

Second Quarter 2016 Groundwater Monitoring Summary Report

Tampa Compressor Station Release Weld County, Colorado Remediation #9353

Prepared for:



370 17th St., Suite 2500
Denver, CO 80202

Prepared by:



6899 Pecos Street, Unit C
Denver, Colorado 80221

July 26, 2016

Table of Contents

1. Introduction	1
2. Site Location and Background.....	1
3. Groundwater Monitoring.....	2
3.1 Groundwater Elevation Monitoring.....	2
3.2 Groundwater Quality Monitoring	2
4. Remediation Activities	3
5. Conclusions	4
6. Recommendations	4

Tables

1	Second Quarter 2016 Summary of Groundwater Elevation Data
2	Second Quarter 2016 Summary of BTEX Concentrations in Groundwater

Figures

1	Site Location Map
2	Site Map with Monitoring Well Locations
3	Groundwater Elevation Contour Map – May 27, 2016
4	Analytical Results Map – May 27, 2016

Appendices

A	Historic Analytical Results – BTEX Concentrations in Groundwater
B	Laboratory Analytical Report – Summit Scientific - 1605271

1. Introduction

This report summarizes the groundwater monitoring activities conducted during the second 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 May 27, 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 (yd³) 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 yd³ 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 will be addressed through in-situ remediation activities. 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 second quarter 2016 groundwater monitoring event. Quarterly monitoring activities were conducted on May 27, 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 second 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 second 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 BH05 and BH08) at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

	Second Quarter 2016 (5/27/2016)
Maximum Elevation (Well ID)	4,795.61 (BH05)
Minimum Elevation (Well ID)	4,794.98 (BH08)
Average Change from Previous Monitoring Event – All Wells	1.10
Average Hydraulic Gradient (ft/ft) / (Well IDs)	0.01 (BH05 to BH08)

3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements at each monitoring well, groundwater samples were collected from 12 monitor wells using disposable polyethylene bailers. Although there were traces of LNAPL observed within wells BH03, BH04, and 0.09 feet observed in BH06, LNAPL was purged from the wells, three purge volumes of groundwater were collected, and those wells were subsequently sampled in second quarter 2016.

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 second quarter 2016 event are included in Appendix A and the laboratory analytical report for the second quarter 2016 is included in Appendix B. Analytical results are also displayed on Figure 4.

Analytical results/observations are summarized below:

- Benzene concentration in groundwater samples from wells BH03 (53 micrograms per liter [$\mu\text{g/L}$]), BH04 (120 $\mu\text{g/L}$), BH05 (2,300 $\mu\text{g/L}$), BH06 (6,500 $\mu\text{g/L}$), BH07 (3,100 $\mu\text{g/L}$), BH08 (60 $\mu\text{g/L}$), BH09 (8.0 $\mu\text{g/L}$), and BH11 (2,100 $\mu\text{g/L}$) were in exceedance of the COGCC Table 910-1 standard of 5 $\mu\text{g/L}$.
- Toluene concentration in groundwater samples from wells BH06 (6,200 $\mu\text{g/L}$) and BH07 (3,100 $\mu\text{g/L}$) were in exceedance of the COGCC Table 910-1 standard of 560 $\mu\text{g/L}$.
- Ethylbenzene concentration in groundwater samples from well BH06 (2,500 $\mu\text{g/L}$) was in exceedance of the COGCC Table 910-1 standard of 700 $\mu\text{g/L}$.
- Total Xylenes in groundwater samples from wells BH04 (2,600 $\mu\text{g/L}$), BH05 (2,900 $\mu\text{g/L}$), BH06 (14,000 $\mu\text{g/L}$), BH07 (2,700 $\mu\text{g/L}$), and BH11 (1,900 $\mu\text{g/L}$) 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.
- A trace amount of LNAPL was observed in wells BH03 and BH04 with measured thicknesses of 0.01 feet within each well. Additionally, LNAPL was observed in BH06 with a measured thickness of 0.09 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 April 27, 2016 and June 30, 2016, eight 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 300 barrels (bbls) of groundwater was removed during the second quarter EFR remediation events. The groundwater 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 second quarter 2016 monitoring data provides the following:

- LNAPL was observed in BH03, BH04, and BH06 during the second quarter 2016.
- Benzene concentrations in exceedance of the COGCC applicable groundwater standard was detected in eight (8) of the sampled monitoring wells.
- With the exception of BH07, benzene and toluene concentrations decreased when compared to the first quarter 2016 event.
- With the exception of measurable LNAPL in BH06, which increased by 0.02 feet compared to first quarter 2016, overall LNAPL thicknesses decreased at the Site.

6. Recommendations

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

- Continue quarterly groundwater monitoring and sampling at the monitoring well locations illustrated on Figure 2.
- Continue weekly mobile EFR remediation activities at the Site.

Tables

TABLE 1
SECOND 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	11/12/2015	11.48			16.41	4,805.57	4,794.09	NA
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
BH02	11/12/2015	13.64			18.90	4,807.70	4,794.06	NA
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
BH03	11/12/2015	11.79	10.13	1.66	NM	4,804.31	4,793.76	NA
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
BH04	11/12/2015	12.58	11.79	0.79	16.36	4,806.95	4,794.96	NA
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
BH05	11/12/2015	12.29			16.18	4,806.51	4,794.22	NA
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
BH06	11/12/2015	12.44	12.29	0.15	16.37	4,806.46	4,794.13	NA
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
BH07	11/12/2015	12.02			15.26	4,806.01	4,793.99	NA
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
BH08	11/12/2015	9.97			15.13	4,803.78	4,793.81	NA
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
BH09	11/12/2015	10.24			15.25	4,804.08	4,793.84	NA
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
BH10	11/12/2015	11.25			15.14	4,805.37	4,794.12	NA
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
BH11	11/12/2015	11.00			14.44	4,804.97	4,793.97	NA
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

TABLE 1
SECOND 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)
BH12	11/12/2015	11.27			15.24	4,805.13	4,793.86	NA
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
Average change in groundwater elevation between 2/23/16 and 5/27/16								1.02

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
SECOND 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
COGCC Standards (µg/L)⁽¹⁾		5	560	700	1,400	
BH01R	5/27/2016	4.2	<1.0	2.0	<1.0	
BH02	5/27/2016	<1.0	<1.0	<1.0	<1.0	
BH03	5/27/2016	53	65	100	700	
BH04	5/27/2016	120	490	560	2,600	
BH05	5/27/2016	2,300	130	610	2,900	
BH06	5/27/2016	6,500	6,200	2,500	14,000	
BH07	5/27/2016	3,100	1,500	500	2,700	
BH08	5/27/2016	60	10	19	110	
BH09	5/27/2016	8.0	<1.0	<1.0	<1.0	
BH10	5/27/2016	<1.0	<1.0	<1.0	<1.0	
BH11	5/27/2016	2,100	180	600	1,900	
BH12	5/27/2016	<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

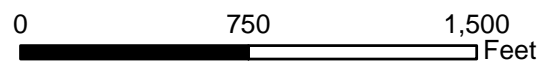
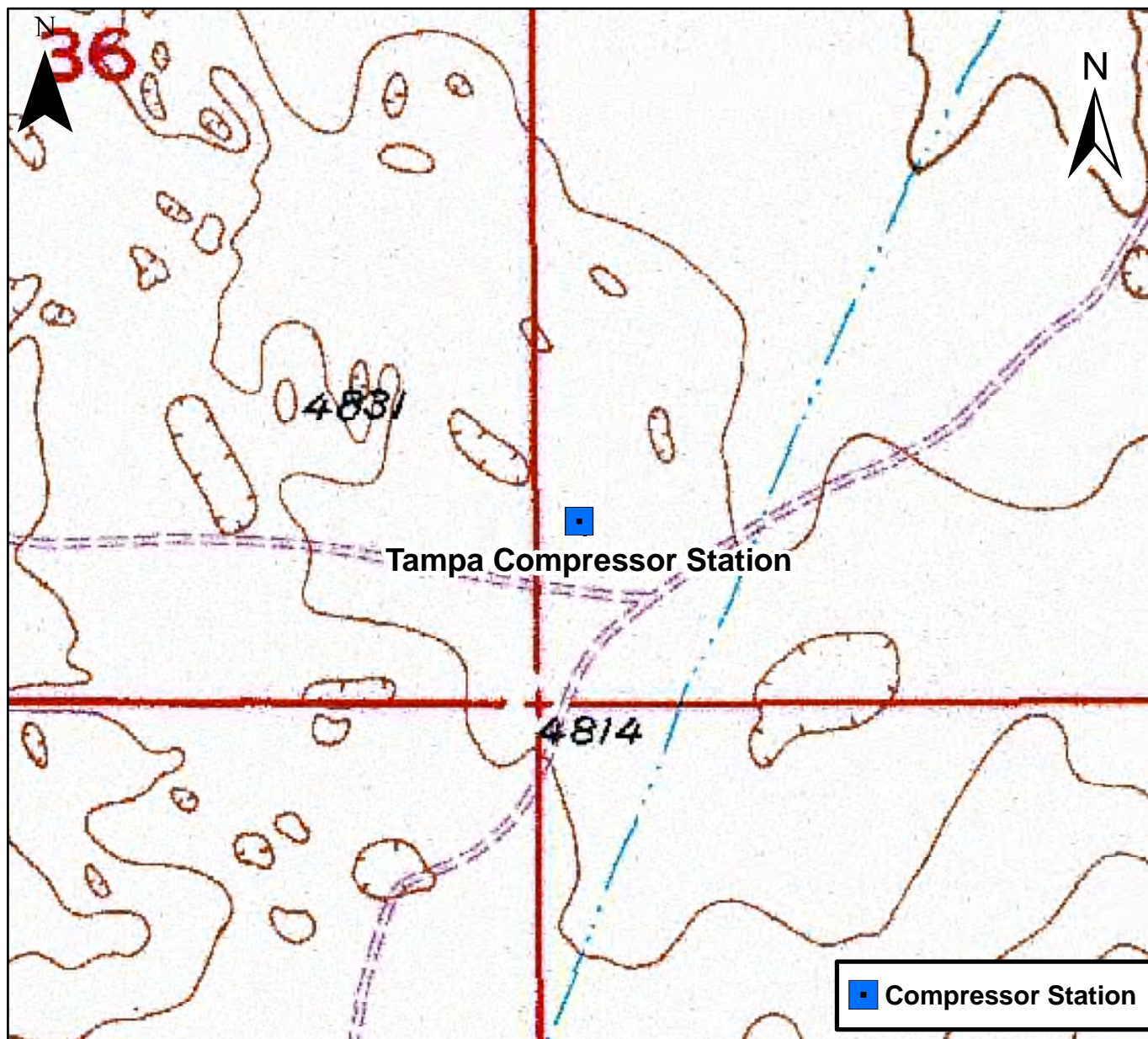
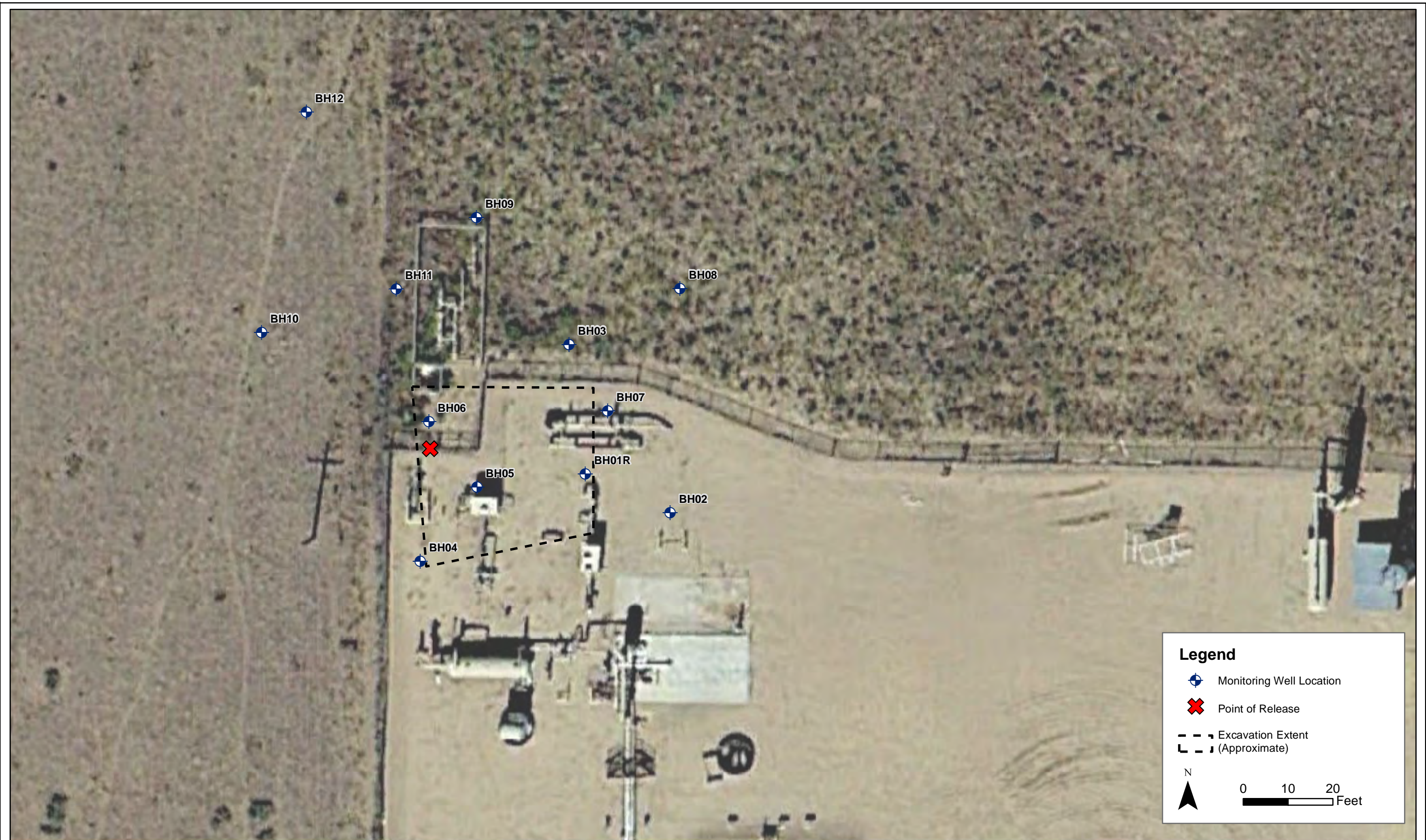



Figure 1

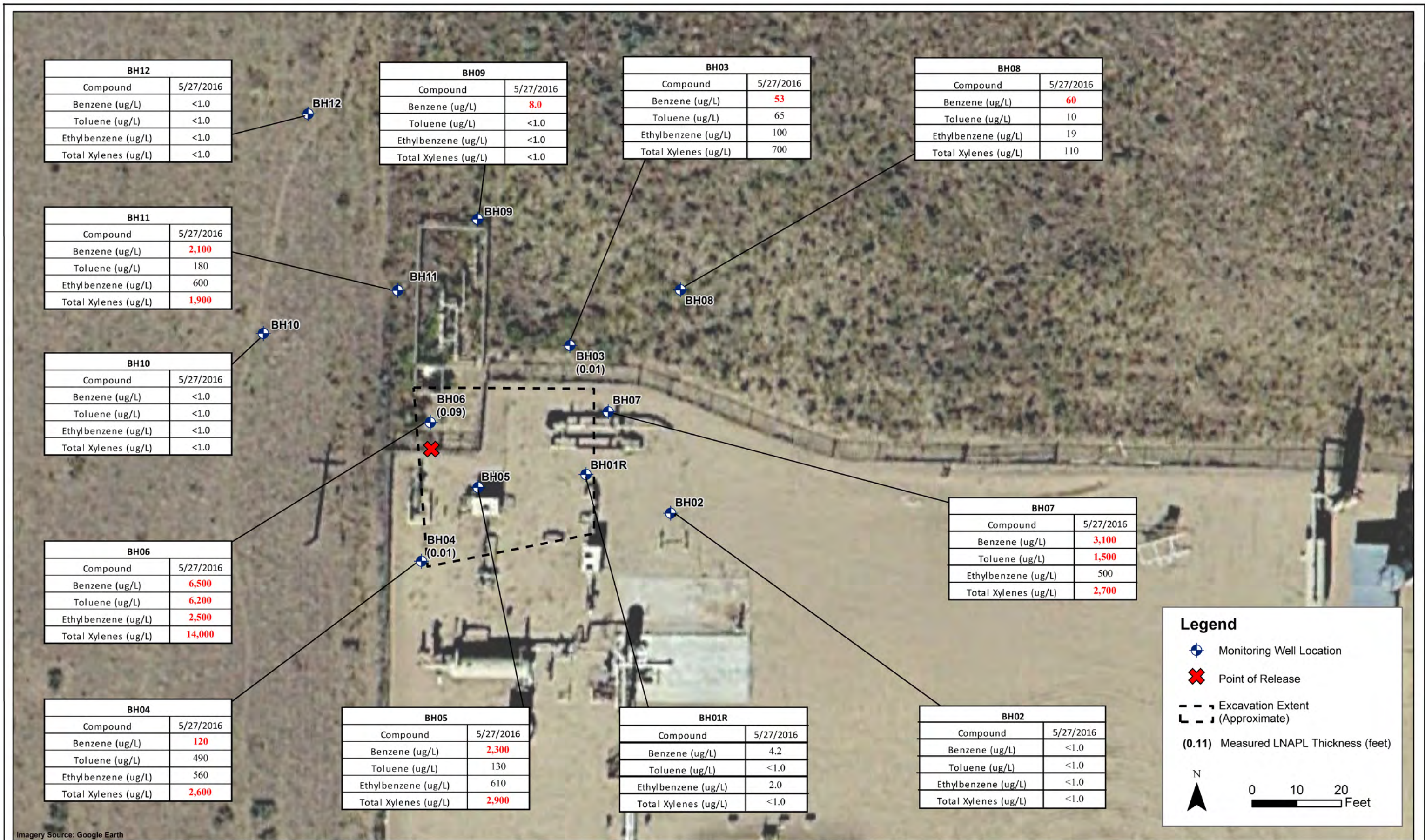
Site Location Map
Tampa Compressor Station
SWSW S31 T3N R63W
Weld County, Colorado





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





DATE: July 2016
DESIGNED BY: B. Humphrey
DRAWN BY: Z. Mahaffey



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

Groundwater Analytical Results
Map
(May 27, 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
COGCC Standards (µg/L)		5	560	700	1,400	
BH01	2/19/2015	NS	NS	NS	NS	LNAPL
BH01R	11/12/2015	82	<1.0	7.5	3.8	
BH01R	2/23/2016	35	<1.0	3.7	1.5	
BH01R	5/27/2016	4.2	<1.0	2.0	<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	
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	53	65	100	700	
BH04	11/12/2015	NS	NS	NS	NS	LNAPL
BH04	2/23/2016	NS	NS	NS	NS	LNAPL
BH04	5/27/2016	120	490	560	2,600	
BH05	11/12/2015	6,700	590	610	2,300	
BH05	2/23/2016	2,900	180	540	1,500	
BH05	5/27/2016	2,300	130	610	2,900	
BH06	11/12/2015	NS	NS	NS	NS	LNAPL
BH06	2/23/2016	NS	NS	NS	NS	LNAPL
BH06	5/27/2016	6,500	6,200	2,500	14,000	
BH07	11/12/2015	1,600	1,000	290	1,000	
BH07	2/23/2016	130	70	170	110	
BH07	5/27/2016	3,100	1,500	500	2,700	
BH08	11/12/2015	160	16	11	40	
BH08	2/23/2016	150	37	15	74	
BH08	5/27/2016	60	10	19	110	
BH09	11/12/2015	610	46	18	80	
BH09	2/23/2016	23	<1.0	<1.0	<1.0	
BH09	5/27/2016	8.0	<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	
BH11	11/12/2015	2,100	1,800	200	840	
BH11	2/23/2016	NS	NS	NS	NS	LNAPL
BH11	5/27/2016	2,100	180	600	1,900	

**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
COGCC Standards (µg/L)		5	560	700	1,400	
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	

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 - 1605271

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

June 05, 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 05/27/16 16:30. 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, cursive script.

Paul Shrewsbury
President



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

Project: Tampa Compressor Station

Project Number: [none]
Project Manager: Steve Weathers

Reported:
06/05/16 15:11

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH12	1605271-01	Water	05/27/16 11:05	05/27/16 16:30
BH10	1605271-02	Water	05/27/16 11:30	05/27/16 16:30
BH02	1605271-03	Water	05/27/16 11:05	05/27/16 16:30
BH09	1605271-04	Water	05/27/16 11:12	05/27/16 16:30
BH01R	1605271-05	Water	05/27/16 11:34	05/27/16 16:30
BH07	1605271-06	Water	05/27/16 11:40	05/27/16 16:30
BH08	1605271-07	Water	05/27/16 12:00	05/27/16 16:30
BH05	1605271-08	Water	05/27/16 11:55	05/27/16 16:30
BH11	1605271-09	Water	05/27/16 12:20	05/27/16 16:30
BH03	1605271-10	Water	05/27/16 12:20	05/27/16 16:30
BH04	1605271-11	Water	05/27/16 12:45	05/27/16 16:30
BH06	1605271-12	Water	05/27/16 13:00	05/27/16 16:30

Summit Scientific

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



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

Project: Tampa Compressor Station

Project Number: [none]
Project Manager: Steve Weathers

Reported:
06/05/16 15:11

Summit Scientific

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

Client: DCP Page 1 of 2
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Mark P. EVE B
Project Manager: Steve Weathers / Brian Humphrey
E-Mail: SWWeathers@dcpmidstream.com / bhumphrey@titan-gas.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 ₃	None	Other (Specify)	Groundwater	Soil	Air - Container Serial #	Other (Specify)					
BH12	5/27/16	11:05	3	X				X								
BH10		11:30	3	X				X								
BH02		11:05	3	X				X								
BH09		11:13	3	X				X								
BH01R		11:34	3	X				X								
BH07		11:40	3	X				X								
BH06		12:00	3	X				X								
BH05		11:55	3	X				X								
BH11		12:30	3	X				X								
BH03		12:30	3	X				X								
Relinquished by: <u>Mark Pozelas</u> Date/Time: <u>5/27/16 1630</u>				Received by: <u>MA</u> Date/Time: <u>5/27/16 1630</u>				Turn Around Time (Check)				Notes:				
Relinquished by: <u>MA</u> Date/Time: <u>5/27/16 1720</u>				Received by: _____ Date/Time: _____				Same Day <input type="checkbox"/> 72 Hours <input checked="" type="checkbox"/>				5.9°C on ICE				
Relinquished by: _____ Date/Time: _____				Received in Lab by: _____ Date/Time: _____				24 Hours <input type="checkbox"/> 48 Hours <input type="checkbox"/>								
								Sample Integrity: Temperature Upon Receipt: <u>5.9°C</u>								
								Intact: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>								

www.s2scientific.com

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:
06/05/16 15:11

Summit Scientific

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

1605271.2

Client: DCP
Address: _____
City/State/Zip: _____
Phone: _____ Fax: _____
Sampler Name: Mark P. Eves

Project Manager: Steve Weathers / Brian Humphrey
E-Mail: SWeathers@p.mtstream.com / bhumphrey@human-geo.com
Project Name: Human Computer Studies
Project Number: _____

[illegible]

www.s2scientific.com

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:
06/05/16 15:11

Sample Receipt Checklist

S2 Work Order: 1605271

Client: DCP

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>5.9</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 ⁽¹⁾ ?			<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
If custody seals are present, are they intact ⁽¹⁾ ?			<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 ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?				
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?				
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<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) ⁽¹⁾ ?				
Note the type of preservative in the Comments column – HCl, H2SO4, NaOH, HNO3, ect				
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ?			<input checked="" type="checkbox"/>	
Record the pH in Comments.			<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

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

Nakita
Custodian Printed Name

MA
Signature or Initials of Custodian

5/27/16 1720
Date/Time



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

Project: Tampa Compressor Station
Project Number: [none]
Project Manager: Steve Weathers

Reported:
06/05/16 15:11

BH12
1605271-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **05/27/16 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		111 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.3 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		105 %	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:
06/05/16 15:11

BH10
1605271-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **05/27/16 11:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		98.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		104 %	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:
06/05/16 15:11

BH02
1605271-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **05/27/16 11:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		110 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		99.2 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	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:
06/05/16 15:11

BH09
1605271-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	8.0	1.0		ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	ND	1.0		"	"	"	"	"	"	

Date Sampled: **05/27/16 11:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4		108 %		37-154		"	"	"	"	
Surrogate: Toluene-d8		98.3 %		45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		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:
06/05/16 15:11

BH01R
1605271-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	4.2	1.0	ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	2.0	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **05/27/16 11:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		104 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		97.1 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %	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:
06/05/16 15:11

BH07
1605271-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	3100	100		ug/l	100	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	1500	100		"	"	"	"	"	"	
Ethylbenzene	500	100		"	"	"	"	"	"	
Xylenes (total)	2700	100		"	"	"	"	"	"	

Date Sampled: **05/27/16 11:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		105 %		37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %		45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		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:
06/05/16 15:11

BH08
1605271-07 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	60	1.0	ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	10	1.0	"	"	"	"	"	"	
Ethylbenzene	19	1.0	"	"	"	"	"	"	
Xylenes (total)	110	1.0	"	"	"	"	"	"	

Date Sampled: **05/27/16 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		101 %	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:
06/05/16 15:11

BH05
1605271-08 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	2300	100		ug/l	100	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	130	100		"	"	"	"	"	"	
Ethylbenzene	610	100		"	"	"	"	"	"	
Xylenes (total)	2900	100		"	"	"	"	"	"	

Date Sampled: **05/27/16 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
<i>Surrogate: 1,2-Dichloroethane-d4</i>		109 %		37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		100 %		45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		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:
06/05/16 15:11

BH11
1605271-09 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	2100	100	ug/l	100	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	180	100	"	"	"	"	"	"	
Ethylbenzene	600	100	"	"	"	"	"	"	
Xylenes (total)	1900	100	"	"	"	"	"	"	

Date Sampled: **05/27/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %	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:
06/05/16 15:11

BH03
1605271-10 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 12:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	53	1.0	ug/l	1	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	65	1.0	"	"	"	"	"	"	
Ethylbenzene	100	1.0	"	"	"	"	"	"	
Xylenes (total)	700	1.0	"	"	"	"	"	"	

Date Sampled: **05/27/16 12:20**

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>		103 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %	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:
06/05/16 15:11

BH04
1605271-11 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	120	25	ug/l	25	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	490	25	"	"	"	"	"	"	
Ethylbenzene	560	25	"	"	"	"	"	"	
Xylenes (total)	2600	25	"	"	"	"	"	"	

Date Sampled: **05/27/16 12:45**

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>		97.1 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.5 %	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:
06/05/16 15:11

BH06
1605271-12 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **05/27/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	6500	100	ug/l	100	1605309	06/01/16	06/01/16	EPA 8260B	
Toluene	6200	100	"	"	"	"	"	"	
Ethylbenzene	2500	100	"	"	"	"	"	"	
Xylenes (total)	14000	100	"	"	"	"	"	"	

Date Sampled: **05/27/16 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
<i>Surrogate: 1,2-Dichloroethane-d4</i>		107 %	37-154		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		102 %	45-149		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %	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:
06/05/16 15:11

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 1605309 - EPA 5030 Water MS

Blank (1605309-BLK1)

Prepared & Analyzed: 06/01/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.2		"	13.3	106		37-154			
Surrogate: Toluene-d8	13.4		"	13.3	101		45-149			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3	102		45-146			

LCS (1605309-BS1)

Prepared & Analyzed: 06/01/16

Benzene	41.6	1.0	ug/l	33.3	125		51-132			
Toluene	43.1	1.0	"	33.3	129		51-138			
Ethylbenzene	48.0	1.0	"	33.1	145		58-146			
m,p-Xylene	90.4	2.0	"	66.5	136		57-144			
o-Xylene	44.8	1.0	"	32.7	137		53-146			
Surrogate: 1,2-Dichloroethane-d4	13.7		"	13.3	103		37-154			
Surrogate: Toluene-d8	13.6		"	13.3	102		45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3	101		45-146			

Matrix Spike (1605309-MS1)

Source: 1605248-01

Prepared & Analyzed: 06/01/16

Benzene	44.0	1.0	ug/l	33.3	ND	132	34-141			
Toluene	44.6	1.0	"	33.3	ND	134	27-151			
Ethylbenzene	49.9	1.0	"	33.1	ND	151	29-160			
m,p-Xylene	94.1	2.0	"	66.5	ND	141	20-166			
o-Xylene	45.6	1.0	"	32.7	ND	140	33-159			
Surrogate: 1,2-Dichloroethane-d4	15.1		"	13.3		113	37-154			
Surrogate: Toluene-d8	13.6		"	13.3		102	45-149			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101	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:
06/05/16 15:11

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 1605309 - EPA 5030 Water MS

Matrix Spike Dup (1605309-MSD1)		Source: 1605248-01			Prepared & Analyzed: 06/01/16					
Benzene	43.1	1.0	ug/l	33.3	ND	129	34-141	2.00	32	
Toluene	43.8	1.0	"	33.3	ND	132	27-151	1.76	25	
Ethylbenzene	49.6	1.0	"	33.1	ND	150	29-160	0.663	50	
m,p-Xylene	94.0	2.0	"	66.5	ND	141	20-166	0.0638	36	
o-Xylene	45.5	1.0	"	32.7	ND	139	33-159	0.285	26	
Surrogate: 1,2-Dichloroethane-d4	14.8		"	13.3		111	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		101	45-149			
Surrogate: 4-Bromofluorobenzene	13.0		"	13.3		97.8	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:
06/05/16 15:11

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

A handwritten signature in black ink, appearing to be 'MSW'.