

Fourth 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

January 4, 2017

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1. Introduction

This report summarizes the groundwater monitoring and remediation activities conducted during the fourth 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 November 11, 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 fourth quarter 2016 groundwater monitoring event. Quarterly monitoring activities were conducted on November 11, 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 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 fourth quarter 2016 groundwater elevation contour map, included as Figure 3, indicates that groundwater flow at the Site generally trends to the northeast. The groundwater flow direction that was observed during the third quarter 2016 was to the east. Previous monitoring events indicate that groundwater flow was generally to the north. The differences in flow direction may be attributed to several factors including, but not limited to; groundwater remediation activities that have been conducted at the Site, increased use of the irrigation ditch to the west of the Site, flooding or increased irrigation of the farm to the north of the Site, and/or shallow groundwater use for irrigation to the east

of the Site. Groundwater elevations will continue to be monitored for flow direction during subsequent events. The range of groundwater elevations, average elevation change from the previous monitoring event, and the calculated average hydraulic gradient (using elevations from BH01 and BH02) at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

	Fourth Quarter 2016 (11/11/16)
Maximum Elevation (Well ID)	4,861.23 (BH01)
Minimum Elevation (Well ID)	4,861.13 (BH02)
Average Change from Previous Monitoring Event – All Wells	-1.96 feet
Average Hydraulic Gradient (ft/ft) / (Well IDs)	0.0015 (BH01 to BH02)

3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements at each monitoring well, groundwater samples were collected from five (5) of the monitoring wells using dedicated polyethylene bailers. Groundwater samples were not collected from BH07 due to the well being dry.

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:

- LNAPL was not observed during well gauging activities. Monitoring well BH07, in which LNAPL has been historically observed, was dry during the fourth quarter 2016 monitoring event.
- BTEX concentrations from all 5 sampled monitoring wells were below the COGCC Table 910-1 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 fourth quarter 2016. Between September 30, and November 18, 2016, six EFR events were conducted at the Site. A total of approximately 51 barrels (bbls) of groundwater was recovered during the fourth 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 307 bbls of groundwater has been removed since EFR remediation activities were initiated at the Site. EFR events were discontinued subsequent to November 18, 2016 due to the absence of LNAPL at the Site as well as dry and/or insufficient volumes of water that were observed within the Site monitoring wells.

5. Conclusions

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

- The groundwater flow direction at the Site was generally to the northeast during the fourth quarter 2016 event. The localized groundwater flow direction has varied during the last two quarters from previous events. These differences may be attributed to several factors, discussed in Section 3.1, above. Groundwater flow directions will continue to be monitored during subsequent quarterly events.
- Monitoring well BH07, in which LNAPL has been historically observed, was dry during the fourth quarter monitoring event.
- BTEX concentrations were below COGCC standards or laboratory detection levels during the fourth quarter 2016 monitoring event.
- A total of 307 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 fourth 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.
- Discontinue mobile EFR groundwater remediation events to observe groundwater flow direction and concentration trends.

Tables

TABLE 1
FOURTH 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	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
BH01	11/11/2016	14.45			18.13	4,875.68	4,861.23	-2.11
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
BH02	11/11/2016	13.81			18.73	4,874.94	4,861.13	-2.19
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
BH03	11/11/2016	13.31			18.76	4,874.51	4,861.20	-2.15
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
BH05	11/11/2016	13.47			18.99	4,874.67	4,861.20	-2.14
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
BH06	11/11/2016	13.80			18.56	4,874.95	4,861.15	-1.19
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
BH07	11/11/2016	Dry			18.70	4,874.04	NA	NA
Average change in groundwater elevation (8/10/2016 to 11/11/2016)								-1.96

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
FOURTH 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	11/11/2016	<1.0	<1.0	<1.0	<1.0	
BH02	11/11/2016	1.5	<1.0	17	910	
BH03	11/11/2016	<1.0	<1.0	<1.0	1,200	
BH05	11/11/2016	<1.0	<1.0	<1.0	<1.0	
BH06	11/11/2016	<1.0	<1.0	<1.0	<1.0	
BH07	11/11/2016	DRY				

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.

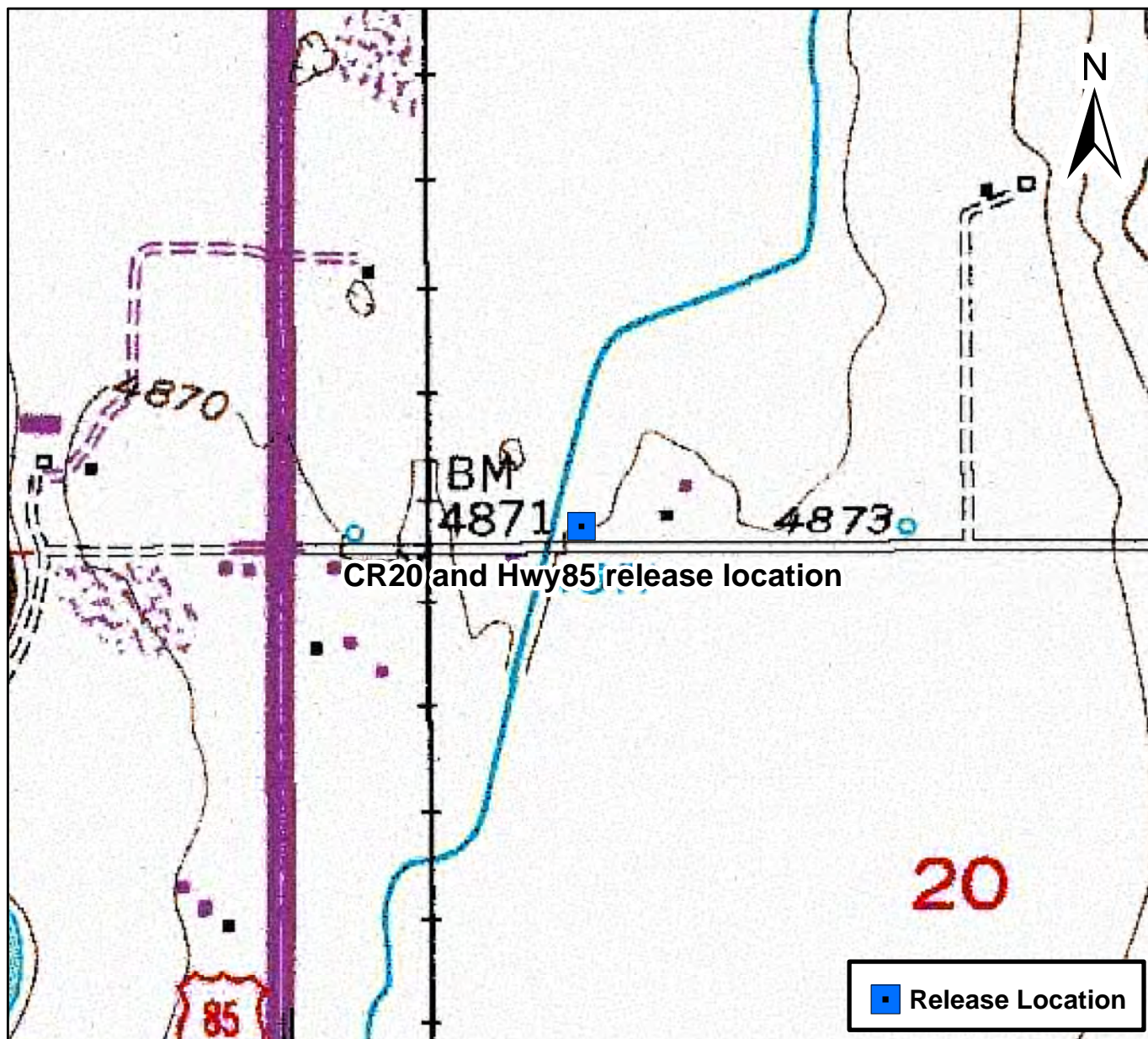
Bold red values indicate an exceedance of the COGCC groundwater standards for the Site.

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:	November 2016
DESIGNED BY:	B. Humphrey
DRAWN BY:	D. Cavinder



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:	November 2016
DESIGNED BY:	B. Humphrey
DRAWN BY:	D. Arnold

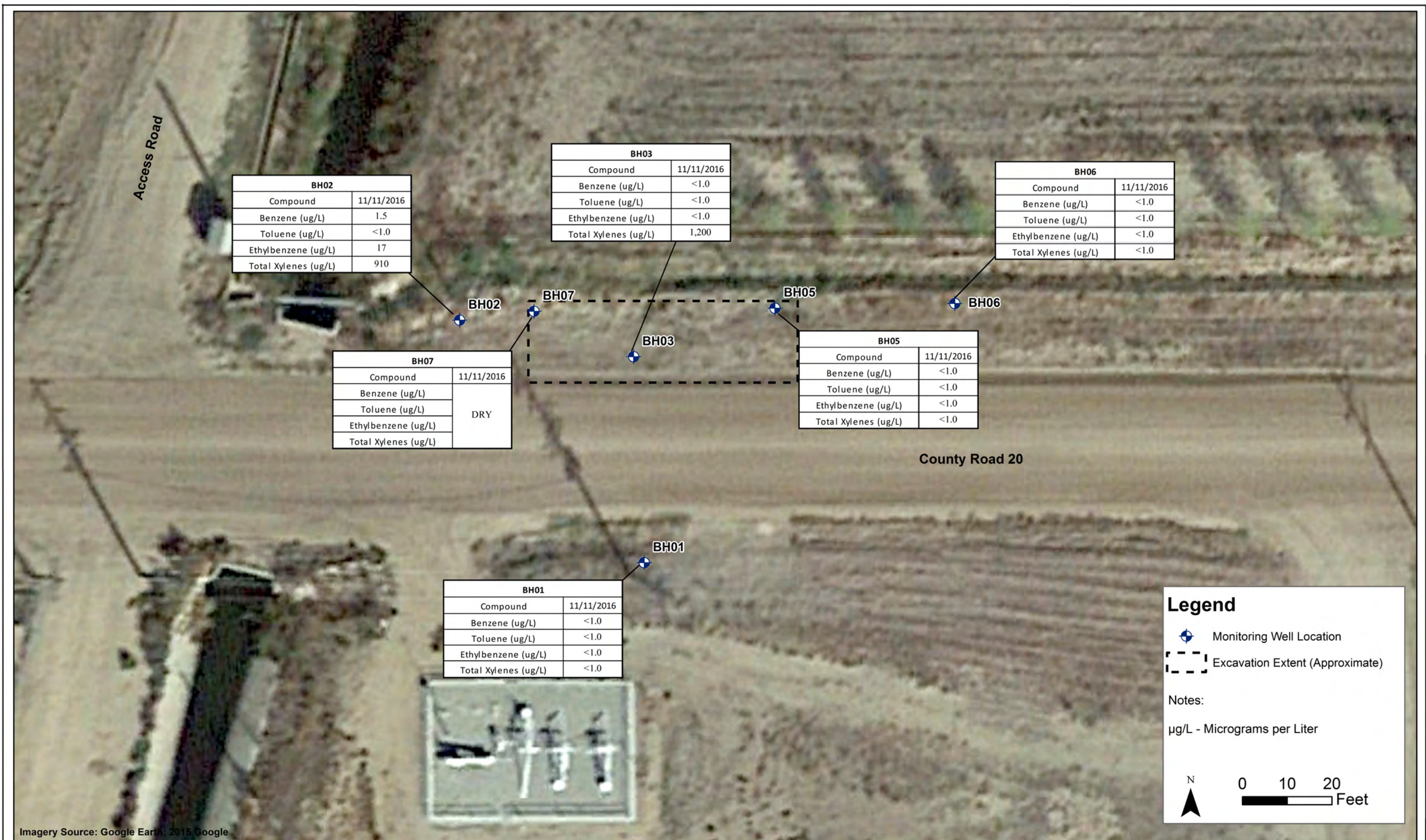


Tasman Geosciences, Inc
6899 Pecos Street - Unit C
Denver, CO 80221

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
(November 11, 2016)

Figure
3



DATE:	November 2016
DESIGNED BY:	B. Humphrey
DRAWN BY:	D. Cavinder



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 Analytical
Results Map
(November 11, 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	
BH01	11/11/2016	<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	
BH02	11/11/2016	1.5	<1.0	17	910	
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	
BH03	11/11/2016	<1.0	<1.0	<1.0	1,200	
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	
BH05	11/11/2016	<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	
BH06	11/11/2016	<1.0	<1.0	<1.0	<1.0	

**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	
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
BH07	11/11/2016	DRY				

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 1611108

Summit Scientific

741 Corporate Circle – Suite I ♦ Golden, Colorado 80401

303.277.9310 - laboratory ♦ 303.277.9531 - fax

November 18, 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 11/11/16 16:40. 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:
11/18/16 08:41

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01	1611108-01	Water	11/11/16 10:50	11/11/16 16:40
BH02	1611108-02	Water	11/11/16 11:10	11/11/16 16:40
BH03	1611108-03	Water	11/11/16 11:17	11/11/16 16:40
BH05	1611108-04	Water	11/11/16 11:04	11/11/16 16:40
BH06	1611108-05	Water	11/11/16 10:58	11/11/16 16:40

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:
11/18/16 08:41

Summit Scientific

1611108

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

Client: DCP / Tasman Geosciences

Address: 6879 Pecos St, Unit C

City/State/Zip: Denver, CO 80221

Phone: Fax:

Sampler Name: Mitch Weller / Max Garza

Page 1 of 1

Project Manager: Steve Weathers

E-Mail: sweathers@dcpmidstream.com ; khumphrey@tasman-geo.com

Project Name: CR 20 + 85

Project Number:

Sample Description	Date Sampled	Time Sampled	Number of Containers	Preservative			Matrix			Analyze For:			Special Instructions
				HCl	HNO ₃	None	Groundwater	Soil	Air - Canister Serial #	Other (Specify)	BTEX	8260	
BH 01	11-11-16	1050	3			X	X				X		
BH 02		1110											
BH 03		1117											
BH 05		1104											
BH 06		1058											
Relinquished by: Mitchell Weller Date/Time: 11-11-16 1630 Received by: [Signature] Date/Time: 11/11/16 1640 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"/> Sample Integrity: Temperature Upon Receipt: 5.6°C Notes: on ice 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: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
11/18/16 08:41

Sample Receipt Checklist

S2 Work Order: 1611108

Client: DCP/Tasman

Client Project ID: CR 20 + 85

Shipped Via: PIU

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

Airbill #: _____

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

Cooler ID					
Temp (°C)	<u>5.6</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"/>	<input type="checkbox"/>	<input 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Note the type of preservative in the Comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , ect	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<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

MS
Signature or Initials of Custodian

11/11/16 12:30
Date/Time



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

Project: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
11/18/16 08:41

BH01
1611108-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/16 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611179	11/15/16	11/16/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/11/16 10:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		115 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		95.6 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		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: CR20 + Hwy 85 Release

Project Number: [none]
Project Manager: Steve Weathers

Reported:
11/18/16 08:41

BH02
1611108-02 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	1.5	1.0	ug/l	1	1611179	11/15/16	11/16/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	17	1.0	"	"	"	"	"	"	
Xylenes (total)	910	10	"	10	"	"	11/16/16	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		114 %	37-154		"	"	11/16/16	"	
Surrogate: Toluene-d8		97.7 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %	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:
11/18/16 08:41

BH03
1611108-03 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611179	11/15/16	11/16/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	1200	10	"	10	"	"	11/16/16	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		112 %	37-154		"	"	11/16/16	"	
Surrogate: Toluene-d8		98.9 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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:
11/18/16 08:41

BH05
1611108-04 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/11/16 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611179	11/15/16	11/16/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

Date Sampled: **11/11/16 11:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		97.4 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		101 %	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:
11/18/16 08:41

BH06
1611108-05 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	1.0	ug/l	1	1611179	11/15/16	11/16/16	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

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

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		117 %	37-154		"	"	"	"	
Surrogate: Toluene-d8		93.5 %	45-149		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %	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:
11/18/16 08:41

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 1611179 - EPA 5030 Water MS

Blank (1611179-BLK1)

Prepared & Analyzed: 11/16/16

Benzene	ND	1.0	ug/l							
Toluene	ND	1.0	"							
Ethylbenzene	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
Surrogate: 1,2-Dichloroethane-d4	14.6		"	13.3	109	37-154				
Surrogate: Toluene-d8	13.5		"	13.3	101	45-149				
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3	98.9	45-146				

LCS (1611179-BS1)

Prepared & Analyzed: 11/16/16

Benzene	51.2	1.0	ug/l	50.0	102	51-132				
Toluene	49.3	1.0	"	50.0	98.7	51-138				
Ethylbenzene	50.8	1.0	"	50.0	102	58-146				
m,p-Xylene	101	2.0	"	100	101	57-144				
o-Xylene	50.7	1.0	"	50.0	101	53-146				
Surrogate: 1,2-Dichloroethane-d4	13.2		"	13.3	98.8	37-154				
Surrogate: Toluene-d8	13.3		"	13.3	99.6	45-149				
Surrogate: 4-Bromofluorobenzene	13.2		"	13.3	99.1	45-146				

Matrix Spike (1611179-MS1)

Source: 1611102-01

Prepared & Analyzed: 11/16/16

Benzene	50.7	1.0	ug/l	50.0	ND	101	34-141			
Toluene	49.2	1.0	"	50.0	ND	98.3	27-151			
Ethylbenzene	52.1	1.0	"	50.0	ND	104	29-160			
m,p-Xylene	104	2.0	"	100	ND	104	20-166			
o-Xylene	51.3	1.0	"	50.0	ND	103	33-159			
Surrogate: 1,2-Dichloroethane-d4	12.1		"	13.3	90.9	37-154				
Surrogate: Toluene-d8	13.1		"	13.3	98.3	45-149				
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3	101	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:
11/18/16 08:41

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 1611179 - EPA 5030 Water MS

Matrix Spike Dup (1611179-MSD1)		Source: 1611102-01			Prepared & Analyzed: 11/16/16					
Benzene	52.5	1.0	ug/l	50.0	ND	105	34-141	3.45	32	
Toluene	50.6	1.0	"	50.0	ND	101	27-151	2.93	25	
Ethylbenzene	53.1	1.0	"	50.0	ND	106	29-160	1.88	50	
m,p-Xylene	105	2.0	"	100	ND	105	20-166	1.54	36	
o-Xylene	52.4	1.0	"	50.0	ND	105	33-159	2.18	26	
Surrogate: 1,2-Dichloroethane-d4	12.0		"	13.3		89.8	37-154			
Surrogate: Toluene-d8	13.4		"	13.3		100	45-149			
Surrogate: 4-Bromofluorobenzene	13.4		"	13.3		100	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:
11/18/16 08:41

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