

Third Quarter 2016 Groundwater Monitoring Summary Report

County Road 20 and Highway 85 Release Fort Lupton, Colorado

Prepared for:



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

Prepared by:



6899 Pecos Street, Unit C
Denver, Colorado 80221

October 31, 2016

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1. Introduction

This report summarizes the groundwater monitoring and remediation activities conducted during the third quarter 2016 at the County Road (CR) 20 and Highway (Hwy) 85 pipeline release (Site) in Fort Lupton, 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. Current Site conditions were evaluated from field data and analytical laboratory results collected during the reporting period on August 10, 2016.

2. Site Location and Background

The Site is located in the southwestern quarter of the southwestern quarter of Section 17, Township 2 North, Range 66 West (approximate coordinates 40.130908 degrees north and -104.806673 degrees west). It is approximately 0.20 miles east on CR 20 from the intersection with Hwy 85, Ft. Lupton, Colorado.

On May 28, 2014, a petroleum hydrocarbon release was discovered following pipeline repair activities. An initial Form 19 was submitted to the Colorado Oil and Gas Conservation Commission (COGCC) on June 5, 2014.

3. Groundwater Monitoring

This section describes the field and laboratory activities performed during the third quarter 2016 groundwater monitoring event. Quarterly monitoring activities were conducted on August 10, 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 third quarter 2016, groundwater levels were measured at six (6) monitoring well locations (BH01-BH03 and BH05-BH07).

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 third quarter 2016 groundwater elevation contour map, included as Figure 3, indicates that groundwater flow at the Site generally trends to the east which is different from previous quarters. Previous monitoring data indicate that groundwater flow at the Site was generally to the north. The difference in flow direction may be attributed to the average increase in groundwater elevations of 3.49 feet as summarized below and on Table 1. The range of groundwater elevations, average elevation change from the previous monitoring event, and the calculated average hydraulic gradient (using elevations from BH03 and BH06) at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

| | Third Quarter 2016 (8/10/16) |
|---|------------------------------|
| Maximum Elevation (Well ID) | 4,863.35 (BH03) |
| Minimum Elevation (Well ID) | 4,862.34 (BH06) |
| Average Change from Previous Monitoring Event – All Wells | 3.49 feet |
| Average Hydraulic Gradient (ft/ft) / (Well IDs) | 0.014 (BH03 to BH06) |

3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements at each monitoring well, groundwater samples were collected from each of the 6 monitor wells using dedicated polyethylene bailers.

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

Analytical results/observations are summarized below:

- LNAPL was not observed during well gauging activities. However, during purging activities, a minimal amount of LNAPL was observed within the second bailer at BH07. LNAPL presence was not observed after bailing 2.0 gals of water from well, however sheen remained. A sample was collected for BTEX analysis and the results were below COGCC Table 910-1 standards for all constituents.
- Benzene concentrations from all 6 sampled monitoring wells were below the COGCC Table 910-1 standard of 5 micrograms per liter ($\mu\text{g/L}$) and/or laboratory detection limits.
- Toluene and ethylbenzene concentrations from all 6 sampled monitoring wells were below the COGCC Table 910-1 standard of 560 $\mu\text{g/L}$ and 700 $\mu\text{g/L}$, respectively, and/or laboratory detection limits.

- Total xylenes concentrations from monitoring well BH03 was detected at the COGCC Table 910-1 standard of 1,400 µg/L. The remaining sample locations were below COGCC standards and/or laboratory detection limits.

4. Remediation Activities

This Section includes a description of the active remediation activities at the Site along with observations during remediation efforts.

4.1 Groundwater Remediation Activities

Mobile, vacuum enhanced fluid recovery (EFR) groundwater remediation events were initiated at the Site during the third quarter 2015 on July 22, 2015. Between July 22 and November 23, 2015, 9 EFR remediation events were conducted at monitoring wells BH02, BH03, BH05 and BH07 for a minimum 6-hour period.

Due to the decrease in LNAPL volumes observed at the Site between the third and fourth quarter 2015, EFR remediation was discontinued at the Site. Mobile EFR events were re-initiated during the second quarter 2016 due to the presence of LNAPL that was observed and were continued through the third quarter 2016. Between July 1 and September 30, 2016, seven EFR events were conducted at the Site. A total of approximately 92 barrels (bbls) of groundwater was recovered during the third quarter 2016 through EFR remediation activities and was disposed of at the NGL Water Solutions DJ, LLC, C-3 disposal well in LaSalle, CO. A total of approximately 256 bbls of groundwater has been removed since EFR remediation activities were initiated at the Site.

5. Conclusions

Comparison of the third quarter 2016 monitoring data and historic information provides the following general observations:

- The groundwater flow direction changed from previous quarters which were generally to the north to an easterly flow during the third quarter 2016 monitoring event. The change in flow direction may be attributed to the average increase in groundwater elevations of 3.49 feet. The relatively large increase in groundwater elevations are not considered to be related to seasonal fluctuations and may be attributed to localized agricultural operations and/or related to the irrigation ditch that is located to the west of the Site.
- A minimal volume of LNAPL was observed at BH07 during the third quarter 2016. LNAPL removal was conducted through the 2.0-gal purge volume prior to sample collection for lab analysis. However, the volume of LNAPL that was removed from the well was unable to be determined due to the very small amount that was observed.
- Benzene concentrations were below COGCC standards or laboratory detection levels during the third quarter 2016 monitoring event.
- Toluene and ethylbenzene concentrations were below COGCC standards at all sampled locations during the third quarter 2016 monitoring event.

- Total xylenes were detected in BH03 at a concentration equal to the COGCC standard of 1,400 µg/L.
- A total of 256 barrels of impacted liquids has been removed from the subsurface of the Site through mobile EFR remediation activities.

6. Recommendations

Based on evaluation of data from the third quarter 2016 and historic Site observations and monitoring results, recommendations for future activities include:

- Continue quarterly groundwater monitoring and sampling at the monitoring well locations illustrated on Figure 2.
- Continue the mobile EFR remediation program to address residual BTEX concentrations and LNAPL at the Site.

Tables

TABLE 1
THIRD QUARTER 2016
SUMMARY OF GROUNDWATER ELEVATION DATA
DCP CR 20 AND HWY 85 RELEASE
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) |
|---|------------|-----------------------------|-------------------------|---|--------------------|---------------------------|-----------------------------------|---|
| BH01 | 11/17/2015 | 14.69 | | | 18.10 | 4,875.68 | 4,860.99 | -2.32 |
| BH01 | 2/15/2016 | 17.16 | | | 18.14 | 4,875.68 | 4,858.52 | -2.47 |
| BH01 | 5/13/2016 | 15.69 | | | 18.14 | 4,875.68 | 4,859.99 | 1.47 |
| BH01 | 8/10/2016 | 12.34 | | | 18.13 | 4,875.68 | 4,863.34 | 3.35 |
| BH02 | 11/17/2015 | 14.09 | | | 18.74 | 4,874.94 | 4,860.85 | -2.37 |
| BH02 | 2/15/2016 | 16.55 | | | 18.74 | 4,874.94 | 4,858.39 | -2.46 |
| BH02 | 5/13/2016 | 15.02 | | | 18.74 | 4,874.94 | 4,859.92 | 1.53 |
| BH02 | 8/10/2016 | 11.62 | | | 18.73 | 4,874.94 | 4,863.32 | 3.40 |
| BH03 | 11/17/2015 | 13.58 | | | 18.76 | 4,874.51 | 4,860.93 | -2.33 |
| BH03 | 2/15/2016 | 16.04 | | | 18.74 | 4,874.51 | 4,858.47 | -2.46 |
| BH03 | 5/13/2016 | 14.53 | | | 18.74 | 4,874.51 | 4,859.98 | 1.51 |
| BH03 | 8/10/2016 | 11.16 | | | 18.76 | 4,874.51 | 4,863.35 | 3.37 |
| BH05 | 11/17/2015 | 13.74 | | | 19.11 | 4,874.67 | 4,860.93 | -2.34 |
| BH05 | 2/15/2016 | 16.22 | | | 19.01 | 4,874.67 | 4,858.45 | -2.48 |
| BH05 | 5/13/2016 | Dry | | | 19.01 | 4,874.67 | NA | NA |
| BH05 | 8/10/2016 | 11.33 | | | 18.99 | 4,874.67 | 4,863.34 | NA |
| BH06 | 11/17/2015 | 13.97 | | | 18.76 | 4,874.95 | 4,860.98 | -2.37 |
| BH06 | 2/15/2016 | 16.47 | | | 18.70 | 4,874.95 | 4,858.48 | -2.50 |
| BH06 | 5/13/2016 | 15.02 | | | 18.70 | 4,874.95 | 4,859.93 | 1.45 |
| BH06 | 8/10/2016 | 12.61 | | | 18.56 | 4,874.95 | 4,862.34 | 2.41 |
| BH07 | 11/17/2015 | 13.19 | | | 18.80 | 4,874.04 | 4,860.85 | -2.36 |
| BH07 | 2/15/2016 | 15.66 | 15.63 | 0.03 | NM | 4,874.04 | 4,858.40 | -2.45 |
| BH07 | 5/13/2016 | 14.10 | | | 18.74 | 4,874.04 | 4,859.94 | -0.91 |
| BH07 | 8/10/2016 | 10.72 | | | 18.67 | 4,874.04 | 4,863.32 | 4.92 |
| Average change in groundwater elevation (5/13/2016 to 8/10/2016) | | | | | | | | 3.49 |

Notes:

1- Changes in groundwater elevation calculated by subtracting the measurement collected during the previous monitoring event from the measurement
amsl = feet above mean sea level

TOC = top of casing

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

NM = Not Measured

NA = Not Applicable

TABLE 2
THIRD QUARTER 2016
SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER
DCP CR 20 AND HWY 85 RELEASE
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 | 8/10/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH02 | 8/10/2016 | <1.0 | <1.0 | 13 | 340 | |
| BH03 | 8/10/2016 | 3.1 | <1.0 | 230 | 1,400 | |
| BH05 | 8/10/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH06 | 8/10/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH07 | 8/10/2016 | 1.8 | <1.0 | <1.0 | 560 | |

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.

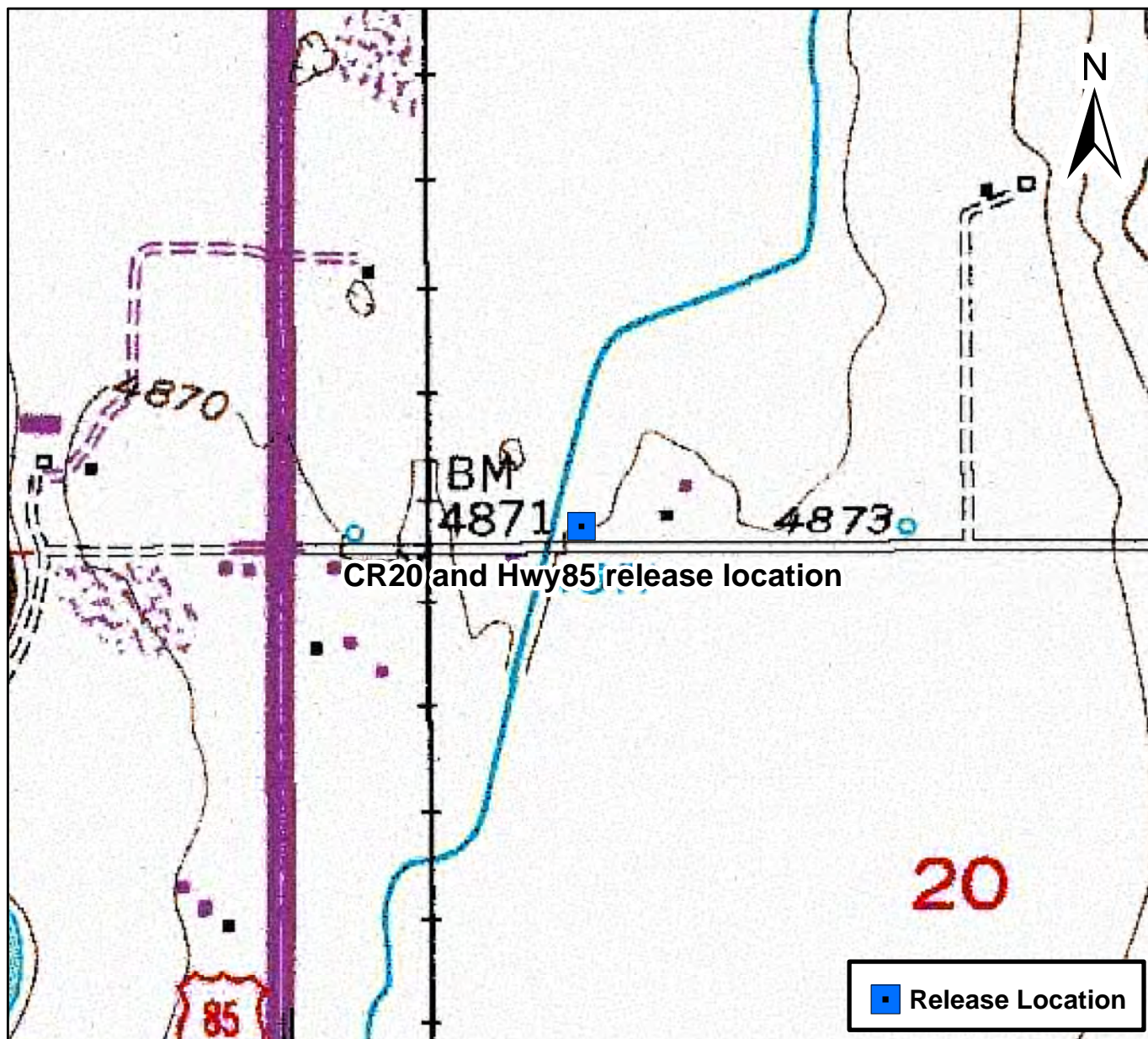
Bold red values indicate an exceedance of the COGCC groundwater standards for the Site.

NS = Not sampled.

µg/L = micrograms per liter.

LNAPL - Light non-aqueous phase liquid

Figures



0 750 1,500 Feet



Figure 1

Site Location Map
CR20 and Hwy85 release location
SWSW S17 T2N R66W
Weld County, Colorado

Drawn By: DBA
Date: 06/04/2014





| | |
|--------------|---------------|
| DATE: | February 2016 |
| DESIGNED BY: | B. Humphrey |
| DRAWN BY: | D. Arnold |



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

DCP Midstream
County Road 20 and Highway 85 Release
SWSW Section 17, Township 2 North, Range 66 West
Weld County, Colorado

Site Overview
Map

Figure
2



| | |
|--------------|----------------|
| DATE: | September 2016 |
| DESIGNED BY: | B. Humphrey |
| DRAWN BY: | D. Arnold |

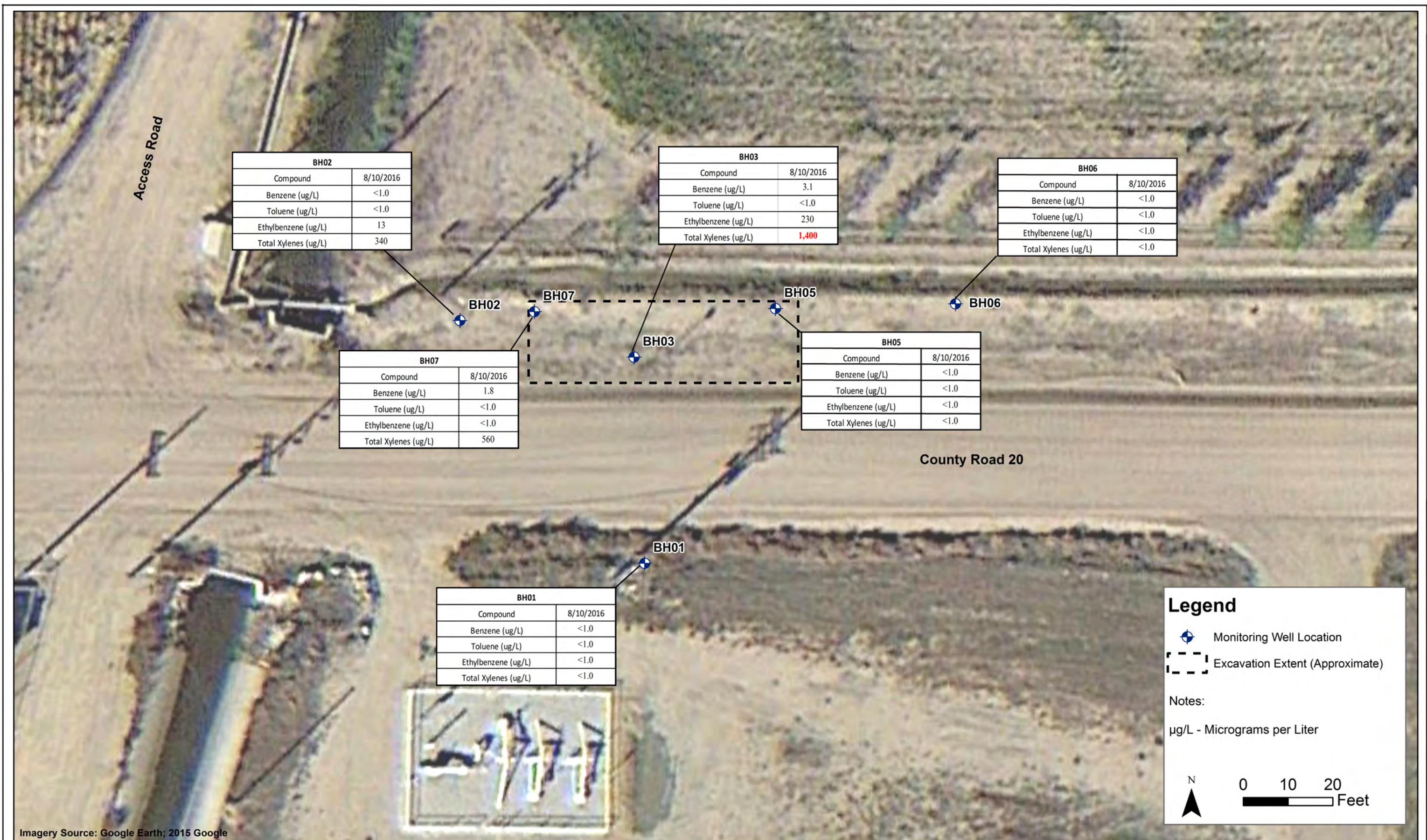


Tasman Geosciences, Inc
6899 Pecos Street - Unit C
Denver, CO 80221

DCP Midstream
County Road 20 and Highway 85 Release
SWSW Section 17, Township 2 North, Range 66 West
Weld County, Colorado

Groundwater Elevation
Contour Map
(August 10, 2016)

Figure
3



| | |
|--------------|----------------|
| DATE: | September 2016 |
| DESIGNED BY: | B. Humphrey |
| DRAWN BY: | D. Arnold |



DCP Midstream
County Road 20 and Highway 85 Release
SWSW Section 17, Township 2 North, Range 66 West
Weld County, Colorado

Groundwater Analytical
Results Map
(August 10, 2016)

Figure
4

Appendix A

Historic Analytical Results

**APPENDIX A
HISTORICAL ANALYTICAL DATA
DCP CR 20 AND HWY 85 RELEASE
WELD COUNTY, COLORADO**

| Location Identification | Sample Date | Benzene (µg/L) | Toluene (µg/L) | Ethylbenzene (µg/L) | Total Xylenes L (µg/L) | Comments |
|-------------------------------|-------------|----------------|----------------|---------------------|------------------------|-----------------------|
| COGCC Standards (µg/L) | | 5 | 560 | 700 | 1,400 | |
| BH01 | 5/14/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH01 | 9/24/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH01 | 11/17/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH01 | 2/15/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH01 | 5/13/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH01 | 8/10/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| | | | | | | |
| BH02 | 5/14/2015 | 120 | 5 | 210 | 2,000 | |
| BH02 | 9/24/2015 | 20 | <1.0 | 48 | 370 | |
| BH02 | 11/17/2015 | 14 | <1.0 | 72 | 490 | |
| BH02 | 2/15/2016 | 2.4 | 1.4 | 260 | 730 | |
| BH02 | 5/13/2016 | 2.2 | <1.0 | 160 | 1,100 | |
| BH02 | 8/10/2016 | <1.0 | <1.0 | 13 | 340 | |
| | | | | | | |
| BH03 | 5/14/2015 | 220 | 130 | 400 | 3,500 | |
| BH03 | 9/24/2015 | 1.8 | <1.0 | 7.0 | 150 | |
| BH03 | 11/17/2015 | <1.0 | <1.0 | 43 | 400 | |
| BH03 | 2/15/2016 | <1.0 | <1.0 | 42 | 280 | |
| BH03* | 5/17/2016 | 5.3 | <1.0 | 79 | 590 | |
| BH03 | 8/10/2016 | 3.1 | <1.0 | 230 | 1,400 | |
| | | | | | | |
| BH05 | 5/14/2015 | <1.0 | <1.0 | 3 | 22 | |
| BH05 | 9/24/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH05 | 11/17/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH05 | 2/15/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH05 | 5/13/2016 | NS | NS | NS | NS | Well was dry |
| BH05 | 8/10/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| | | | | | | |
| BH06 | 5/14/2015 | <1.0 | <1.0 | <1.0 | 5 | |
| BH06 | 9/24/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH06 | 11/17/2015 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH06 | 2/15/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH06 | 5/13/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| BH06 | 8/10/2016 | <1.0 | <1.0 | <1.0 | <1.0 | |
| | | | | | | |
| BH07 | 5/14/2015 | 44 | 310 | 200 | 2,600 | |
| BH07 | 9/24/2015 | NS | NS | NS | NS | Trace amount of LNAPL |
| BH07 | 11/17/2015 | 85 | 1.1 | 210 | 3,100 | |
| BH07 | 2/15/2016 | NS | NS | NS | NS | LNAPL - 0.03 ft |
| BH07 | 5/13/2016 | 52 | <1.0 | 500 | 3,300 | |
| BH07 | 8/10/2016 | 1.8 | <1.0 | <1.0 | 560 | Trace amount of LNAPL |

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.

* Monitoring well BH03 was sampled on May 17, 2016 subsequent to purging apparent LNAPL from the well.

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 1608084

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

August 15, 2016

Steve Weathers
DCP Midstream
370 17th Street #2500
Denver, CO 80202
RE: CR20 + Hwy 85 Release

Enclosed are the results of analyses for samples received by Summit Scientific on 08/10/16 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, cursive script.

Paul Shrewsbury
President



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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

ANALYTICAL REPORT FOR SAMPLES

| Sample ID | Laboratory ID | Matrix | Date Sampled | Date Received |
|-----------|---------------|--------|----------------|----------------|
| BH01 | 1608084-01 | Water | 08/10/16 12:15 | 08/10/16 17:00 |
| BH02 | 1608084-02 | Water | 08/10/16 12:41 | 08/10/16 17:00 |
| BH03 | 1608084-03 | Water | 08/10/16 13:00 | 08/10/16 17:00 |
| BH05 | 1608084-04 | Water | 08/10/16 12:30 | 08/10/16 17:00 |
| BH06 | 1608084-05 | Water | 08/10/16 12:26 | 08/10/16 17:00 |
| BH07 | 1608084-06 | Water | 08/10/16 13:04 | 08/10/16 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.



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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

BH01
1608084-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/16 12:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 1.0 | ug/l | 1 | 1608121 | 08/12/16 | 08/12/16 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 1.0 | " | " | " | " | " | " | |

Date Sampled: **08/10/16 12:15**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 37-154 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.1 % | 45-149 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 95.9 % | 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: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

BH02
1608084-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/16 12:41**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 1.0 | ug/l | 1 | 1608121 | 08/12/16 | 08/12/16 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | 13 | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 340 | 10 | " | 10 | " | " | " | " | |

Date Sampled: **08/10/16 12:41**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 100 % | 37-154 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 92.1 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 93.6 % | 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: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

BH03
1608084-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/16 13:00**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|-------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 3.1 | 1.0 | ug/l | 1 | 1608121 | 08/12/16 | 08/12/16 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | 230 | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 1400 | 10 | " | 10 | " | " | " | " | |

Date Sampled: **08/10/16 13:00**

| 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> | | 97.5 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 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: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

BH05
1608084-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/16 12:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------|--------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | ND | 1.0 | ug/l | 1 | 1608121 | 08/12/16 | 08/12/16 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 1.0 | " | " | " | " | " | " | |

Date Sampled: **08/10/16 12:30**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| Surrogate: 1,2-Dichloroethane-d4 | | 103 % | 37-154 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.7 % | 45-149 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 93.5 % | 45-146 | | " | " | " | " | |

Summit Scientific

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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

BH06
1608084-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/16 12:26**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|-----------------|--------|-----------|-------|----------|---------|----------|----------|-----------|-------|
| | | Limit | | | | | | | |
| Benzene | ND | 1.0 | ug/l | 1 | 1608121 | 08/12/16 | 08/12/16 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | ND | 1.0 | " | " | " | " | " | " | |

Date Sampled: **08/10/16 12:26**

| Analyte | Result | Reporting | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|----------------------------------|--------|-----------|--------|----------|-------|----------|----------|--------|-------|
| | | Limit | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | | 105 % | 37-154 | | " | " | " | " | |
| Surrogate: Toluene-d8 | | 91.5 % | 45-149 | | " | " | " | " | |
| Surrogate: 4-Bromofluorobenzene | | 93.2 % | 45-146 | | " | " | " | " | |

Summit Scientific

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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

BH07
1608084-06 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/10/16 13:04**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|------------------------|------------|--------------------|-------|----------|---------|----------|----------|-----------|-------|
| Benzene | 1.8 | 1.0 | ug/l | 1 | 1608121 | 08/12/16 | 08/12/16 | EPA 8260B | |
| Toluene | ND | 1.0 | " | " | " | " | " | " | |
| Ethylbenzene | ND | 1.0 | " | " | " | " | " | " | |
| Xylenes (total) | 560 | 10 | " | 10 | " | " | " | " | |

Date Sampled: **08/10/16 13:04**

| Analyte | Result | Reporting Limit | Units | Dilution | Batch | Prepared | Analyzed | Method | Notes |
|---|--------|--------------------|--------|----------|-------|----------|----------|--------|-------|
| <i>Surrogate: 1,2-Dichloroethane-d4</i> | | 97.1 % | 37-154 | | " | " | " | " | |
| <i>Surrogate: Toluene-d8</i> | | 93.1 % | 45-149 | | " | " | " | " | |
| <i>Surrogate: 4-Bromofluorobenzene</i> | | 94.7 % | 45-146 | | " | " | " | " | |

Summit Scientific

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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

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 1608121 - EPA 5030 Water MS

Blank (1608121-BLK1)

Prepared & Analyzed: 08/12/16

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|--------|--|--|--|--|
| Benzene | ND | 1.0 | ug/l | | | | | | | |
| Toluene | ND | 1.0 | " | | | | | | | |
| Ethylbenzene | ND | 1.0 | " | | | | | | | |
| Xylenes (total) | ND | 1.0 | " | | | | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.7 | | " | 13.3 | 103 | 37-154 | | | | |
| Surrogate: Toluene-d8 | 12.5 | | " | 13.3 | 93.5 | 45-149 | | | | |
| Surrogate: 4-Bromofluorobenzene | 12.6 | | " | 13.3 | 94.2 | 45-146 | | | | |

LCS (1608121-BS1)

Prepared & Analyzed: 08/12/16

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|--------|--|--|--|--|
| Benzene | 37.2 | 1.0 | ug/l | 33.3 | 112 | 51-132 | | | | |
| Toluene | 36.7 | 1.0 | " | 33.3 | 110 | 51-138 | | | | |
| Ethylbenzene | 39.0 | 1.0 | " | 33.1 | 118 | 58-146 | | | | |
| m,p-Xylene | 75.1 | 2.0 | " | 66.5 | 113 | 57-144 | | | | |
| o-Xylene | 37.1 | 1.0 | " | 32.7 | 114 | 53-146 | | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.6 | | " | 13.3 | 102 | 37-154 | | | | |
| Surrogate: Toluene-d8 | 13.2 | | " | 13.3 | 99.4 | 45-149 | | | | |
| Surrogate: 4-Bromofluorobenzene | 12.9 | | " | 13.3 | 96.5 | 45-146 | | | | |

Matrix Spike (1608121-MS1)

Source: 1608081-01

Prepared & Analyzed: 08/12/16

| | | | | | | | | | | |
|----------------------------------|------|-----|------|------|------|--------|--------|--|--|--|
| Benzene | 39.2 | 1.0 | ug/l | 33.3 | ND | 118 | 34-141 | | | |
| Toluene | 38.7 | 1.0 | " | 33.3 | ND | 116 | 27-151 | | | |
| Ethylbenzene | 43.8 | 1.0 | " | 33.1 | ND | 132 | 29-160 | | | |
| m,p-Xylene | 85.5 | 2.0 | " | 66.5 | ND | 128 | 20-166 | | | |
| o-Xylene | 41.4 | 1.0 | " | 32.7 | ND | 127 | 33-159 | | | |
| Surrogate: 1,2-Dichloroethane-d4 | 13.8 | | " | 13.3 | 103 | 37-154 | | | | |
| Surrogate: Toluene-d8 | 12.8 | | " | 13.3 | 96.3 | 45-149 | | | | |
| Surrogate: 4-Bromofluorobenzene | 13.2 | | " | 13.3 | 99.4 | 45-146 | | | | |

Summit Scientific

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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

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 1608121 - EPA 5030 Water MS

| Matrix Spike Dup (1608121-MSD1) | Source: 1608081-01 | | | Prepared & Analyzed: 08/12/16 | | | | | | |
|----------------------------------|--------------------|-----|------|-------------------------------|----|------|--------|------|----|--|
| Benzene | 40.6 | 1.0 | ug/l | 33.3 | ND | 122 | 34-141 | 3.58 | 32 | |
| Toluene | 40.3 | 1.0 | " | 33.3 | ND | 121 | 27-151 | 3.95 | 25 | |
| Ethylbenzene | 45.9 | 1.0 | " | 33.1 | ND | 139 | 29-160 | 4.79 | 50 | |
| m,p-Xylene | 89.3 | 2.0 | " | 66.5 | ND | 134 | 20-166 | 4.42 | 36 | |
| o-Xylene | 43.5 | 1.0 | " | 32.7 | ND | 133 | 33-159 | 4.92 | 26 | |
| Surrogate: 1,2-Dichloroethane-d4 | 14.4 | | " | 13.3 | | 108 | 37-154 | | | |
| Surrogate: Toluene-d8 | 12.7 | | " | 13.3 | | 95.3 | 45-149 | | | |
| Surrogate: 4-Bromofluorobenzene | 13.0 | | " | 13.3 | | 97.7 | 45-146 | | | |

Summit Scientific

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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
08/15/16 08:45

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

Summit Scientific

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