental Form 19 submitted on February 10, 2015, and the Colorado Oil and Gas Conservation Commission (COGCC) issued a spill tracking facility ID# 440770 for the Site.

Initial soil investigation activities conducted on February 2, 2015, indicated that surface soil impacts were above COGCC standards. On February 6, 2015, hydrovacuum excavation and soil removal activities of the surface stained soils to approximately 1-foot below ground surface (bgs) was conducted and approximately 14 cubic yards (yd<sup>3</sup>) of material was removed.

On February 13, 2015, three soil borings (BH01 – BH03) were advanced and soil samples were collected from just above the saturated interval at each location. On February 19, 2015, groundwater monitoring activities were conducted at the well locations and light non-aqueous phase liquid (LNAPL) was observed in monitoring wells BH01 and BH03 with measured thicknesses of 3.14 feet and 1.83 feet, respectively. A groundwater sample was collected from BH02 and the laboratory analytical results from that well were below COGCC Table 910-1 standards. Locations of the soil borings are illustrated on Figure 2.

On April 28, 2015, a vacuum enhanced fluid recovery (EFR) event was conducted at monitoring wells BH01 and BH03 and approximately 5 barrels (bbl) of liquid was removed during that event. Additional source area excavation activities were conducted at the site between May 6 and 22, 2015, and approximately 210 yd<sup>3</sup> of impacted soil and 33 bbl of groundwater were removed during excavation. Soil samples were collected during excavation activities and based on the laboratory analytical results, impacted soil within the vadose zone remains in place in the northwest corner of the Site. Due to the existing infrastructure and off-site conditions, the soil was left in place and in-situ remediation activities have been conducted. Additionally, during the May 2015 excavation activities, monitoring well BH01 was destroyed.

A Form 27 was submitted to the COGCC on November 4, 2015, and the COGCC issued remediation #9353 for the Site. In accordance with the approved work plan described in the Form 27, DCP installed

an additional nine (9) temporary monitoring wells and replaced the destroyed BH01 (Figure 2). Furthermore, DCP initiated approved groundwater monitoring activities at the Site.

### 3. Groundwater Monitoring

This section describes the field and laboratory activities performed during the fourth quarter 2016 groundwater monitoring event. Quarterly monitoring activities were conducted on November 9, 2016, and included Site-wide groundwater gauging and sampling. Figure 2 illustrates the groundwater monitoring network utilized to perform these activities at the Site.

#### 3.1 Groundwater Elevation Monitoring

Groundwater levels were measured in order to evaluate hydraulic characteristics and provide information regarding seasonal fluctuations in groundwater elevations at the Site. During the fourth quarter 2016, groundwater levels were measured at 12 monitoring well locations (BH01R through BH12).

Groundwater levels were measured on the north side of the well casing to the nearest 0.01-foot using an oil-water interface probe (IP). Groundwater level data were later converted to elevation (feet above mean sea level [AMSL]). Measured groundwater levels and the calculated groundwater elevations are presented in Table 1.

A fourth quarter 2016 groundwater elevation contour map, included as Figure 3, indicates that groundwater flow at the Site generally trends to the northeast. The range of groundwater elevations, average elevation change from the previous monitoring event, and the calculated average hydraulic gradient (using elevations from BH04 and BH08) at the Site are summarized in the table below.

**Summary of Measured Hydraulic Parameters**

	<b>Fourth Quarter 2016 (11/9/2016)</b>
Maximum Elevation (Well ID)	4,795.68 (BH04)
Minimum Elevation (Well ID)	4,795.12 (BH08)
Average Change from Previous Monitoring Event – All Wells	-0.27 feet
Average Hydraulic Gradient (ft/ft) / (Well IDs)	0.0067 (BH04 to BH08)

#### 3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements at each monitoring well, groundwater samples were collected from 11 monitor wells using disposable polyethylene bailers. LNAPL was observed within BH04 and BH06 and LNAPL was purged from BH04 after 2.4 gals and a groundwater sample was subsequently collected from the well. Due to the volume of LNAPL observed within BH06 (0.16 feet), a groundwater sample was not collected from the well during the fourth quarter 2016 event.

A minimum of three well casing volumes of groundwater were purged from each monitor well prior to collecting groundwater samples. Groundwater samples were placed in clean laboratory supplied containers for the selected analytical methods, packed in an ice-filled cooler and maintained at

approximately four degrees Celsius ( $^{\circ}\text{C}$ ) for transportation to the laboratory. Groundwater samples were then delivered under chain-of-custody procedures to Summit Scientific Laboratories (Summit) in Golden, Colorado for analysis.

Water quality samples were submitted for analysis of benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260B.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the reporting period. Historic analytical results up to and including the fourth quarter 2016 event are included in Appendix A and the laboratory analytical report for the fourth quarter 2016 is included in Appendix B. Analytical results are also displayed on Figure 4.

Analytical results/observations are summarized below:

- Benzene concentrations in groundwater samples from wells BH04 (120 micrograms per liter [ $\mu\text{g/L}$ ]), BH05 (19,000  $\mu\text{g/L}$ ), BH07 (790  $\mu\text{g/L}$ ), and BH11 (27  $\mu\text{g/L}$ ) were in exceedance of the COGCC Table 910-1 standard of 5  $\mu\text{g/L}$ .
- Toluene concentrations in the groundwater samples from wells BH04 (590  $\mu\text{g/L}$ ), and BH05 (2,000  $\mu\text{g/L}$ ), were in exceedance of the COGCC Table 910-1 standard of 560  $\mu\text{g/L}$ .
- Ethylbenzene concentrations in the groundwater samples from wells BH04 (1,800  $\mu\text{g/L}$ ), and BH05 (3,500  $\mu\text{g/L}$ ), were in exceedance of the COGCC Table 910-1 standard of 700  $\mu\text{g/L}$ .
- Total xylenes in groundwater samples from wells BH04 (5,500  $\mu\text{g/L}$ ), BH05 (15,000  $\mu\text{g/L}$ ) and BH07 (2,400  $\mu\text{g/L}$ ) were in exceedance of the COGCC Table 910-1 standard of 1,400  $\mu\text{g/L}$ .
- BTEX concentrations from the remaining sample locations were below COGCC standards and/or below laboratory detection limits.
- LNAPL was observed with a measurable thickness in wells BH04 (0.06 feet) and BH06 (0.16 feet).

#### **4. Remediation Activities**

In accordance with the approved Form 27 Remediation Work Plan, vacuum enhanced fluid recovery (EFR) remediation activities were initiated at the Site during the second quarter 2016. Between September 27, 2016 and December 21, 2016, eight (8) mobile EFR events were conducted simultaneously at monitoring wells BH03, BH04, BH06, and BH11 for a minimum 6-hour period during each event. A total of approximately 248 barrels (bbls) of groundwater was removed during the fourth quarter EFR remediation events. A project total of approximately 918 barrels of liquid has been removed through EFR remediation activities. Recovered groundwater through EFR remediation was subsequently transported and disposed of at the NGL Water Solutions DJ, LLC, C-3 disposal well in LaSalle, CO.

## 5. Conclusions

Observations of the fourth quarter 2016 monitoring data provides the following:

- LNAPL was observed in BH04 and BH06 during the fourth quarter 2016.
- Benzene concentrations that exceed the COGCC applicable groundwater standard was detected in four (4) of the 11 sampled monitoring wells.
- BTEX concentrations increased at monitoring wells BH04 and BH05 when compared to the third quarter 2016 event. However, BTEX concentrations decreased or remained stable at all other sampled monitoring well locations.

## 6. Recommendations

Based on evaluation of data from the fourth quarter 2016, recommendations for future activities include:

- Continue quarterly groundwater monitoring and sampling activities at the well locations illustrated on Figure 2.
- Continue mobile EFR remediation activities at the Site through the first quarter 2016. Implement air sparge (AS) remediation activities in conjunction with EFR if LNAPL is no longer observed at the Site.

## Tables

**TABLE 1**  
**FOURTH QUARTER 2016 MONITORING EVENT**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**DCP TAMPA COMPRESSOR STATION**  
**WELD COUNTY, COLORADO**

Location	Date	Depth to Groundwater (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (*) (feet amsl)	Change in Groundwater Elevation Since Previous Event (1) (feet)
BH01R	2/23/2016	10.50			15.00	4,805.57	4,795.07	0.98
BH01R	5/27/2016	10.25			NM	4,805.57	4,795.32	0.25
BH01R	8/17/2016	9.86			15.89	4,805.57	4,795.71	0.39
BH01R	11/9/2016	10.13			NM	4,805.57	4,795.44	-0.27
BH02	2/23/2016	13.55			18.55	4,807.70	4,794.15	0.09
BH02	5/27/2016	12.41			NM	4,807.70	4,795.29	1.14
BH02	8/17/2016	12.02			18.82	4,807.70	4,795.68	0.39
BH02	11/9/2016	12.30			NM	4,807.70	4,795.40	-0.28
BH03	2/23/2016	10.34	10.23	0.11	NM	4,804.31	4,794.05	0.29
BH03	5/27/2016	9.16	9.15	0.01	NM	4,804.31	4,795.15	1.10
BH03	8/17/2016	8.78			16.43	4,804.31	4,795.53	0.37
BH03	11/9/2016	9.15			NM	4,804.31	4,795.16	-0.37
BH04	2/23/2016	12.70	12.57	0.13	NM	4,806.95	4,794.34	-0.61
BH04	5/27/2016	11.40	11.39	0.01	NM	4,806.95	4,795.55	1.21
BH04	8/17/2016	11.09	11.03	0.06	16.25	4,806.95	4,795.90	0.35
BH04	11/9/2016	11.31	11.25	0.06	NM	4,806.95	4,795.68	-0.22
BH05	2/23/2016	12.21			16.19	4,806.51	4,794.30	0.08
BH05	5/27/2016	11.90			NM	4,806.51	4,794.61	0.31
BH05	8/17/2016	10.69			16.20	4,806.51	4,795.82	1.21
BH05	11/9/2016	10.98			NM	4,806.51	4,795.53	-0.29
BH06	2/23/2016	12.31	12.24	0.07	NM	4,806.46	4,794.20	0.07
BH06	5/27/2016	11.17	11.08	0.09	NM	4,806.46	4,795.35	1.16
BH06	8/17/2016	10.73			15.94	4,806.46	4,795.73	0.37
BH06	11/9/2016	11.09	10.93	0.16	NM	4,806.46	4,795.37	-0.36
BH07	2/23/2016	11.96			15.57	4,806.01	4,794.05	0.06
BH07	5/27/2016	10.81			NM	4,806.01	4,795.20	1.15
BH07	8/17/2016	10.42			15.20	4,806.01	4,795.59	0.39
BH07	11/9/2016	10.69			NM	4,806.01	4,795.32	-0.27
BH08	2/23/2016	9.95			15.14	4,803.78	4,793.83	0.02
BH08	5/27/2016	8.80			NM	4,803.78	4,794.98	1.15
BH08	8/17/2016	8.39			15.16	4,803.78	4,795.39	0.41
BH08	11/9/2016	8.66			NM	4,803.78	4,795.12	-0.27
BH09	2/23/2016	10.20			15.29	4,804.08	4,793.88	0.04
BH09	5/27/2016	9.05			NM	4,804.08	4,795.03	1.15
BH09	8/17/2016	8.65			15.20	4,804.08	4,795.43	0.40
BH09	11/9/2016	8.89			NM	4,804.08	4,795.19	-0.24
BH10	2/23/2016	11.22			15.26	4,805.37	4,794.15	0.03
BH10	5/27/2016	10.05			NM	4,805.37	4,795.32	1.17
BH10	8/17/2016	9.66			15.28	4,805.37	4,795.71	0.39
BH10	11/9/2016	9.88			NM	4,805.37	4,795.49	-0.22

**TABLE 1**  
**FOURTH QUARTER 2016 MONITORING EVENT**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**DCP TAMPA COMPRESSOR STATION**  
**WELD COUNTY, COLORADO**

Location	Date	Depth to Groundwater (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (*) (feet amsl)	Change in Groundwater Elevation Since Previous Event (1) (feet)
BH11	2/23/2016	11.09	11.07	0.02	14.43	4,804.97	4,793.89	-0.07
BH11	5/27/2016	9.81			NM	4,804.97	4,795.16	1.26
BH11	8/17/2016	9.42			14.49	4,804.97	4,795.55	0.39
BH11	11/9/2016	9.65			NM	4,804.97	4,795.32	-0.23
BH12	2/23/2016	11.28			15.19	4,805.13	4,793.85	-0.01
BH12	5/27/2016	10.10			NM	4,805.13	4,795.03	1.18
BH12	8/17/2016	9.69			15.28	4,805.13	4,795.44	0.41
BH12	11/09/16	9.92			NM	4,805.13	4,795.21	-0.22
Average change in groundwater elevation (8/17/16 to 11/9/16)								-0.27

Notes:

1- Changes in groundwater elevation calculated by subtracting the measurement collected during the previous monitoring event from the measurement collected during the most recent monitoring event.

amsl = feet above mean sea level

TOC = top of casing

Groundwater elevation = (TOC Elevation - Measured Depth to Water)

\* Groundwater elevation was corrected for product thickness using the following calculation, when applicable:

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

LNAPL relative density is assumed to be approximately 0.75

NA = Not Applicable

TD = Total Depth

**TABLE 2**  
**FOURTH QUARTER 2016 MONITORING EVENT**  
**SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER**  
**DCP TAMPA COMPRESSOR STATION**  
**WELD COUNTY, COLORADO**

Location Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
<b>COGCC Standards (µg/L)<sup>(1)</sup></b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	
BH01R	11/9/2016	<1.0	<1.0	3.4	<1.0	
BH02	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH03	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH04	11/9/2016	<b>120</b>	<b>590</b>	<b>1,800</b>	<b>5,500</b>	LNAPL
BH05	11/9/2016	<b>19,000</b>	<b>2,000</b>	<b>3,500</b>	<b>15,000</b>	
BH06	11/9/2016	NS	NS	NS	NS	LNAPL
BH07	11/9/2016	<b>790</b>	71	510	<b>2,400</b>	
BH08	11/9/2016	<1.0	<1.0	<1.0	9.1	
BH09	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH10	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH11	11/9/2016	<b>27</b>	<1.0	100	260	
BH12	11/9/2016	<1.0	<1.0	<1.0	<1.0	

Notes:

1). The environmental cleanup standards for groundwater that are applicable to this site are the Colorado Oil and Gas Conservation Commission (COGCC) standards for contaminants in groundwater according to Table 910-1 of the COGCC 900 Series Rule for E&P Waste Management.

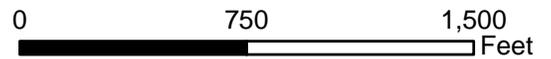
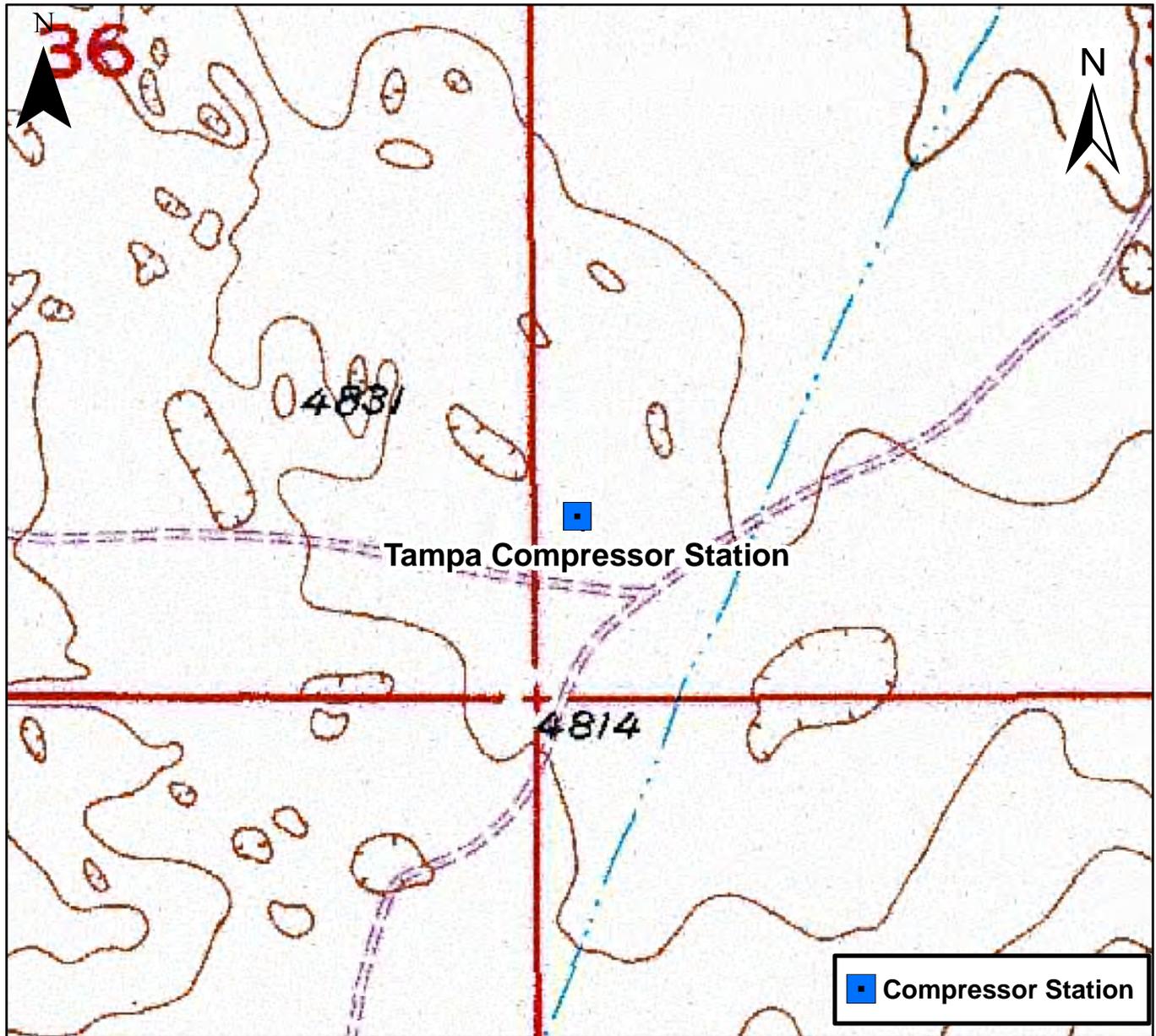
**Bold** red values indicate an exceedance of the COGCC groundwater standards for the Site.

NS = Not sampled.

µg/L = micrograms per liter.

LNAPL - Light non-aqueous phase liquid

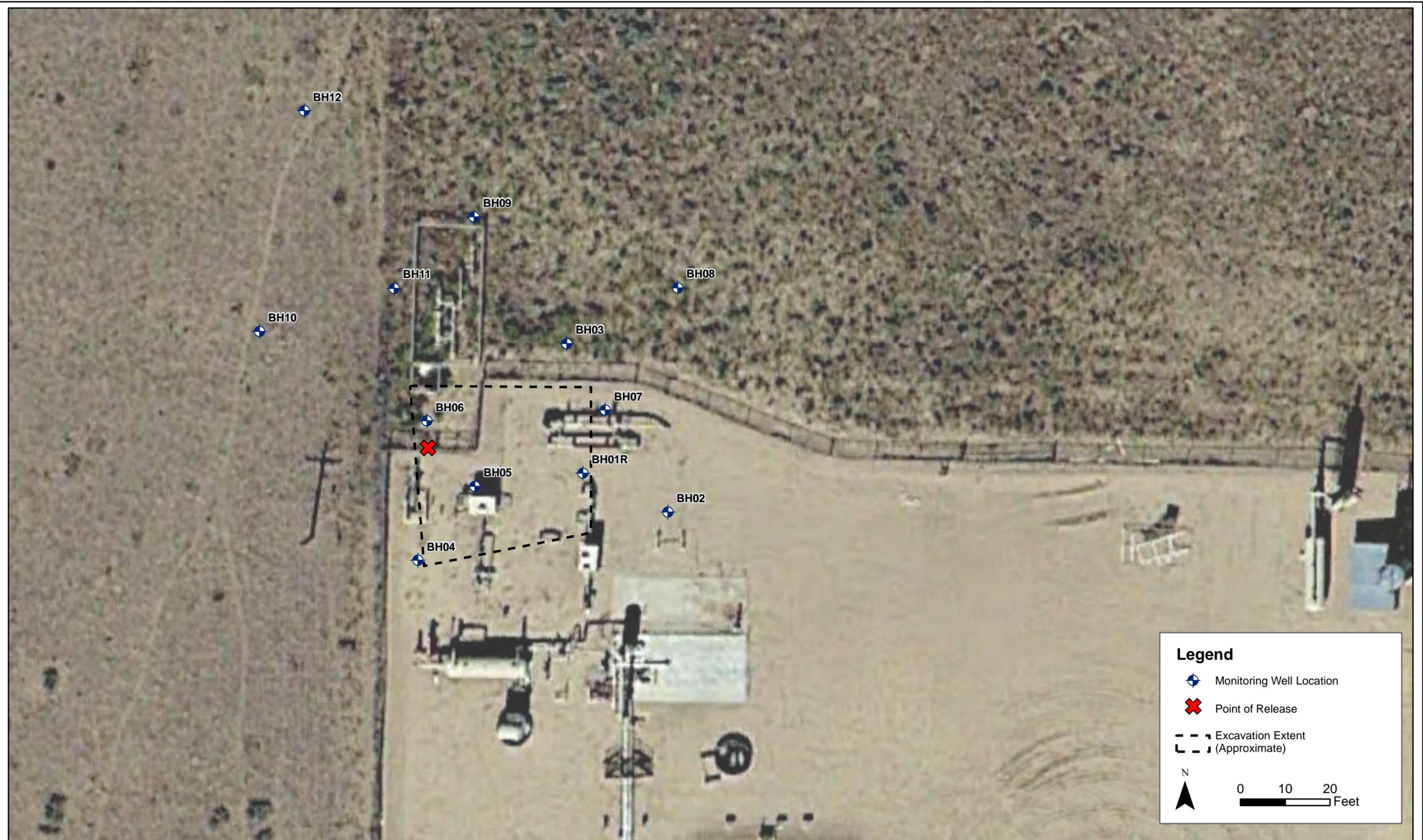
## Figures



### Figure 1

Site Location Map  
 Tampa Compressor Station  
 SWSW S31 T3N R63W  
 Weld County, Colorado





DATE:  
December 2016

DESIGNED BY:  
B. Humphrey

DRAWN BY:  
D. Arnold

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

**DCP Midstream**  
**Tampa Compressor Station**  
SWSW Section 31, Township 3 North, Range 63 West  
Weld County, Colorado

Site Map with  
Monitoring Well Location

Figure  
2



DATE: December 2016

DESIGNED BY: B. Humphrey

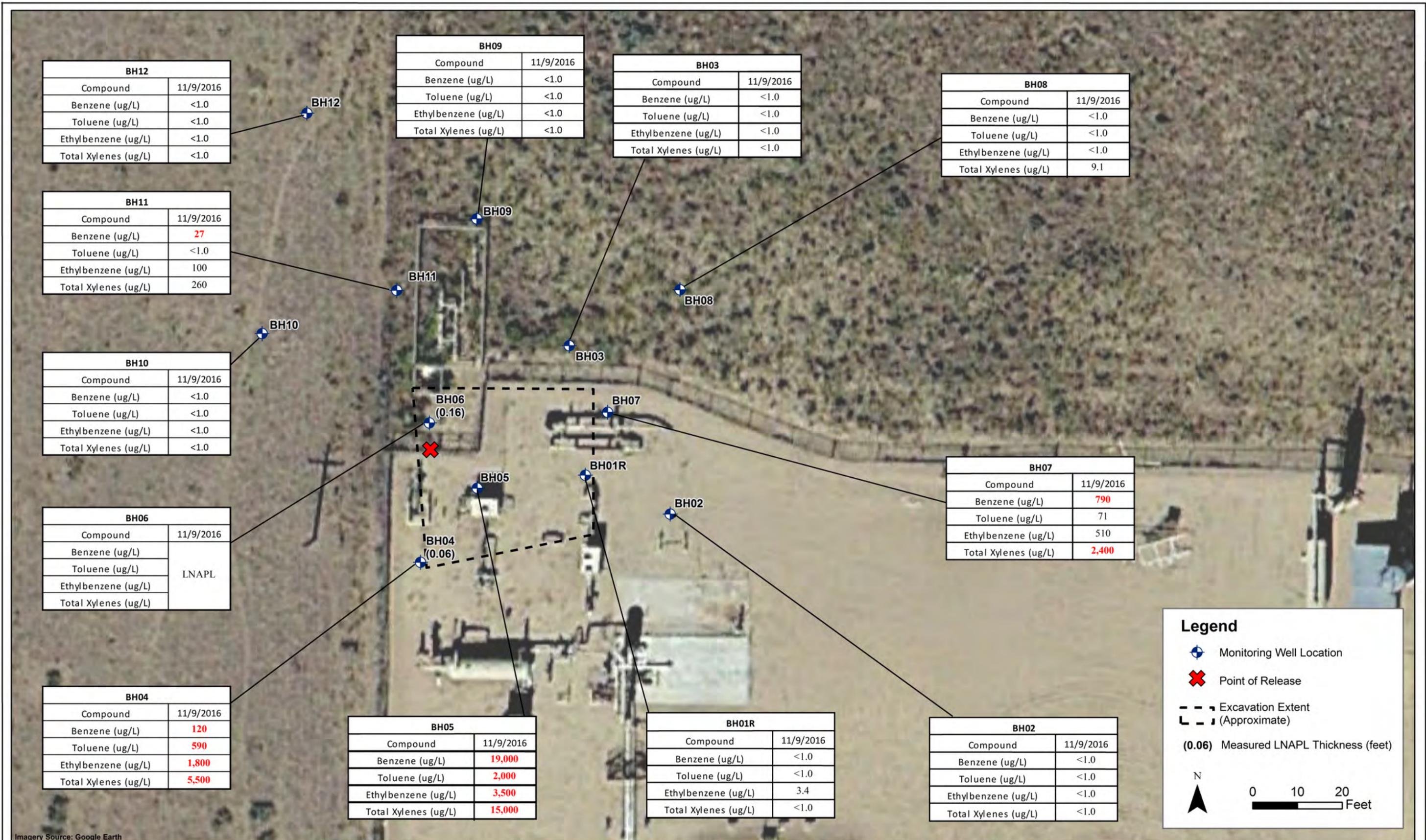
DRAWN BY: D. Arnold

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

**DCP Midstream**  
**Tampa Compressor Station**  
 SWSW Section 31, Township 3 North, Range 63 West  
 Weld County, Colorado

Groundwater Elevation  
 Contour Map  
 (November 9, 2016)

Figure  
 3



DATE: December 2016  
 DESIGNED BY: B. Humphrey  
 DRAWN BY: D. Arnold



**DCP Midstream**  
**Tampa Compressor Station**  
 SWSW Section 31, Township 3 North, Range 63 West  
 Weld County, Colorado

Groundwater Analytical Results  
 Map  
 (November 9, 2016)

Figure  
 4

Appendix A  
Historic Analytical Results

**APPENDIX A  
HISTORIC ANALYTIC DATA  
DCP TAMPA COMPRESSOR STATION  
WELD COUNTY, COLORADO**

Location Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
<b>COGCC Standards (µg/L)</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	
BH01	2/19/2015	NS	NS	NS	NS	LNAPL
BH01R	11/12/2015	<b>82</b>	<1.0	7.5	3.8	
BH01R	2/23/2016	<b>35</b>	<1.0	3.7	1.5	
BH01R	5/27/2016	4.2	<1.0	2.0	<1.0	
BH01R	8/17/2016	<1.0	<1.0	<1.0	<1.0	
BH01R	11/9/2016	<1.0	<1.0	3.4	<1.0	
BH02	2/19/2015	<1.0	1.7	<1.0	1.1	
BH02	11/12/2015	<1.0	1.6	<1.0	4.5	
BH02	2/23/2016	<1.0	<1.0	<1.0	<1.0	
BH02	5/27/2016	<1.0	<1.0	<1.0	<1.0	
BH02	8/17/2016	<1.0	<1.0	<1.0	<1.0	
BH02	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH03	2/19/2015	NS	NS	NS	NS	LNAPL
BH03	11/12/2015	NS	NS	NS	NS	LNAPL
BH03	2/23/2016	NS	NS	NS	NS	LNAPL
BH03	5/27/2016	<b>53</b>	65	100	700	
BH03	8/17/2016	<1.0	<1.0	<1.0	<1.0	
BH03	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH04	11/12/2015	NS	NS	NS	NS	LNAPL
BH04	2/23/2016	NS	NS	NS	NS	LNAPL
BH04	5/27/2016	<b>120</b>	490	560	<b>2,600</b>	
BH04	8/17/2016	<b>28</b>	73	140	840	LNAPL
BH04	11/9/2016	<b>120</b>	<b>590</b>	<b>1,800</b>	<b>5,500</b>	LNAPL
BH05	11/12/2015	<b>6,700</b>	<b>590</b>	610	<b>2,300</b>	
BH05	2/23/2016	<b>2,900</b>	180	540	<b>1,500</b>	
BH05	5/27/2016	<b>2,300</b>	130	610	<b>2,900</b>	
BH05	8/17/2016	<b>1,800</b>	30	100	1,100	
BH05	11/9/2016	<b>19,000</b>	<b>2,000</b>	<b>3,500</b>	<b>15,000</b>	
BH06	11/12/2015	NS	NS	NS	NS	LNAPL
BH06	2/23/2016	NS	NS	NS	NS	LNAPL
BH06	5/27/2016	<b>6,500</b>	<b>6,200</b>	<b>2,500</b>	<b>14,000</b>	
BH06	8/17/2016	<b>5,400</b>	<b>3,100</b>	<b>1,400</b>	<b>7,600</b>	
BH06	11/9/2016	NS	NS	NS	NS	LNAPL
BH07	11/12/2015	<b>1,600</b>	<b>1,000</b>	290	1,000	
BH07	2/23/2016	<b>130</b>	70	170	110	
BH07	5/27/2016	<b>3,100</b>	<b>1,500</b>	500	<b>2,700</b>	
BH07	8/17/2016	<b>2,500</b>	170	550	<b>2,600</b>	
BH07	11/9/2016	<b>790</b>	71	510	<b>2,400</b>	
BH08	11/12/2015	<b>160</b>	16	11	40	
BH08	2/23/2016	<b>150</b>	37	15	74	
BH08	5/27/2016	<b>60</b>	10	19	110	
BH08	8/17/2016	<b>5.1</b>	6.2	20	320	
BH08	11/9/2016	<1.0	<1.0	<1.0	9.1	

**APPENDIX A  
HISTORIC ANALYTIC DATA  
DCP TAMPA COMPRESSOR STATION  
WELD COUNTY, COLORADO**

Location Identification	Sample Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Comments
<b>COGCC Standards (µg/L)</b>		<b>5</b>	<b>560</b>	<b>700</b>	<b>1,400</b>	
BH09	11/12/2015	<b>610</b>	46	18	80	
BH09	2/23/2016	<b>23</b>	<1.0	<1.0	<1.0	
BH09	5/27/2016	<b>8.0</b>	<1.0	<1.0	<1.0	
BH09	8/17/2016	<1.0	<1.0	<1.0	<1.0	
BH09	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH10	11/12/2015	<1.0	<1.0	<1.0	<1.0	
BH10	2/23/2016	<1.0	<1.0	<1.0	<1.0	
BH10	5/27/2016	<1.0	<1.0	<1.0	<1.0	
BH10	8/17/2016	<1.0	<1.0	<1.0	<1.0	
BH10	11/9/2016	<1.0	<1.0	<1.0	<1.0	
BH11	11/12/2015	<b>2,100</b>	<b>1,800</b>	200	840	
BH11	2/23/2016	NS	NS	NS	NS	LNAPL
BH11	5/27/2016	<b>2,100</b>	180	600	<b>1,900</b>	
BH11	8/17/2016	<b>1,100</b>	3.5	34	770	
BH11	11/9/2016	<b>27</b>	<1.0	100	260	
BH12	11/12/2015	<1.0	<1.0	<1.0	<1.0	
BH12	2/23/2016	<1.0	<1.0	<1.0	<1.0	
BH12	5/27/2016	<1.0	<1.0	<1.0	<1.0	
BH12	8/17/2016	<1.0	<1.0	<1.0	<1.0	
BH12	11/9/2016	<1.0	<1.0	<1.0	<1.0	

Notes:

1). The environmental cleanup standards for groundwater that are applicable to this site are the Colorado Oil and Gas Conservation Commission (COGCC) standards for contaminants in groundwater according to Table 910-1 of the COGCC 900 Series Rule for E&P Waste Management.

**Bold** red values indicate an exceedance of the COGCC groundwater standards for the Site.

NS = Not sampled.

µg/L = micrograms per liter.

LNAPL - Light non-aqueous phase liquid

## Appendix B

Laboratory Analytical Report  
Summit Scientific – 1611078

# Summit Scientific

---

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 16, 2016

Steve Weathers  
DCP Midstream  
370 17th Street #2500  
Denver, CO 80202  
RE: Tampa Compressor Station

Enclosed are the results of analyses for samples received by Summit Scientific on 11/09/16 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury  
President



DCP Midstream  
370 17th Street #2500  
Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
Project Manager: Steve Weathers

**Reported:**  
11/16/16 16:23

### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01R	1611078-01	Water	11/09/16 11:18	11/09/16 16:30
BH02	1611078-02	Water	11/09/16 10:07	11/09/16 16:30
BH03	1611078-03	Water	11/09/16 10:58	11/09/16 16:30
BH04	1611078-04	Water	11/09/16 10:23	11/09/16 16:30
BH05	1611078-05	Water	11/09/16 11:23	11/09/16 16:30
BH07	1611078-06	Water	11/09/16 10:43	11/09/16 16:30
BH08	1611078-07	Water	11/09/16 11:10	11/09/16 16:30
BH09	1611078-08	Water	11/09/16 11:03	11/09/16 16:30
BH10	1611078-09	Water	11/09/16 10:33	11/09/16 16:30
BH11	1611078-10	Water	11/09/16 11:17	11/09/16 16:30
BH12	1611078-11	Water	11/09/16 10:45	11/09/16 16:30

Summit Scientific

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DCP Midstream  
370 17th Street #2500  
Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
Project Manager: Steve Weathers

Reported:  
11/16/16 16:23

# Summit Scientific

1611078.1

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
303-277-9310 • 303-374-5933 Fax

Page 1 of 2

Client: DCP / Tasmán Geosciences

Address: 6807 Pecos St, Unit C

City/State/Zip: Denver, CO 80221

Phone: Fax:

Sampler Name: Mitch Weller / Max Garcia

Project Manager: Steve Weathers

E-Mail: [swweathers@dcpmidstream.com](mailto:swweathers@dcpmidstream.com); [bw@unphree@tescon-geo.com](mailto:bw@unphree@tescon-geo.com)

Project Name: Tampa Compressor Station

Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix			Analyze For:				Special Instructions	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX	8260			
BH 01 R	11-9-16	1118	3			X		X								
BH 02		1007														
BH 03		1058														
BH 04		1023														
BH 05		1123														
BH 07		1043														
BH 08		1110														
BH 09		1103														
BH 10		1033														
BH 11		1117														

Relinquished by: <i>Mitch Weller</i>	Date/Time: 11-9-16 1630	Received by: <i>MD</i>	Date/Time: 11/16/16 1630	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>	Notes:  on ice
Relinquished by: <i>MD</i>	Date/Time: 11/16/16 1700	Received by: <i>MD</i>	Date/Time: 11/16/16 1700		
Relinquished by:	Date/Time:	Received in Lab by:	Date/Time:		

www.s2scientific.com



DCP Midstream  
370 17th Street #2500  
Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
Project Manager: Steve Weathers

Reported:  
11/16/16 16:23

# Summit Scientific

1611078.2

741 Corporate Circle Suite 1 • Golden, Colorado 80401  
303-277-9310 • 303-374-5933 Fax

Client: DCP / Taurus Geosciences  
Address: 6899 Peas St, Unit C  
City/State/Zip: Denver, CO 80221  
Phone: \_\_\_\_\_ Fax: \_\_\_\_\_  
Sampler Name: Mitch Weller, Max Garcia

Page 2 of 2

Project Manager: Steve Weathers  
E-Mail: SWeathers@dcpmidstream.com ; bhumphrey@taurus-geo.com  
Project Name: Tampa Compressor Station  
Project Number: \_\_\_\_\_

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative				Matrix		Analyze For:				Special Instructions	
				HCl	HNO <sub>3</sub>	None	Other (Specify)	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	1	2		3
BH 12	11-9-16	1045	3			X		X			X	BTEX	8260		
Relinquished by: <u>Mitchell Weller</u> Date/Time: <u>11-9-16 1630</u>										Received by: <u>MW</u> Date/Time: <u>11/9/16 1630</u>		Turn Around Time (Check)			Notes: <u>on ice</u>
Relinquished by: <u>MW</u> Date/Time: <u>11/9/16 1700</u>										Received by: <u>MS</u> Date/Time: <u>11-9-16 1700</u>		Same Day <input type="checkbox"/> 72 Hours <input type="checkbox"/> 24 Hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 Hours <input type="checkbox"/>			
Relinquished by: _____ Date/Time: _____										Received in Lab by: _____ Date/Time: _____		Sample Integrity: Temperature Upon Receipt: <u>5.7</u> Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			

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S<sub>2</sub>

DCP Midstream  
370 17th Street #2500  
Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
Project Manager: Steve Weathers

Reported:  
11/16/16 16:23

Sample Receipt Checklist

S2 Work Order: 1611078

Client: DCP/Tasman

Client Project ID: Tampa Compressor Station

Shipped Via: P/U

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

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

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

Cooler ID					
Temp (°C)	<u>5.7</u>				

Thermometer ID: 61857155-K

	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature just above 0°C to ≤ 6°C <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
NOTE: If samples are delivered the same day of sampling, this requirement is waived provided that there is evidence that cooling has begun.				
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?			<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?				
Is the COC properly relinquished by the client w/ date and time recorded <sup>(1)</sup> ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.				
Are samples preserved that require preservation (excluding cooling) <sup>(1)</sup> ?		<input checked="" type="checkbox"/>		
Note the type of preservative in the Comments column – HCl, H <sub>2</sub> SO <sub>4</sub> , NaOH, HNO <sub>3</sub> , ect				
If samples are acid preserved for metals, is the pH ≤ 2 <sup>(1)</sup> ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.				
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Nakita  
Custodian Printed Name

ND  
Signature or Initials of Custodian

11/16/16 1700  
Date/Time



DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH01R**  
**1611078-01 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/14/16	11/14/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3.4</b>	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 11:18**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		114 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.4 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %	45-146		"	"	"	"	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH02**  
**1611078-02 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 10:07**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>117 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>95.8 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH03**  
**1611078-03 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 10:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		119 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.0 %	45-146		"	"	"	"	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH04**  
**1611078-04 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 10:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>120</b>	10	ug/l	10	1611164	11/15/16	11/15/16	EPA 8260B	
<b>Toluene</b>	<b>590</b>	10	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>1800</b>	10	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>5500</b>	10	"	"	"	"	"	"	

Date Sampled: **11/09/16 10:23**

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>		105 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	45-146		"	"	"	"	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH05**  
**1611078-05 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 11:23**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>19000</b>	100	ug/l	100	1611164	11/15/16	11/15/16	EPA 8260B	
<b>Toluene</b>	<b>2000</b>	100	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>3500</b>	100	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>15000</b>	100	"	"	"	"	"	"	

Date Sampled: **11/09/16 11:23**

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>		98.0 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	45-146		"	"	"	"	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH07**  
**1611078-06 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>790</b>	100	ug/l	100	1611164	11/15/16	11/15/16	EPA 8260B	
<b>Toluene</b>	<b>71</b>	1.0	"	1	"	"	"	"	
<b>Ethylbenzene</b>	<b>510</b>	100	"	100	"	"	"	"	
<b>Xylenes (total)</b>	<b>2400</b>	100	"	"	"	"	"	"	

Date Sampled: **11/09/16 10:43**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		105 %		37-154	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		98.2 %		45-149	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		45-146	"	"	"	"	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH08**  
**1611078-07 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>9.1</b>	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 11:10**

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>		96.9 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %	45-146		"	"	"	"	

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.*



DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH09**  
**1611078-08 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 11:03**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		<i>115 %</i>	<i>37-154</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: Toluene-d8</i>		<i>96.6 %</i>	<i>45-149</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>	<i>45-146</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	

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.*



DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH10**  
**1611078-09 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 10:33**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		96.8 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.5 %	45-146		"	"	"	"	

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.*



DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH11**  
**1611078-10 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 11:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<b>Benzene</b>	<b>27</b>	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
<b>Ethylbenzene</b>	<b>100</b>	1.0	"	"	"	"	"	"	
<b>Xylenes (total)</b>	<b>260</b>	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 11:17**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		111 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.4 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %	45-146		"	"	"	"	

Summit Scientific

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DCP Midstream  
 370 17th Street #2500  
 Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
 Project Manager: Steve Weathers

**Reported:**  
 11/16/16 16:23

**BH12**  
**1611078-11 (Water)**

**Summit Scientific**

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

Date Sampled: **11/09/16 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611164	11/15/16	11/15/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/09/16 10:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		115 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		95.3 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %	45-146		"	"	"	"	

Summit Scientific

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DCP Midstream  
370 17th Street #2500  
Denver CO, 80202

Project: Tampa Compressor Station

Project Number: [none]  
Project Manager: Steve Weathers

Reported:  
11/16/16 16:23

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

#### Summit Scientific

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

#### Batch 1611164 - EPA 5030 Water MS

##### Blank (1611164-BLK1)

Prepared & Analyzed: 11/14/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.3		112	37-154			
Surrogate: Toluene-d8	12.8		"	13.3		96.2	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	45-146			

##### LCS (1611164-BS1)

Prepared & Analyzed: 11/14/16

Benzene	32.0	1.0	ug/l	33.3		96.1	51-132			
Toluene	31.9	1.0	"	33.3		95.6	51-138			
Ethylbenzene	30.8	1.0	"	33.1		93.2	58-146			
m,p-Xylene	54.3	2.0	"	66.5		81.6	57-144			
o-Xylene	29.9	1.0	"	32.7		91.4	53-146			
Surrogate: 1,2-Dichloroethane-d4	15.0		"	13.3		113	37-154			
Surrogate: Toluene-d8	14.9		"	13.3		112	45-149			
Surrogate: 4-Bromofluorobenzene	13.8		"	13.3		104	45-146			

##### Matrix Spike (1611164-MS1)

Source: 1611078-01

Prepared & Analyzed: 11/14/16

Benzene	35.8	1.0	ug/l	33.3	ND	107	34-141			
Toluene	35.7	1.0	"	33.3	ND	107	27-151			
Ethylbenzene	39.5	1.0	"	33.1	3.39	109	29-160			
m,p-Xylene	65.3	2.0	"	66.5	ND	98.1	20-166			
o-Xylene	35.9	1.0	"	32.7	ND	110	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.6		"	13.3		117	37-154			
Surrogate: Toluene-d8	14.0		"	13.3		105	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		102	45-146			

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

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

**Batch 1611164 - EPA 5030 Water MS**

<b>Matrix Spike Dup (1611164-MSD1)</b>	<b>Source: 1611078-01</b>			<b>Prepared &amp; Analyzed: 11/14/16</b>						
Benzene	38.4	1.0	ug/l	33.3	ND	115	34-141	7.17	32	
Toluene	38.1	1.0	"	33.3	ND	114	27-151	6.48	25	
Ethylbenzene	44.1	1.0	"	33.1	3.39	123	29-160	11.0	50	
m,p-Xylene	72.7	2.0	"	66.5	ND	109	20-166	10.8	36	
o-Xylene	40.5	1.0	"	32.7	ND	124	33-159	12.0	26	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>16.0</i>		<i>"</i>	<i>13.3</i>		<i>120</i>	<i>37-154</i>			
<i>Surrogate: Toluene-d8</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-149</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>13.6</i>		<i>"</i>	<i>13.3</i>		<i>102</i>	<i>45-146</i>			

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### 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