Second Half 2016 Semi-Annual Groundwater Monitoring Summary Report

C-Line 50602 Pipeline Release
Lea County, New Mexico
1RP-401-0

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February 20, 2017

Table of Contents

Tables

Figures

Appendices

1. Introduction

This report summarizes groundwater monitoring activities conducted during the second half 2016 at the C-Line 50602 Pipeline Release (Site) in Lea County, New Mexico (Figure 1). Tasman Geosciences (Tasman) performed these activities on behalf of DCP Midstream, LP (DCP). The field activities described herein were conducted with the purpose of monitoring groundwater flow and quality conditions in the Site subsurface. Third and fourth quarter 2016 conditions were evaluated from field data and groundwater analytical laboratory results collected on September 28, 2016 and December 19, 2016, respectively. The data collected were used to develop the groundwater elevation map and analytical results figure presented herein.

2. Site Location and Background

The Site is located in the SW ¼ of the SE ¼ of Section 31, Township 20 South, Range 37 East, approximately 6.25 miles south and 1.25 miles west of the town of Monument in Lea County, New Mexico. The approximate field coordinates are 32.5250 degrees north, 103.2867 degrees west. The surrounding area is predominantly uninhabited and used for oil and gas production and gathering, and some ranching. Several pipelines traverse the Site, two of which are owned by DCP (Figure 2).

Based on review of historic reports from previous Site investigations, a pipeline condensate release occurred in early 2002. Environmental Plus Incorporated (EPI) completed remediation activities between April and June 2002, which included excavation of impacted soil, compacted clay barrier installation, and investigative soil boring advancements. These activities were conducted at three Site locations described as C-Line 50602, C-line 52102, and C-Line 52302. Monitoring well MW-1 was installed at or near the original C-Line 50602 pipeline release location to delineate the vertical extent of hydrocarbon impacts. Additional remediation activities including downgradient monitoring well installation (MW-2 through MW-6), groundwater monitoring and sampling, and investigative remediation tests to evaluate LNAPL removal were conducted between November and December 2002. These activities are described in detail in the February 6, 2003 *Characterization Report: C-Line 50602, 52102, and 52302 Releases* submitted by Remediacon Incorporated.

During the spring of 2003, three additional monitoring wells (MW-7, MW-8, and MW-9) were installed to the southeast of the original release location to further delineate the extent of hydrocarbon migration. MW-1 was also re-drilled and converted from a two-inch diameter monitoring well to a four-inch diameter LNAPL recovery well. A LNAPL recovery system was installed in mid-November 2003 and operation was initiated on November 26, 2003. In early October 2004, a soil vapor extraction (SVE) system was added to the LNAPL recovery system at MW-1 to facilitate recovery of vapor phase hydrocarbons. Between November 2003 and December 2004, a reported 1,212 gallons of LNAPL was extracted by the recovery system. In 2005, LNAPL recovery and SVE was expanded to MW-4 to further enhance remediation at the Site. Through 2006 a significant decline in LNAPL recovery was observed in wells MW-1 and MW-4 and the remediation system was shut down on June 26, 2006. Ancillary components of the system remain in place and MW-1 and MW-4 are currently utilized as monitoring well locations.

Light non-aqueous phase liquid (LNAPL) has not been detected at the Site subsequent to March 2007. During September and November 2013, air sparge (AS) activities were conducted, as detailed in the *Second Half 2013 Semi-Annual Groundwater Monitoring Report*.

3. Groundwater Monitoring

This section describes the groundwater field and laboratory activities performed during the second half 2016 monitoring events. During a project meeting that occurred on November 10, 2015 between DCP and the New Mexico Oil Conservation Division (NMOCD), the Site sampling schedule was modified from a semi-annual basis to quarterly in anticipation of potential Site closure. Additionally, subsequent to the second half 2015 monitoring event conducted in December 2015, groundwater gauging and sampling activities were discontinued at monitoring well MW-06 and that well has been removed from the Site Sampling Plan. Monitoring activities 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 reporting period, groundwater levels were measured at eight (8) Site monitoring well locations. LNAPL was not detected within any Site monitoring wells.

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). Measured groundwater levels are presented in Table 1. Groundwater level data were later converted to elevation (feet above mean sea level [AMSL]).

3.1.1 Third Quarter (September 28, 2016)

Groundwater elevations collected during the reporting period as well as historic elevations are presented in Table 1. A third quarter 2016 groundwater elevation map, included as Figure 3, indicates that groundwater flow at the Site trends to the southeast. Groundwater elevations ranges, average elevation changes from previous monitoring events, and calculated hydraulic gradients at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

	Third Quarter 2016 (9/28/2016)
Maximum Elevation (Well ID)	3,450.78 (MW-2)
Minimum Elevation (Well ID)	3,448.88 (MW-9)
Average Change from Previous Monitoring Event – All Wells	-0.14 foot
Hydraulic Gradient (ft/ft) / (Well IDs)	0.0049 (MW-2 to MW-9)

3.1.1 Fourth Quarter (December 19, 2016)

Groundwater elevations collected during the reporting period as well as historic elevations are presented in Table 1. A fourth quarter 2016 groundwater elevation map, included as Figure 4, indicates that groundwater flow at the Site trends to the southeast. Groundwater elevations ranges, average elevation changes from previous monitoring events, and calculated hydraulic gradients at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

	Fourth Quarter 2016 (12/19/2016)
Maximum Elevation (Well ID)	3,450.72 (MW-2)
Minimum Elevation (Well ID)	3,448.50 (MW-9)
Average Change from Previous Monitoring Event – All Wells	-0.19 foot
Hydraulic Gradient (ft/ft) / (Well IDs)	0.0057 (MW-2 to MW-9)

3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements, groundwater samples were collected from eight of the nine Site monitoring wells during third and fourth quarter 2016 events. As discussed previously, monitoring well MW-6 was removed from the Site Sampling Plan. A minimum of three well casing volumes of groundwater (calculated from total depth of the well and groundwater level measurements) were purged using dedicated polyethylene bailers from the subject well prior to collection of groundwater samples. Groundwater samples were collected using the polyethylene bailers, placed in clean laboratory-supplied containers for the selected analytical methods, packed in an ice-filled cooler, and maintained at approximately four degrees Celsius (^{0}C) for transportation. Groundwater samples were then shipped under chain-of-custody procedures to ALS Environmental in Houston, Texas, for analysis.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the reporting period. Historic analytical results up to and including the December 2016 event are contained in Appendix A, and the laboratory analytical reports for the second half 2016 events are included in Appendix B. Analytical results from the third and fourth quarter 2016 sampling events are displayed on Figure 4.

During the second half 2016 monitoring events, BTEX concentrations from all sampled wells were below the New Mexico Water Quality Control Commission (NMWQCC) applicable standards and/or below laboratory detection limits.

3.3 Data Quality Assurance / Quality Control

A trip blank was provided and a field duplicate sample was collected from MW-1 (third and fourth quarter) during the second half 2016 sampling events. The data was reviewed for compliance with the

analytical method and the associated quality assurance/quality control (QA/QC) procedures. All samples were analyzed using the correct analytical methods and within the correct holding times. Chain of custody forms were in order and properly executed and indicate that samples were received at the proper temperature with no headspace. All data were reported using the correct method number and reporting units. QA/QC items of note for the second half 2016 include the following:

- Target analytes were not detected in the trip blank samples from the third and fourth quarter sampling events;
- The primary and duplicate sample results for benzene collected at MW-1 (0.0013 milligrams per liter [mg/L] and 0.0012 mg/L, respectively) during the third quarter 2016 had a relative percentage difference (RPD) of 8, which is below the target control range of 20.
- The primary and duplicate sample results for benzene collected at MW-1 during the fourth quarter 2016 were both below laboratory detection limits.

The overall QA/QC assessment, based on the data review, indicates that overall data precision and accuracy are acceptable.

4. Conclusions

Second half 2016 monitoring data indicate that dissolved phase BTEX concentrations at the Site have declined to below the NMWQCC applicable groundwater standards. Comparison of the second half 2016 monitoring data with historic information provides the following general observations:

- LNAPL has not been detected in any monitoring wells on-Site following March 2007.
- Groundwater levels beneath the Site have remained relatively stable with minor seasonal variations. However, a decreasing elevation trend for the region has been observed over the last two quarters.
- The dissolved phase BTEX concentrations observed at the Site during the second half 2016 correlate to six consecutive quarters of analytical results that are below NMWQCC standards.

5. Recommendations

Based on evaluation of second half 2016 and historic Site observations and monitoring results, the following recommendations have been developed for future activities:

- Continue quarterly groundwater monitoring activities at the Site during the first half 2017.

Tables

TABLE 1
SECOND HALF 2016 SEMI-ANNUAL
SUMMARY OF GROUNDWATER ELEVATION DATA
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

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)
MW-1	03/24/16	90.93			NM	3541.21	3450.28	0.02
MW-1	06/22/16	90.90			NM	3541.21	3450.31	0.03
MW-1	09/28/16	91.03			98.65	3541.21	3450.18	-0.13
MW-1	12/19/16	91.11			NM	3541.21	3450.10	-0.08
MW-2	03/24/16	89.96			NM	3540.91	3450.95	0.07
MW-2	06/22/16	90.00			NM	3540.91	3450.91	-0.04
MW-2	09/28/16	90.13			99.61	3540.91	3450.78	-0.13
MW-2	12/19/16	90.19			NM	3540.91	3450.72	-0.06
MW-3	03/24/16	91.29			NM	3541.41	3450.12	0.06
MW-3	06/22/16	91.23			NM	3541.41	3450.18	0.06
MW-3	09/28/16	91.50			102.23	3541.41	3449.91	-0.27
MW-3	12/19/16	91.53			NM	3541.41	3449.88	-0.03
MW-4	03/24/16	91.38			NM	3541.40	3450.02	0.11
MW-4	06/22/16	91.75			NM	3541.40	3449.65	-0.37
MW-4	09/28/16	91.46			98.93	3541.40	3449.94	0.29
MW-4	12/19/16	91.67			NM	3541.40	3449.73	-0.21
MW-5	03/24/16	91.53			NM	3541.45	3449.92	-0.06
MW-5	06/22/16	91.33			NM	3541.45	3450.12	0.20
MW-5	09/28/16	91.59			101.17	3541.45	3449.86	-0.26
MW-5	12/19/16	91.87			NM	3541.45	3449.58	-0.28
MW-7	03/24/16	92.89			NM	3542.42	3449.53	0.06
MW-7	06/22/16	92.80			NM	3542.42	3449.62	0.09
MW-7	09/28/16	92.99			100.15	3542.42	3449.43	-0.19
MW-7	12/19/16	93.13			NM	3542.42	3449.29	-0.14
MW-8	03/24/16	91.15			NM	3540.19 (2)	3449.04	0.12
MW-8	06/22/16	91.02			NM	3540.19 (2)	3449.17	0.13
MW-8	09/28/16	91.29			96.31	3540.19 (2)	3448.90	-0.27
MW-8	12/19/16	91.66			NM	3540.19 (2)	3448.53	-0.37
MW-9	03/24/16	90.90			NM	3539.62	3448.72	-0.29
MW-9	06/22/16	90.55			NM	3539.62	3449.07	0.35
MW-9	09/28/16	90.74			96.23	3539.62	3448.88	-0.19
MW-9	12/19/16	91.12			NM	3539.62	3448.50	-0.38
							Average change in groundwater elevation (6/22/2016 to 9/28/2016)	-0.14
							Average change in groundwater elevation (9/28/2016 to 12/19/2016)	-0.19

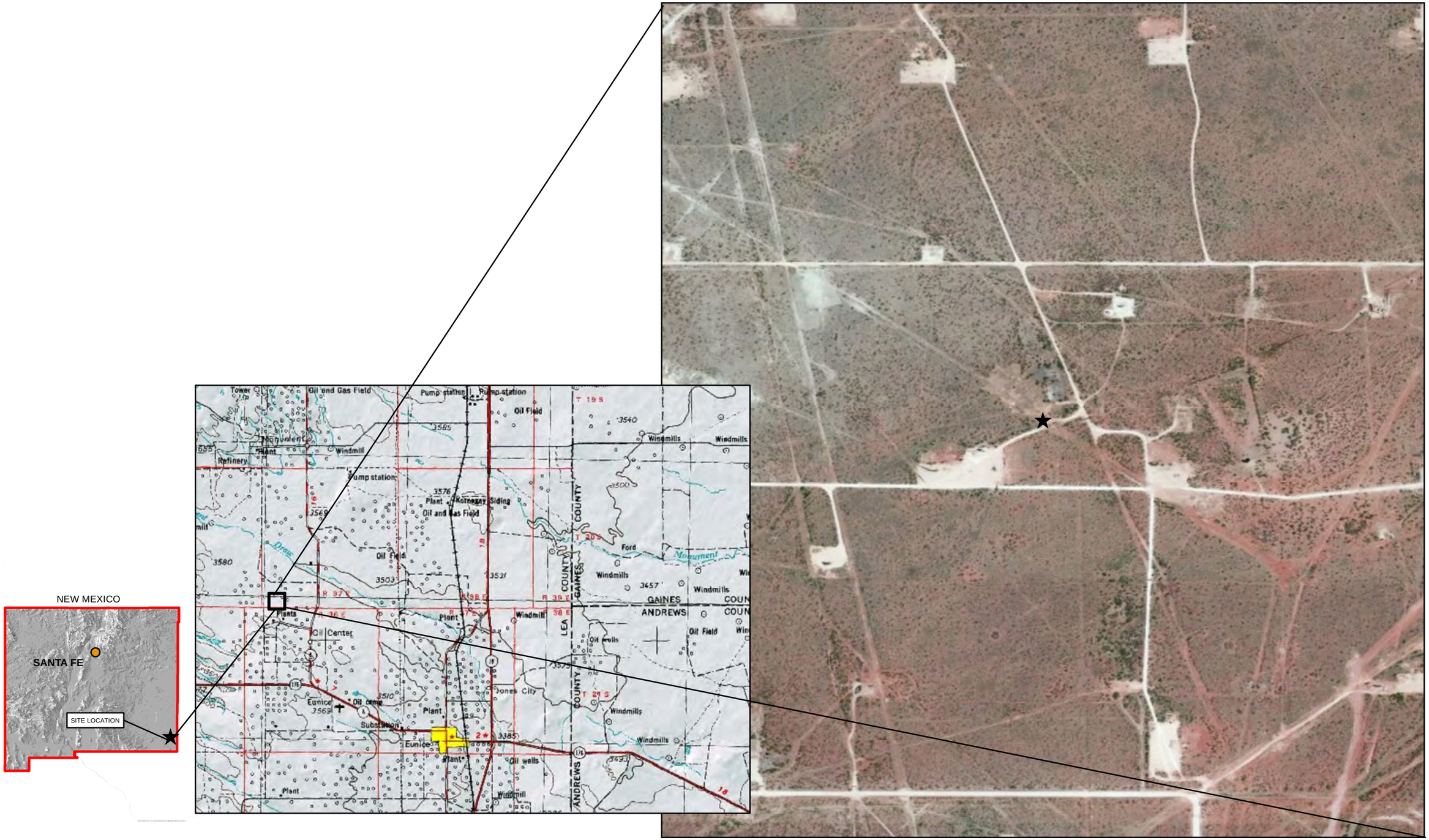
Notes:
1- Changes in groundwater elevation calculated by subtracting the measurement collected during the previous monitoring event from the measurement collected during the most recent monitoring event.
amsl = feet above mean sea level
TOC = top of casing
Groundwater elevation = (TOC Elevation - Measured Depth to Water)
NM = Not Measured
NA = Not Applicable

TABLE 2
SECOND HALF 2016 SEMI-ANNUAL
SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

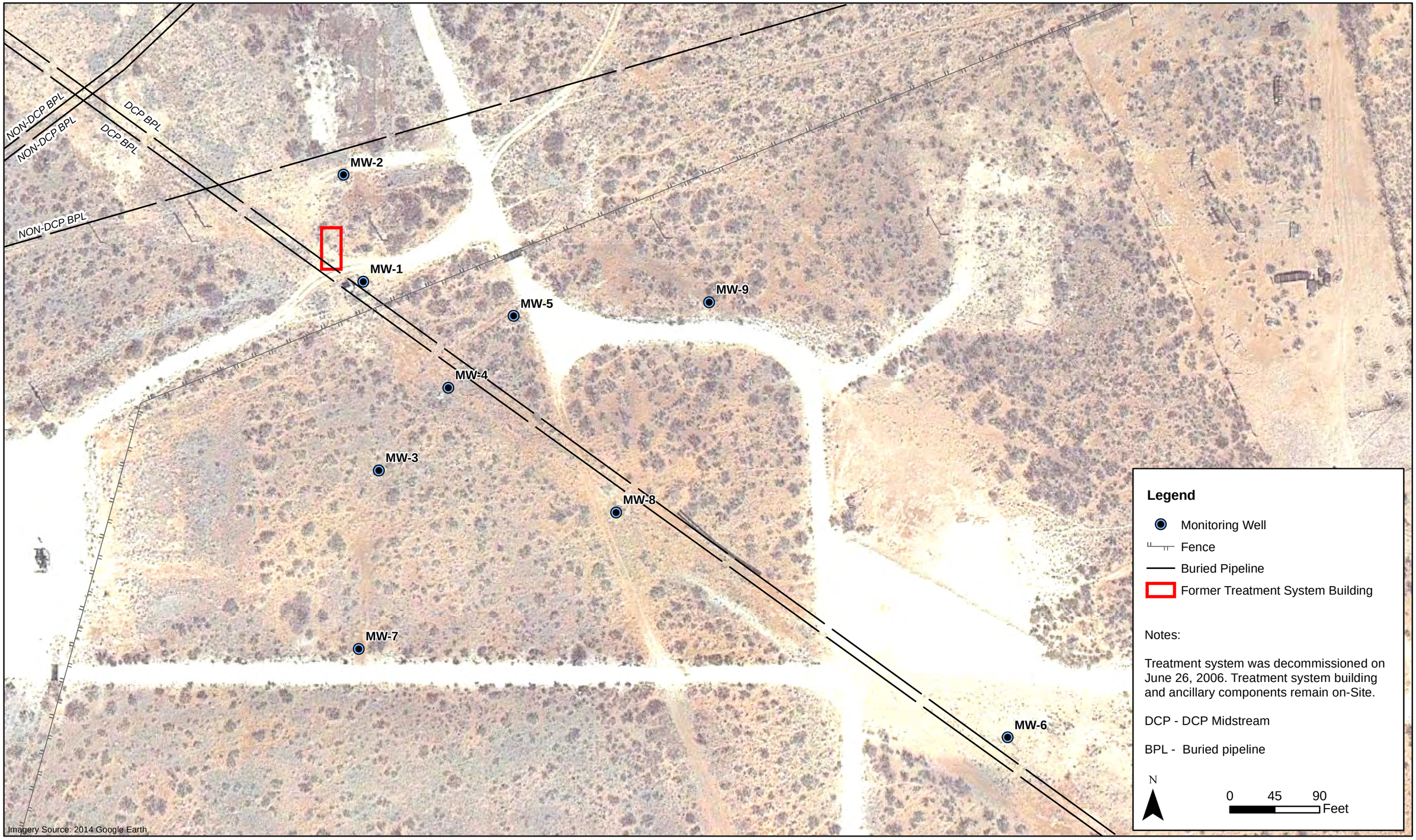
Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-1	09/28/16	0.0013	<0.0010	0.0037	0.0054	Duplicate Sample Collected
MW-1 (Duplicate)	09/28/16	0.0012	<0.0010	0.0024	0.0051	
MW-1	12/19/16	<0.0010	<0.0010	0.0081	0.0060	Duplicate Sample Collected
MW-1 (Duplicate)	12/19/16	<0.0010	<0.0010	0.0064	0.0047	
MW-2	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
MW-3	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
MW-4	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-4	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
MW-5	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-5	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
MW-7	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-7	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
MW-8	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-8	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
MW-9	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
Trip Blank	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	12/19/16	<0.001	<0.001	<0.001	<0.0010	

Notes:
Bold red values indicate an exceedance of the NMWQCC groundwater standards for the Site.
NMWQCC = New Mexico Water Quality Control Commission
mg/L = milligrams per liter

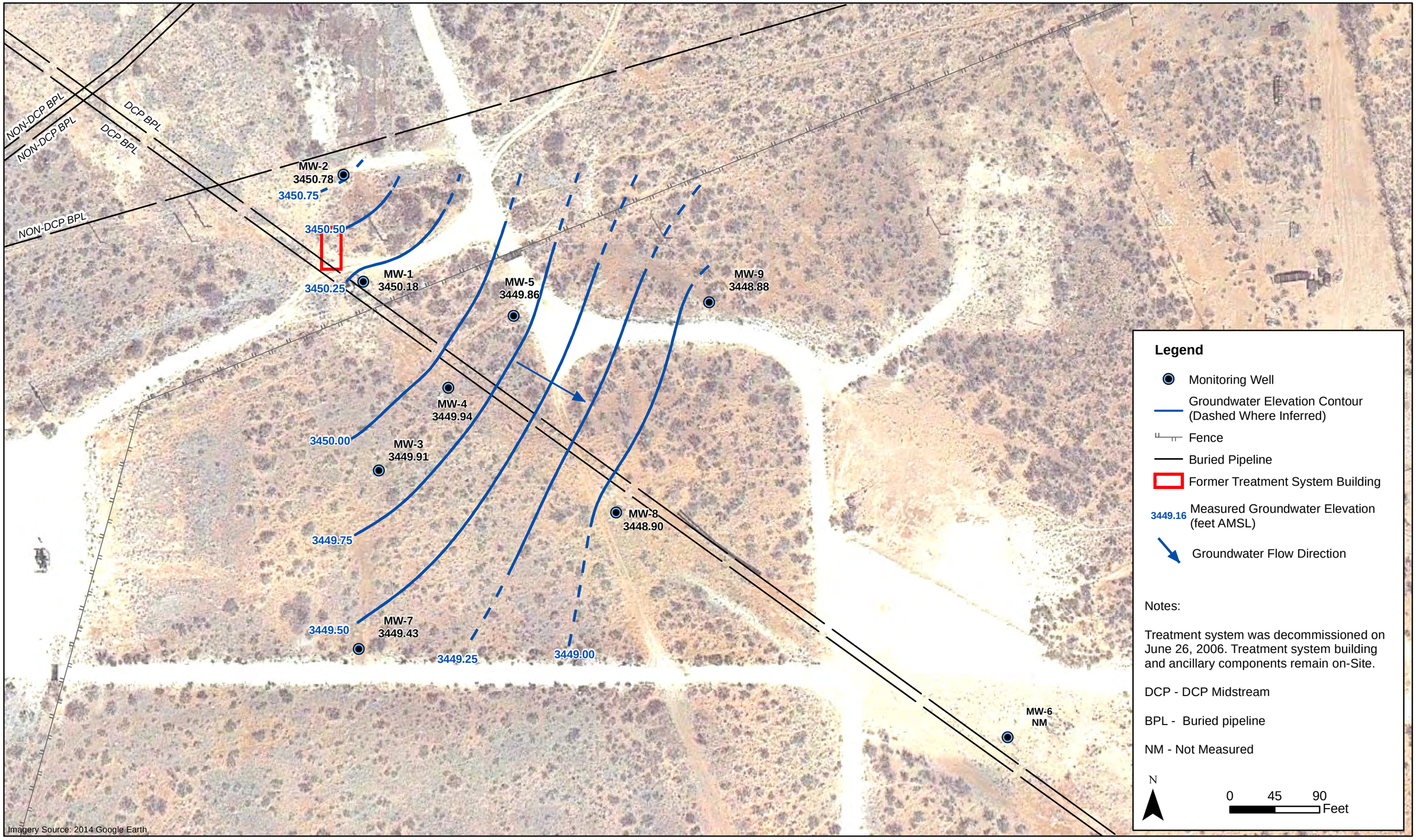
Figures



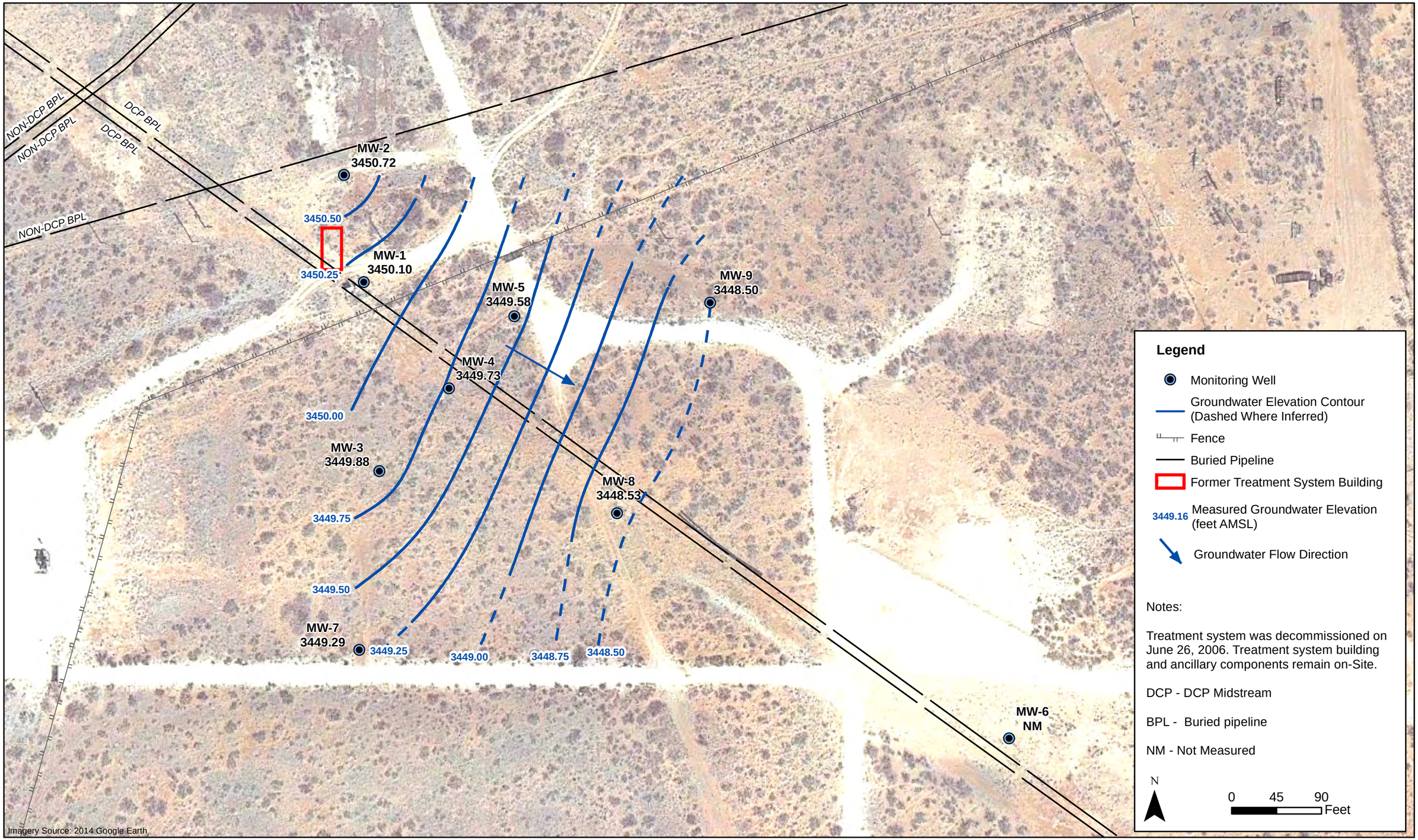
DATE: June 2014 DESIGNED BY: T. Johansen DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, LLC** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **C-Line Pipeline Release** SW 1/4, SE 1/4, Section 31, Township 20 South, Range 37 East Lea County, New Mexico	Site Location Map	Figure 1



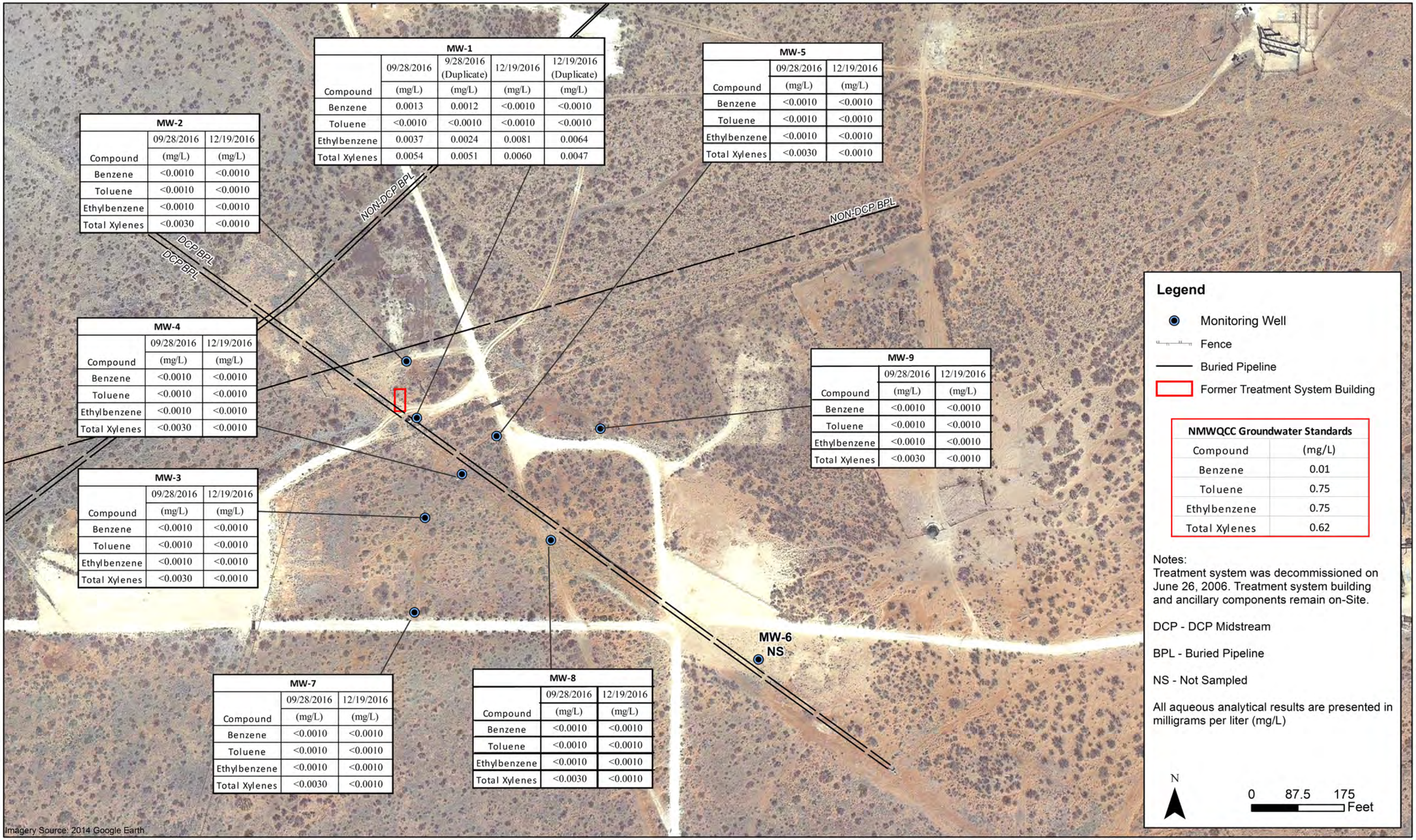
DATE: February 2017 DESIGNED BY: B. Humphrey DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, Inc.** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **C-Line Pipeline Release** Second Half 2016 Semi-Annual Groundwater Monitoring Summary Report	Site Map with Monitoring Well Locations	Figure 2



DATE: February 2017 DESIGNED BY: B. Humphrey DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, Inc.** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **C-Line Pipeline Release** Second Half 2016 Semi-Annual Groundwater Monitoring Summary Report	Groundwater Elevation Contour Map (September 28, 2016)	Figure 3



DATE: February 2017 DESIGNED BY: B. Humphrey DRAWN BY: D. Arnold	TASMAN GEOSCIENCES Tasman Geosciences, Inc. 6899 Pecos Street - Unit C Denver, CO 80221	**DCP Midstream** **C-Line Pipeline Release** Second Half 2016 Semi-Annual Groundwater Monitoring Summary Report	Groundwater Elevation Contour Map (December 19, 2016)	Figure 4



MW-1

Compound	09/28/2016 (mg/L)	9/28/2016 (Duplicate) (mg/L)	12/19/2016 (mg/L)	12/19/2016 (Duplicate) (mg/L)
Benzene	0.0013	0.0012	<0.0010	<0.0010
Toluene	<0.0010	<0.0010	<0.0010	<0.0010
Ethylbenzene	0.0037	0.0024	0.0081	0.0064
Total Xylenes	0.0054	0.0051	0.0060	0.0047

MW-2

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

MW-3

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

MW-4

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

MW-5

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

MW-7

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

MW-8

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

MW-9

Compound	09/28/2016 (mg/L)	12/19/2016 (mg/L)
Benzene	<0.0010	<0.0010
Toluene	<0.0010	<0.0010
Ethylbenzene	<0.0010	<0.0010
Total Xylenes	<0.0030	<0.0010

Legend

- Monitoring Well
- Fence
- Buried Pipeline
- Former Treatment System Building

NMWQCC Groundwater Standards

Compound	(mg/L)
Benzene	0.01
Toluene	0.75
Ethylbenzene	0.75
Total Xylenes	0.62

Notes:
Treatment system was decommissioned on June 26, 2006. Treatment system building and ancillary components remain on-Site.

DCP - DCP Midstream

BPL - Buried Pipeline

NS - Not Sampled

All aqueous analytical results are presented in milligrams per liter (mg/L)

N

0 87.5 175 Feet

DATE: February 2017
DESIGNED BY: B. Humphrey
DRAWN BY: D. Arnold

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

DCP Midstream
C-Line Pipeline Release
Second Half 2016 Semi-Annual Groundwater Monitoring Summary Report

Groundwater Analytical Results Map

Figure 5

Appendix A

Historic Analytical Results

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-1	11/15/02	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	02/18/03	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	04/17/03	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	10/28/03	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	01/29/04	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	06/29/04	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	09/28/04	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	12/06/04	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	03/16/05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	06/06/05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	09/20/05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	12/15/05	**2.1**	**1.37**	0.313	**1.334**	
MW-1	03/21/06	**1.3**	**0.931**	0.419	**1.379**	
MW-1	06/26/06	**2.2**	**1.42**	0.534	**1.722**	
MW-1	09/16/06	**4.3**	0.508	0.153	0.323	
MW-1	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-1	03/14/07	**5.6**	0.232	0.453	0.27	
MW-1	06/20/07	**3.8**	0.43	0.4	**0.79**	
MW-1	09/26/07	**1.8**	0.097	0.37	0.47	
MW-1	12/27/07	**1.9**	0.0372	0.278	0.0736	
MW-1	03/06/08	**0.31**	0.07	**0.94**	**1.58**	
MW-1	09/17/08	**1.1**	0.0555	0.239	0.0751	
MW-1	03/10/09	**0.94**	0.0178	0.224	0.0926	
MW-1	09/23/09	**0.66**	0.0197	0.112	0.103	
MW-1	03/22/10	**0.28**	0.016	0.0147	0.0557	
MW-1	09/16/10	**0.13**	0.0319	0.0334	0.0399	
MW-1	04/25/11	**0.13**	0.0416	0.0315	0.171	
MW-1	09/18/11	**0.064**	<0.002	0.0105	0.0093	
MW-1	03/12/12	**0.089**	0.0024	0.0333	0.0246	
MW-1	09/08/12	**0.046**	<0.002	0.0066	0.0049	
MW-1	02/22/13	**0.038**	0.0047	0.0154	0.0126	
MW-1	09/11/13	**0.026**	0.0063	0.0102	0.0082	
MW-1	02/25/14	**0.026**	0.0106	0.0372	0.0317	
MW-1	09/23/14	**0.054**	0.0163	0.0338	0.0603	
MW-1	02/26/15	**0.011**	<0.005	<0.005	<0.015	
MW-1	08/31/15	0.0071	<0.001	0.013	0.010	
MW-1	12/17/15	0.0037	<0.001	0.0039	0.0038	Duplicate sample collected
MW-1 (Duplicate)	12/17/15	0.0039	<0.001	0.0018	<0.003	
MW-1	03/24/16	0.0022	<0.001	0.0087	0.0081	Duplicate sample collected
MW-1 (Duplicate)	03/24/16	0.0017	<0.001	0.0038	0.0038	
MW-1	06/22/16	0.0022	<0.001	0.0056	<0.003	Duplicate Sample Collected
MW-1 (Duplicate)	06/22/16	0.0028	<0.001	0.0098	0.0097	
MW-1	09/28/16	0.0013	<0.001	0.0037	0.0054	Duplicate Sample Collected
MW-1 (Duplicate)	09/28/16	0.0012	<0.001	0.0024	0.0051	
MW-1	12/19/16	<0.0010	<0.0010	0.0081	0.0060	Duplicate Sample Collected
MW-1 (Duplicate)	12/19/16	<0.0010	<0.0010	0.0064	0.0047	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-2	11/15/02	<0.001	<0.001	<0.001	<0.001	
MW-2	02/18/03	**0.29**	0.014	0.001	0.001	
MW-2	04/17/03	**0.18**	0.007	<0.001	<0.001	
MW-2	10/28/03	**0.018**	0.001	<0.001	<0.001	
MW-2	01/29/04	**0.08**	0.035	0.00292	0.00474	
MW-2	06/29/04	**0.06**	0.000219	0.00534	0.001	
MW-2	09/28/04	**0.33**	0.0174	<0.001	<0.001	
MW-2	12/06/04	**0.036**	0.0017	<0.001	<0.001	
MW-2	03/16/05	0.0052	<0.001	<0.001	<0.001	
MW-2	06/06/05	0.0017	<0.001	<0.001	<0.001	
MW-2	09/20/05	<0.001	<0.001	<0.001	<0.001	
MW-2	12/15.05	<0.001	<0.001	<0.001	<0.001	
MW-2	03/21/06	<0.001	<0.001	<0.001	<0.001	
MW-2	06/26/06	<0.001	<0.001	<0.001	<0.001	
MW-2	09/16/06	<0.001	<0.001	<0.001	<0.001	
MW-2	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-2	03/14/07	<0.001	<0.001	<0.001	<0.001	
MW-2	06/20/07	<0.001	<0.001	<0.001	<0.002	
MW-2	09/26/07	<0.001	<0.001	<0.001	<0.002	
MW-2	12/27/07	<0.002	<0.002	<0.002	<0.006	
MW-2	03/06/08	<0.002	<0.002	<0.002	<0.006	
MW-2	09/17/08	<0.002	<0.002	<0.002	<0.006	
MW-2	03/10/09	<0.002	<0.002	<0.002	<0.006	
MW-2	09/23/09	<0.002	<0.002	<0.002	<0.006	
MW-2	03/22/10	<0.002	<0.002	<0.002	<0.006	
MW-2	09/16/10	<0.001	<0.002	<0.002	<0.004	
MW-2	04/25/11	<0.001	<0.002	<0.002	<0.002	
MW-2	09/18/11	<0.001	<0.002	<0.002	<0.004	
MW-2	03/12/12	<0.001	<0.002	<0.002	<0.004	
MW-2	09/08/12	<0.001	<0.002	<0.002	<0.003	
MW-2	02/22/13	<0.001	<0.002	<0.002	<0.003	
MW-2	09/11/13	<0.001	<0.002	<0.002	<0.003	
MW-2	02/25/14	<0.001	<0.002	<0.002	<0.003	
MW-2	09/23/14	<0.001	<0.001	<0.001	<0.001	
MW-2	02/26/15	<0.001	<0.001	<0.001	<0.003	
MW-2	08/31/15	<0.001	<0.001	<0.001	<0.003	
MW-2	12/17/15	<0.001	<0.001	<0.001	<0.003	
MW-2	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-2	06/22/16	<0.001	<0.001	<0.001	<0.003	
MW-2	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-2	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-3	11/15/02	**0.017**	0.005	<0.001	<0.001	
MW-3	02/18/03	**2.52**	0.634	0.021	0.064	
MW-3	04/17/03	**3.18**	0.513	0.028	0.1	
MW-3	10/28/03	**5.01**	0.275	0.031	0.083	
MW-3	01/29/04	**6.06**	0.506	0.0679	0.0849	
MW-3	06/29/04	**9.84**	0.0917	0.0873	0.02404	
MW-3	09/28/04	**11.2**	0.0218	0.105	0.0213	
MW-3	12/06/04	**12**	0.0438	0.154	0.0237	
MW-3	03/16/05	**10.9**	0.013	0.15	0.02842	
MW-3	06/06/05	**8.83**	0.056	0.1535	0.0502	
MW-3	09/20/05	**10.75**	0.1355	0.288	0.221	
MW-3	12/15/05	**9.57**	0.414	0.173	0.177	
MW-3	03/21/06	**6.55**	**1.575**	0.4085	**0.9015**	
MW-3	06/26/06	**9.67**	**2.93**	0.0333	0.414	
MW-3	09/16/06	**10.55**	**3.48**	0.288	0.384	
MW-3	12/11/06	**7.49**	**3.35**	0.391	0.557	
MW-3	03/14/07	**6.41**	**2.75**	0.3185	0.501	
MW-3	06/20/07	**6.41**	**3.49**	0.52	**0.78**	
MW-3	09/26/07	**5.54**	**2.555**	0.35	0.515	
MW-3	12/27/07	**5.89**	**2.81**	0.316	0.4615	
MW-3	03/06/08	**8.36**	**4.36**	0.57	**0.99**	
MW-3	09/17/08	**6.14**	**3.3**	0.386	**0.674**	
MW-3	03/10/09	**5.03**	**2.5**	0.3945	**0.913**	
MW-3	09/23/09	**5.68**	**4.32**	0.549	**1.36**	
MW-3	03/22/10	**2.615**	**1.475**	0.218	0.5415	
MW-3	09/16/10	**0.9555**	0.1785	0.0916	0.1197	
MW-3	04/25/11	**0.0798**	<0.02	0.0111	0.0249	
MW-3	09/18/11	**0.0219**	<0.002	<0.002	<0.004	Duplicate sample collected
MW-3	03/12/12	0.0071	<0.002	<0.002	<0.004	Duplicate sample collected
MW-3	09/08/12	**0.012**	<0.002	<0.002	<0.003	Duplicate sample collected
MW-3	02/22/13	0.0065	<0.002	<0.002	<0.003	Duplicate sample collected
MW-3	09/11/13	**0.0632**	<0.002	0.0026	0.0091	Duplicate sample collected
MW-3	02/25/14	**0.0406**	<0.002	0.00076 J	0.0057	Duplicate sample collected
MW-3 (duplicate)	02/25/14	**0.0417**	<0.002	0.00077 J	0.0056	
MW-3	09/23/14	0.002	<0.001	<0.001	0.0034	Duplicate sample collected
MW-3 (duplicate)	09/23/14	0.0027	<0.001	0.00055 J	0.0069	
MW-3	02/26/15	0.0018	<0.001	<0.001	<0.003	Duplicate sample collected
MW-3 (duplicate)	02/26/15	0.0016	<0.001	<0.001	<0.003	
MW-3	08/31/15	0.0020	<0.001	<0.001	<0.003	
MW-3 (duplicate)	08/31/15	0.0016	<0.001	<0.001	<0.003	Duplicate sample collected
MW-3	12/17/15	0.0013	<0.001	<0.001	<0.003	
MW-3	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-3	06/22/16	<0.001	<0.001	<0.001	<0.003	
MW-3	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-3	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-4	11/15/02	**0.114**	0.039	0.002	0.003	
MW-4	02/18/03	**1.12**	0.436	0.022	0.032	
MW-4	04/17/03	**0.782**	0.45	0.029	0.055	
MW-4	10/28/03	**0.077**	0.029	0.002	0.008	
MW-4	01/29/04	**0.32**	0.169	0.0203	0.053	
MW-4	06/29/04	**0.461**	0.0202	0.352	0.074	
MW-4	09/28/04	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	12/06/04	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	03/16/05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	06/06/05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	09/20/05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	12/15.05	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	03/21/06	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	06/26/06	**9.08**	**5.73**	**1.03**	**5.69**	
MW-4	09/16/06	**0.51**	0.0415	0.21	**1.028**	
MW-4	12/11/06	**0.17**	0.139	0.111	0.466	
MW-4	03/14/07	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	06/20/07	**1.8**	**0.98**	0.61	**2.65**	
MW-4	09/26/07	**0.43**	0.35	0.19	**0.93**	
MW-4	12/27/07	**0.11**	0.145	0.0837	0.425	
MW-4	03/06/08	<0.002	<0.002	<0.002	<0.006	
MW-4	09/17/08	**0.0146**	0.0068	0.0703	0.081	
MW-4	03/10/09	**0.0141**	0.0178	0.0618	0.0863	
MW-4	09/23/09	0.0022	<0.002	0.0243	0.0186	
MW-4	03/22/10	**0.0129**	0.0255	0.0107	0.0574	
MW-4	09/16/10	<0.001	<0.002	<0.002	0.0921	
MW-4	04/25/11	0.00925	0.02905	0.00365	0.102	
MW-4	09/18/11	0.0024	<0.004	<0.004	<0.008	
MW-4	03/12/12	0.00041	<0.002	<0.002	<0.004	
MW-4	09/08/12	<0.001	<0.002	<0.002	<0.003	
MW-4	02/22/13	0.00031	<0.002	<0.002	<0.003	
MW-4	09/11/13	<0.001	<0.002	<0.002	<0.003	
MW-4	02/25/14	<0.001	<0.002	<0.002	<0.003	
MW-4	09/23/14	<0.001	<0.001	<0.001	0.0084	
MW-4	02/26/15	<0.001	<0.001	<0.001	<0.003	
MW-4	08/31/15	<0.001	<0.001	<0.001	<0.003	
MW-4	12/17/15	<0.001	<0.001	<0.001	<0.003	
MW-4	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-4	06/22/16	<0.001	<0.001	<0.001	0.0077	
MW-4	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-4	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	

APPENDIX A
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BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-5	11/15/02	<0.001	<0.001	<0.001	<0.001	
MW-5	02/18/03	**0.328**	0.056	0.004	0.004	
MW-5	04/17/03	**0.128**	0.007	<0.001	<0.001	
MW-5	10/28/03	**0.164**	0.048	0.002	0.004	
MW-5	01/29/04	**0.226**	0.064	0.00404	0.0074	
MW-5	06/29/04	**0.249**	0.00172	0.0603	0.004	
MW-5	09/28/04	**0.0336**	0.00281	<0.001	<0.001	
MW-5	12/06/04	**0.0137**	0.00318	<0.001	<0.001	
MW-5	03/16/05	0.00371	0.00038	<0.001	<0.001	
MW-5	06/06/05	0.00169	<0.001	<0.001	<0.001	
MW-5	09/20/05	<0.001	<0.001	<0.001	<0.001	
MW-5	12/15/05	<0.001	<0.001	<0.001	<0.001	
MW-5	03/21/06	<0.001	<0.001	<0.001	<0.001	
MW-5	06/26/06	<0.001	<0.001	<0.001	<0.001	
MW-5	09/16/06	<0.001	<0.001	<0.001	<0.001	
MW-5	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-5	03/14/07	<0.001	<0.001	<0.001	<0.001	
MW-5	06/20/07	<0.001	<0.001	<0.001	<0.002	
MW-5	09/26/07	<0.001	<0.001	<0.001	<0.002	
MW-5	12/27/07	<0.002	<0.002	<0.002	<0.006	
MW-5	03/06/08	<0.002	<0.002	<0.002	<0.006	
MW-5	09/17/08	0.00073	0.0007	<0.002	<0.006	
MW-5	03/10/09	.0005J	<0.002	<0.002	<0.006	
MW-5	09/23/09	<0.002	<0.002	<0.002	<0.006	
MW-5	03/22/10	<0.002	0.0037	<0.002	0.0076	
MW-5	09/16/10	<0.001	<0.002	<0.002	<0.004	
MW-5	04/25/11	0.0017	0.0028	0.00043	0.0109	
MW-5	09/18/11	<0.001	<0.002	<0.002	<0.004	
MW-5	03/12/12	<0.001	<0.002	<0.002	<0.004	
MW-5	09/08/12	<0.001	<0.002	<0.002	<0.003	
MW-5	02/22/13	<0.001	<0.002	<0.002	<0.003	
MW-5	09/11/13	<0.001	<0.002	<0.002	<0.003	
MW-5	02/25/14	<0.001	<0.002	<0.002	<0.003	
MW-5	09/23/14	<0.001	<0.001	<0.001	<0.001	
MW-5	02/26/15	<0.001	<0.001	<0.001	<0.003	
MW-5	08/31/15	<0.001	<0.001	<0.001	<0.003	
MW-5	12/17/15	<0.001	<0.001	<0.001	<0.003	
MW-5	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-5	06/22/16	<0.001	<0.001	<0.001	<0.003	
MW-5	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-5	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	

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BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-6	11/15/02	<0.001	<0.001	<0.001	<0.001	
MW-6	02/18/03	0.001	<0.001	<0.001	<0.001	
MW-6	04/17/03	0.002	<0.001	<0.001	<0.001	
MW-6	10/28/03	<0.001	<0.001	<0.001	<0.001	
MW-6	01/29/04	0.00382	0.0014	0.00133	0.00194	
MW-6	06/29/04	<0.00019	<0.00014	<0.00013	<0.0002	
MW-6	09/28/04	<0.001	<0.001	<0.001	<0.001	
MW-6	12/06/04	<0.001	<0.001	<0.001	<0.001	
MW-6	03/16/05	<0.001	<0.001	<0.001	<0.001	
MW-6	06/06/05	<0.001	<0.001	<0.001	<0.001	
MW-6	09/20/05	<0.001	<0.001	<0.001	<0.001	
MW-6	12/15/05	<0.001	<0.001	<0.001	<0.001	
MW-6	03/21/06	<0.001	<0.001	<0.001	<0.001	
MW-6	06/26/06	<0.001	<0.001	<0.001	<0.001	
MW-6	09/16/06	<0.001	<0.001	<0.001	<0.001	
MW-6	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-6	03/14/07	<0.001	<0.001	<0.001	<0.001	
MW-6	06/20/07	NS	NS	NS	NS	
MW-6	09/26/07	NS	NS	NS	NS	
MW-6	12/27/07	NS	NS	NS	NS	
MW-6	03/06/08	NS	NS	NS	NS	
MW-6	09/17/08	NS	NS	NS	NS	
MW-6	03/10/09	NS	NS	NS	NS	
MW-6	09/23/09	NS	NS	NS	NS	
MW-6	03/22/10	NS	NS	NS	NS	
MW-6	09/16/10	NS	NS	NS	NS	
MW-6	04/25/11	NS	NS	NS	NS	
MW-6	09/18/11	NS	NS	NS	NS	
MW-6	03/12/12	NS	NS	NS	NS	
MW-6	09/08/12	NS	NS	NS	NS	
MW-6	02/22/13	NS	NS	NS	NS	
MW-6	09/11/13	NS	NS	NS	NS	
MW-6	Removed From Sampling Plan - Not Required for Delineation					
MW-6	12/17/15	<0.001	<0.001	<0.001	<0.003	Sampled per client request

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HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-7	10/28/03	<0.001	<0.001	<0.001	<0.001	
MW-7	01/29/04	<0.001	<0.001	<0.001	<0.001	
MW-7	06/29/04	0.000456	<0.00014	<0.00013	<0.0002	
MW-7	09/28/04	<0.001	<0.001	<0.001	<0.001	
MW-7	12/06/04	<0.001	<0.001	<0.001	<0.001	
MW-7	03/16/05	<0.001	<0.001	<0.001	<0.001	
MW-7	06/06/05	0.000695	<0.001	<0.001	<0.001	
MW-7	09/20/05	<0.001	<0.001	<0.001	<0.001	
MW-7	12/15/05	<0.001	<0.001	<0.001	<0.001	
MW-7	03/21/06	<0.001	<0.001	<0.001	<0.001	
MW-7	06/26/06	<0.001	<0.001	<0.001	<0.001	
MW-7	09/16/06	<0.001	<0.001	<0.001	<0.001	
MW-7	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-7	03/14/07	<0.001	<0.001	<0.001	<0.001	
MW-7	06/20/07	<0.001	<0.001	<0.001	<0.002	
MW-7	09/26/07	<0.001	<0.001	<0.001	<0.002	
MW-7	12/27/07	<0.002	<0.002	<0.002	<0.006	
MW-7	03/06/08	<0.002	<0.002	<0.002	<0.006	
MW-7	09/17/08	<0.002	<0.002	<0.002	<0.006	
MW-7	03/10/09	<0.002	<0.002	<0.002	<0.006	
MW-7	09/23/09	<0.002	<0.002	<0.002	<0.006	
MW-7	03/22/10	<0.002	<0.002	<0.002	<0.006	
MW-7	09/16/10	<0.001	<0.002	<0.002	<0.004	
MW-7	04/25/11	<0.001	<0.002	<0.002	<0.002	
MW-7	09/18/11	<0.001	<0.002	<0.002	<0.004	
MW-7	03/12/12	<0.001	<0.002	<0.002	<0.004	
MW-7	09/08/12	<0.001	<0.002	<0.002	<0.003	
MW-7	02/22/13	0.00027	<0.002	<0.002	<0.003	
MW-7	09/11/13	<0.001	<0.002	<0.002	<0.003	
MW-7	02/25/14	<0.001	<0.002	<0.002	<0.003	
MW-7	09/23/14	<0.001	<0.001	<0.001	<0.001	
MW-7	02/26/15	<0.001	<0.001	<0.001	<0.003	
MW-7	08/31/15	<0.001	<0.001	<0.001	<0.003	
MW-7	12/17/15	<0.001	<0.001	<0.001	<0.003	
MW-7	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-7	06/22/16	<0.001	<0.001	<0.001	<0.003	
MW-7	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-7	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-8	10/28/03	<0.001	<0.001	<0.001	<0.001	
MW-8	01/29/04	0.00139	0.00109	0.00112	0.00217	
MW-8	06/29/04	0.00248	<0.00014	0.000633	<0.0002	
MW-8	09/28/04	<0.001	<0.001	<0.001	<0.001	
MW-8	12/06/04	<0.001	<0.001	<0.001	<0.001	
MW-8	03/16/05	<0.001	<0.001	<0.001	<0.001	
MW-8	06/06/05	0.000955	<0.001	<0.001	<0.001	
MW-8	09/20/05	<0.001	<0.001	<0.001	<0.001	
MW-8	12/15/05	<0.001	<0.001	<0.001	<0.001	
MW-8	03/21/06	<0.001	<0.001	<0.001	<0.001	
MW-8	06/26/06	<0.001	<0.001	<0.001	<0.001	
MW-8	09/16/06	<0.001	<0.001	<0.001	<0.001	
MW-8	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-8	03/14/07	<0.001	<0.001	<0.001	<0.001	
MW-8	06/20/07	<0.001	<0.001	<0.001	<0.002	
MW-8	09/26/07	<0.001	<0.001	<0.001	<0.002	
MW-8	12/27/07	<0.002	<0.002	<0.002	<0.006	
MW-8	03/06/08	<0.002	<0.002	<0.002	<0.006	
MW-8	09/17/08	<0.002	<0.002	<0.002	<0.006	
MW-8	03/10/09	<0.002	<0.002	<0.002	<0.006	
MW-8	09/23/09	<0.002	<0.002	<0.002	<0.006	
MW-8	03/22/10	<0.002	<0.002	<0.002	<0.006	
MW-8	09/16/10	<0.001	<0.002	<0.002	<0.004	
MW-8	04/25/11	<0.001	<0.002	<0.002	<0.002	
MW-8	09/18/11	<0.001	<0.002	<0.002	<0.004	
MW-8	03/12/12	<0.001	<0.002	<0.002	<0.004	
MW-8	09/08/12	<0.001	<0.002	<0.002	<0.003	
MW-8	02/22/13	<0.001	<0.002	<0.002	<0.003	
MW-8	09/11/13	<0.001	<0.002	<0.002	<0.003	
MW-8	02/25/14	<0.001	<0.002	<0.002	<0.003	
MW-8	09/23/14	<0.001	<0.001	<0.001	<0.001	
MW-8	02/26/15	<0.001	<0.001	<0.001	<0.003	
MW-8	08/31/15	<0.001	<0.001	<0.001	<0.003	
MW-8	12/17/15	<0.001	<0.001	<0.001	<0.003	
MW-8	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-8	06/22/16	<0.001	<0.001	<0.001	<0.003	
MW-8	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-8	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX CONCENTRATIONS IN GROUNDWATER
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	
MW-9	10/28/03	<0.001	<0.001	<0.001	<0.001	
MW-9	01/29/04	<0.001	<0.001	<0.001	<0.001	
MW-9	06/29/04	<0.00019	<0.00014	<0.00013	<0.0002	
MW-9	09/28/04	<0.001	<0.001	<0.001	<0.001	
MW-9	12/06/04	<0.001	<0.001	<0.001	<0.001	
MW-9	03/16/05	<0.001	<0.001	<0.001	<0.001	
MW-9	06/06/05	<0.001	<0.001	<0.001	<0.001	
MW-9	09/20/05	<0.001	<0.001	<0.001	0.00105	
MW-9	12/15/05	<0.001	<0.001	<0.001	<0.001	
MW-9	03/21/06	<0.001	<0.001	<0.001	<0.001	
MW-9	06/26/06	<0.001	<0.001	<0.001	<0.001	
MW-9	09/16/06	<0.001	<0.001	<0.001	<0.001	
MW-9	12/11/06	<0.001	<0.001	<0.001	<0.001	
MW-9	03/14/07	<0.001	<0.001	<0.001	<0.001	
MW-9	06/20/07	<0.001	<0.001	<0.001	<0.002	
MW-9	09/26/07	<0.001	<0.001	<0.001	<0.002	
MW-9	12/27/07	<0.002	<0.002	<0.002	<0.006	
MW-9	03/06/08	<0.002	<0.002	<0.002	<0.006	
MW-9	09/17/08	<0.002	<0.002	<0.002	<0.006	
MW-9	03/10/09	<0.002	<0.002	<0.002	<0.006	
MW-9	09/23/09	<0.002	<0.002	<0.002	<0.006	
MW-9	03/22/10	<0.002	<0.002	<0.002	<0.006	
MW-9	09/16/10	<0.001	<0.002	<0.002	<0.004	
MW-9	04/25/11	<0.001	<0.002	<0.002	<0.002	
MW-9	09/18/11	<0.001	<0.002	<0.002	<0.004	
MW-9	03/12/12	<0.001	<0.002	<0.002	<0.004	
MW-9	09/08/12	<0.001	<0.002	<0.002	<0.003	
MW-9	02/22/13	<0.001	<0.002	<0.002	<0.003	
MW-9	09/11/13	<0.001	<0.002	<0.002	<0.003	
MW-9	02/25/14	<0.001	<0.002	<0.002	<0.003	
MW-9	09/23/14	<0.001	<0.001	<0.001	<0.001	
MW-9	02/26/15	<0.001	<0.001	<0.001	<0.003	
MW-9	08/31/15	<0.001	<0.001	<0.001	<0.003	
MW-9	12/17/15	<0.001	<0.001	<0.001	<0.003	
MW-9	03/24/16	<0.001	<0.001	<0.001	<0.003	
MW-9	06/22/16	<0.001	<0.001	<0.001	<0.003	
MW-9	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
MW-9	12/19/16	<0.0010	<0.0010	<0.0010	<0.0010	
Trip Blank	09/23/14	<0.001	<0.001	<0.001	<0.001	
Trip Blank	02/26/15	<0.001	<0.001	<0.001	<0.003	
Trip Blank	08/31/15	<0.001	<0.001	<0.001	<0.003	
Trip Blank	12/17/15	<0.001	<0.001	<0.001	<0.003	
Trip Blank	03/24/16	<0.001	<0.001	<0.001	<0.003	
Trip Blank	06/22/16	<0.001	<0.001	<0.001	<0.003	
Trip Blank	09/28/16	<0.0010	<0.0010	<0.0010	<0.0030	
Trip Blank	12/19/16	<0.001	<0.001	<0.001	<0.0010	

Notes:
Bold red values indicate an exceedance of the NMWQCC groundwater standards for the Site.
NMWQCC = New Mexico Water Quality Control Commission
LNAPL = Light Non-Aqueous Phase Liquid
J = Estimated Value
NS = Not Sampled
mg/L = milligrams per liter

Appendix B

Laboratory Analytical Report

- ALS Environmental Job #: HS16100009
- ALS Environmental Job #: HS16121148

10450 Stancliff Rd. Suite 210
Houston, TX 77099
T: +1 281 530 5656
F: +1 281 530 5887
www.alsglobal.com

October 04, 2016

Brian Humphrey
Tasman Geosciences
6899 Pecos St
Unit C
Denver, CO 80221

Work Order: **HS16100009**

Laboratory Results for: **DCP C-Line Pipeline Release**

Dear Brian,

ALS Environmental received 10 sample(s) on Oct 01, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Generated By: Jumoke.Lawal
Sonia West
Project Manager

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Work Order: HS16100009

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16100009-01	MW-1	Water		28-Sep-2016 09:10	01-Oct-2016 10:30	☐
HS16100009-02	MW-2	Water		28-Sep-2016 10:25	01-Oct-2016 10:30	☐
HS16100009-03	MW-3	Water		28-Sep-2016 09:50	01-Oct-2016 10:30	☐
HS16100009-04	MW-4	Water		28-Sep-2016 10:00	01-Oct-2016 10:30	☐
HS16100009-05	MW-5	Water		28-Sep-2016 09:15	01-Oct-2016 10:30	☐
HS16100009-06	MW-7	Water		28-Sep-2016 11:10	01-Oct-2016 10:30	☐
HS16100009-07	MW-8	Water		28-Sep-2016 10:25	01-Oct-2016 10:30	☐
HS16100009-08	MW-9	Water		28-Sep-2016 10:27	01-Oct-2016 10:30	☐
HS16100009-09	Duplicate	Water		28-Sep-2016 00:00	01-Oct-2016 10:30	☐
HS16100009-10	Trip Blank (091516-04)	Water		28-Sep-2016 00:00	01-Oct-2016 10:30	☐

Client: Tasman Geosciences **CASE NARRATIVE**
Project: DCP C-Line Pipeline Release
Work Order: HS16100009

GCMS Volatiles by Method SW8260

Batch ID: R282402,R282427

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-1
Collection Date: 28-Sep-2016 09:10

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	**0.0013**		**0.0010**	**mg/L**	1	03-Oct-2016 13:04
Toluene	ND		0.0010	mg/L	1	03-Oct-2016 13:04
Ethylbenzene	**0.0037**		**0.0010**	**mg/L**	1	03-Oct-2016 13:04
Xylenes, Total	**0.0054**		**0.0030**	**mg/L**	1	03-Oct-2016 13:04
Surr: 1,2-Dichloroethane-d4	*89.6*		*71-125*	*%REC*	*1*	*03-Oct-2016 13:04*
Surr: 4-Bromofluorobenzene	*89.1*		*70-125*	*%REC*	*1*	*03-Oct-2016 13:04*
Surr: Dibromofluoromethane	*93.2*		*74-125*	*%REC*	*1*	*03-Oct-2016 13:04*
Surr: Toluene-d8	*98.0*		*75-125*	*%REC*	*1*	*03-Oct-2016 13:04*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-2
Collection Date: 28-Sep-2016 10:25

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-02
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 01:10
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 01:10
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 01:10
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 01:10
Surr: 1,2-Dichloroethane-d4	*111*		*71-125*	*%REC*	*1*	*04-Oct-2016 01:10*
Surr: 4-Bromofluorobenzene	*99.5*		*70-125*	*%REC*	*1*	*04-Oct-2016 01:10*
Surr: Dibromofluoromethane	*115*		*74-125*	*%REC*	*1*	*04-Oct-2016 01:10*
Surr: Toluene-d8	*104*		*75-125*	*%REC*	*1*	*04-Oct-2016 01:10*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-3
Collection Date: 28-Sep-2016 09:50

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 02:49
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 02:49
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 02:49
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 02:49
Surr: 1,2-Dichloroethane-d4	*117*		*71-125*	*%REC*	*1*	*04-Oct-2016 02:49*
Surr: 4-Bromofluorobenzene	*103*		*70-125*	*%REC*	*1*	*04-Oct-2016 02:49*
Surr: Dibromofluoromethane	*116*		*74-125*	*%REC*	*1*	*04-Oct-2016 02:49*
Surr: Toluene-d8	*102*		*75-125*	*%REC*	*1*	*04-Oct-2016 02:49*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-4
Collection Date: 28-Sep-2016 10:00

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-04
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 03:14
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 03:14
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 03:14
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 03:14
Surr: 1,2-Dichloroethane-d4	*118*		*71-125*	*%REC*	*1*	*04-Oct-2016 03:14*
Surr: 4-Bromofluorobenzene	*101*		*70-125*	*%REC*	*1*	*04-Oct-2016 03:14*
Surr: Dibromofluoromethane	*113*		*74-125*	*%REC*	*1*	*04-Oct-2016 03:14*
Surr: Toluene-d8	*104*		*75-125*	*%REC*	*1*	*04-Oct-2016 03:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-5
Collection Date: 28-Sep-2016 09:15

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 03:38
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 03:38
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 03:38
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 03:38
Surr: 1,2-Dichloroethane-d4	*117*		*71-125*	*%REC*	*1*	*04-Oct-2016 03:38*
Surr: 4-Bromofluorobenzene	*101*		*70-125*	*%REC*	*1*	*04-Oct-2016 03:38*
Surr: Dibromofluoromethane	*115*		*74-125*	*%REC*	*1*	*04-Oct-2016 03:38*
Surr: Toluene-d8	*105*		*75-125*	*%REC*	*1*	*04-Oct-2016 03:38*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-7
Collection Date: 28-Sep-2016 11:10

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 04:03
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 04:03
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 04:03
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 04:03
Surr: 1,2-Dichloroethane-d4	*117*		*71-125*	*%REC*	*1*	*04-Oct-2016 04:03*
Surr: 4-Bromofluorobenzene	*98.2*		*70-125*	*%REC*	*1*	*04-Oct-2016 04:03*
Surr: Dibromofluoromethane	*115*		*74-125*	*%REC*	*1*	*04-Oct-2016 04:03*
Surr: Toluene-d8	*104*		*75-125*	*%REC*	*1*	*04-Oct-2016 04:03*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-8
Collection Date: 28-Sep-2016 10:25

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-07
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 04:28
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 04:28
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 04:28
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 04:28
Surr: 1,2-Dichloroethane-d4	*114*		*71-125*	*%REC*	*1*	*04-Oct-2016 04:28*
Surr: 4-Bromofluorobenzene	*100*		*70-125*	*%REC*	*1*	*04-Oct-2016 04:28*
Surr: Dibromofluoromethane	*113*		*74-125*	*%REC*	*1*	*04-Oct-2016 04:28*
Surr: Toluene-d8	*103*		*75-125*	*%REC*	*1*	*04-Oct-2016 04:28*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-9
Collection Date: 28-Sep-2016 10:27

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-08
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 04:52
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 04:52
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 04:52
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 04:52
Surr: 1,2-Dichloroethane-d4	*116*		*71-125*	*%REC*	*1*	*04-Oct-2016 04:52*
Surr: 4-Bromofluorobenzene	*101*		*70-125*	*%REC*	*1*	*04-Oct-2016 04:52*
Surr: Dibromofluoromethane	*116*		*74-125*	*%REC*	*1*	*04-Oct-2016 04:52*
Surr: Toluene-d8	*105*		*75-125*	*%REC*	*1*	*04-Oct-2016 04:52*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: Duplicate
Collection Date: 28-Sep-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-09
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	**0.0012**		**0.0010**	**mg/L**	1	03-Oct-2016 14:44
Toluene	ND		0.0010	mg/L	1	03-Oct-2016 14:44
Ethylbenzene	**0.0024**		**0.0010**	**mg/L**	1	03-Oct-2016 14:44
Xylenes, Total	**0.0051**		**0.0030**	**mg/L**	1	03-Oct-2016 14:44
Surr: 1,2-Dichloroethane-d4	*88.2*		*71-125*	*%REC*	*1*	*03-Oct-2016 14:44*
Surr: 4-Bromofluorobenzene	*89.5*		*70-125*	*%REC*	*1*	*03-Oct-2016 14:44*
Surr: Dibromofluoromethane	*91.3*		*74-125*	*%REC*	*1*	*03-Oct-2016 14:44*
Surr: Toluene-d8	*101*		*75-125*	*%REC*	*1*	*03-Oct-2016 14:44*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: Trip Blank (091516-04)
Collection Date: 28-Sep-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16100009
Lab ID:HS16100009-10
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: AKP
Benzene	ND		0.0010	mg/L	1	04-Oct-2016 00:21
Toluene	ND		0.0010	mg/L	1	04-Oct-2016 00:21
Ethylbenzene	ND		0.0010	mg/L	1	04-Oct-2016 00:21
Xylenes, Total	ND		0.0030	mg/L	1	04-Oct-2016 00:21
Surr: 1,2-Dichloroethane-d4	*118*		*71-125*	*%REC*	*1*	*04-Oct-2016 00:21*
Surr: 4-Bromofluorobenzene	*99.8*		*70-125*	*%REC*	*1*	*04-Oct-2016 00:21*
Surr: Dibromofluoromethane	*117*		*74-125*	*%REC*	*1*	*04-Oct-2016 00:21*
Surr: Toluene-d8	*105*		*75-125*	*%REC*	*1*	*04-Oct-2016 00:21*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16100009

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R282402	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16100009-01	MW-1	28 Sep 2016 09:10			03 Oct 2016 13:04	1
HS16100009-09	Duplicate	28 Sep 2016 00:00			03 Oct 2016 14:44	1
Batch ID R282427	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16100009-02	MW-2	28 Sep 2016 10:25			04 Oct 2016 01:10	1
HS16100009-03	MW-3	28 Sep 2016 09:50			04 Oct 2016 02:49	1
HS16100009-04	MW-4	28 Sep 2016 10:00			04 Oct 2016 03:14	1
HS16100009-05	MW-5	28 Sep 2016 09:15			04 Oct 2016 03:38	1
HS16100009-06	MW-7	28 Sep 2016 11:10			04 Oct 2016 04:03	1
HS16100009-07	MW-8	28 Sep 2016 10:25			04 Oct 2016 04:28	1
HS16100009-08	MW-9	28 Sep 2016 10:27			04 Oct 2016 04:52	1
HS16100009-10	Trip Blank (091516-04)	28 Sep 2016 00:00			04 Oct 2016 00:21	1

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16100009

QC BATCH REPORT

Batch ID: R282402 **Instrument: VOA4** **Method: SW8260**

MBLK Sample ID: **VBLKW-161003** Units: **ug/L** Analysis Date: **03-Oct-2016 10:58**
Client ID: Run ID: **VOA4_282402** SeqNo: **3846843** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 1,2-Dichloroethane-d4	*46.67*	*1.0*	*50*	*0*	*93.3*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*43.81*	*1.0*	*50*	*0*	*87.6*	*70 - 125*				
Surr: Dibromofluoromethane	*48.29*	*1.0*	*50*	*0*	*96.6*	*74 - 125*				
Surr: Toluene-d8	*51.13*	*1.0*	*50*	*0*	*102*	*75 - 125*				

LCS Sample ID: **VLCSW-161003** Units: **ug/L** Analysis Date: **03-Oct-2016 10:08**
Client ID: Run ID: **VOA4_282402** SeqNo: **3846842** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	49.19	1.0	50	0	98.4	75 - 122				
Ethylbenzene	49.49	1.0	50	0	99.0	80 - 120				
Toluene	48.49	1.0	50	0	97.0	75 - 121				
Xylenes, Total	149	3.0	150	0	99.3	79 - 124				
Surr: 1,2-Dichloroethane-d4	*45.12*	*1.0*	*50*	*0*	*90.2*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*47.45*	*1.0*	*50*	*0*	*94.9*	*70 - 125*				
Surr: Dibromofluoromethane	*47.86*	*1.0*	*50*	*0*	*95.7*	*74 - 125*				
Surr: Toluene-d8	*49.17*	*1.0*	*50*	*0*	*98.3*	*75 - 125*				

MS Sample ID: **HS16100009-01MS** Units: **ug/L** Analysis Date: **03-Oct-2016 13:29**
Client ID: **MW-1** Run ID: **VOA4_282402** SeqNo: **3846849** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	50.74	1.0	50	1.334	98.8	75 - 122				
Ethylbenzene	54.49	1.0	50	3.735	102	80 - 120				
Toluene	50.79	1.0	50	0	102	75 - 121				
Xylenes, Total	161.1	3.0	150	5.359	104	80 - 124				
Surr: 1,2-Dichloroethane-d4	*44.85*	*1.0*	*50*	*0*	*89.7*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*48.54*	*1.0*	*50*	*0*	*97.1*	*70 - 125*				
Surr: Dibromofluoromethane	*47.48*	*1.0*	*50*	*0*	*95.0*	*74 - 125*				
Surr: Toluene-d8	*49.4*	*1.0*	*50*	*0*	*98.8*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16100009

QC BATCH REPORT

Batch ID: R282402 **Instrument: VOA4** **Method: SW8260**

MSD Sample ID: **HS16100009-01MSD** Units: **ug/L** Analysis Date: **03-Oct-2016 13:54**
Client ID: **MW-1** Run ID: **VOA4_282402** SeqNo: **3846850** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	52.25	1.0	50	1.334	102	75 - 122	50.74	2.94	20	
Ethylbenzene	54.81	1.0	50	3.735	102	80 - 120	54.49	0.585	20	
Toluene	51.54	1.0	50	0	103	75 - 121	50.79	1.47	20	
Xylenes, Total	161.6	3.0	150	5.359	104	80 - 124	161.1	0.331	20	
Surr: 1,2-Dichloroethane-d4	*44.53*	*1.0*	*50*	*0*	*89.1*	*71 - 125*	*44.85*	*0.724*	*20*	
Surr: 4-Bromofluorobenzene	*48.12*	*1.0*	*50*	*0*	*96.2*	*70 - 125*	*48.54*	*0.885*	*20*	
Surr: Dibromofluoromethane	*46.4*	*1.0*	*50*	*0*	*92.8*	*74 - 125*	*47.48*	*2.31*	*20*	
Surr: Toluene-d8	*49.42*	*1.0*	*50*	*0*	*98.8*	*75 - 125*	*49.4*	*0.0385*	*20*	

The following samples were analyzed in this batch: HS16100009-01 HS16100009-09

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16100009

QC BATCH REPORT

Batch ID: R282427 **Instrument: VOA2** **Method: SW8260**

MBLK Sample ID: **VBLKW-161003** Units: **ug/L** Analysis Date: **03-Oct-2016 23:31**
Client ID: Run ID: **VOA2_282427** SeqNo: **3847320** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	3.0								
Surr: 1,2-Dichloroethane-d4	*56.72*	*1.0*	*50*	*0*	*113*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*50.15*	*1.0*	*50*	*0*	*100*	*70 - 125*				
Surr: Dibromofluoromethane	*59.22*	*1.0*	*50*	*0*	*118*	*74 - 125*				
Surr: Toluene-d8	*52.32*	*1.0*	*50*	*0*	*105*	*75 - 125*				

LCS Sample ID: **VLCSW-161003** Units: **ug/L** Analysis Date: **03-Oct-2016 22:42**
Client ID: Run ID: **VOA2_282427** SeqNo: **3847319** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	51.1	1.0	50	0	102	75 - 122				
Ethylbenzene	48.22	1.0	50	0	96.4	80 - 120				
Toluene	50.24	1.0	50	0	100	75 - 121				
Xylenes, Total	165.9	3.0	150	0	111	79 - 124				
Surr: 1,2-Dichloroethane-d4	*60.49*	*1.0*	*50*	*0*	*121*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*51.81*	*1.0*	*50*	*0*	*104*	*70 - 125*				
Surr: Dibromofluoromethane	*55.09*	*1.0*	*50*	*0*	*110*	*74 - 125*				
Surr: Toluene-d8	*51.06*	*1.0*	*50*	*0*	*102*	*75 - 125*				

MS Sample ID: **HS16100009-02MS** Units: **ug/L** Analysis Date: **04-Oct-2016 01:35**
Client ID: **MW-2** Run ID: **VOA2_282427** SeqNo: **3847325** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	46.04	1.0	50	0	92.1	75 - 122				
Ethylbenzene	45.96	1.0	50	0	91.9	80 - 120				
Toluene	47.02	1.0	50	0	94.0	75 - 121				
Xylenes, Total	154.8	3.0	150	0	103	80 - 124				
Surr: 1,2-Dichloroethane-d4	*59.48*	*1.0*	*50*	*0*	*119*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*51.86*	*1.0*	*50*	*0*	*104*	*70 - 125*				
Surr: Dibromofluoromethane	*54.74*	*1.0*	*50*	*0*	*109*	*74 - 125*				
Surr: Toluene-d8	*50.97*	*1.0*	*50*	*0*	*102*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16100009

QC BATCH REPORT

Batch ID: R282427 **Instrument: VOA2** **Method: SW8260**

MSD Sample ID: **HS16100009-02MSD** Units: **ug/L** Analysis Date: **04-Oct-2016 02:00**
Client ID: **MW-2** Run ID: **VOA2_282427** SeqNo: **3847326** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	43.65	1.0	50	0	87.3	75 - 122	46.04	5.33	20	
Ethylbenzene	44.72	1.0	50	0	89.4	80 - 120	45.96	2.75	20	
Toluene	45.43	1.0	50	0	90.9	75 - 121	47.02	3.46	20	
Xylenes, Total	149.8	3.0	150	0	99.9	80 - 124	154.8	3.27	20	
Surr: 1,2-Dichloroethane-d4	*60.87*	*1.0*	*50*	*0*	*122*	*71 - 125*	*59.48*	*2.31*	*20*	
Surr: 4-Bromofluorobenzene	*52.8*	*1.0*	*50*	*0*	*106*	*70 - 125*	*51.86*	*1.8*	*20*	
Surr: Dibromofluoromethane	*54.04*	*1.0*	*50*	*0*	*108*	*74 - 125*	*54.74*	*1.29*	*20*	
Surr: Toluene-d8	*50.98*	*1.0*	*50*	*0*	*102*	*75 - 125*	*50.97*	*0.0141*	*20*	

The following samples were analyzed in this batch: HS16100009-02 HS16100009-03 HS16100009-04 HS16100009-05 HS16100009-06 HS16100009-07 HS16100009-08 HS16100009-10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: **HS16100009**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-1	27-Mar-2017
California	2919 2016-2018	31-Jul-2018
Illinois	003872	09-May-2017
Kansas	E-10352 2015-2016	30-Oct-2016
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2016-2017	30-Jun-2017
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2016-122	31-Aug-2017
Texas	TX104704231-16-17	30-Apr-2017

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Work Order: HS16100009

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16100009-01	MW-1	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-02	MW-2	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-03	MW-3	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-04	MW-4	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-05	MW-5	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-06	MW-7	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-07	MW-8	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-08	MW-9	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-09	Duplicate	Login	10/1/2016 1:03:01 PM	PMG	VW-3
HS16100009-10	Trip Blank (091516-04)	Login	10/1/2016 1:03:01 PM	PMG	VW-3

Sample Receipt Checklist

Client Name: Tasman Geosciences
Work Order: HS16100009
Date/Time Received: **01-Oct-2016 10:30**
Received by: **Jared R. Makan**

Checklist completed by: *Paresh M. Giga* eSignature 1-Oct-2016 Date
Reviewed by: *Bernadette A. Fini* eSignature 4-Oct-2016 Date

Matrices: **Water**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☑	Not Present ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☐	No ☑	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	0.9c/1.6c U/C	IR11	
Cooler(s)/Kit(s):	24678		
Date/Time sample(s) sent to storage:	10/1/16 13:20		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☑	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☑	N/A ☐
pH adjusted by:			

Login Notes: Sampling times differ. MW-1 COC - 09:10 & Vials - 09:15. MW-2 COC - 10:25 & Vials - 08:25.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

ALS Environmental

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Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

Page 1 of 2

COC ID: 149213

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	DCP C-Line Pipeline Release	A	BTEX (8260)
Work Order		Project Number	390262220 F210	B	
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP	C	
Send Report To	Brian Humphrey	Invoice Attn	Steve Weathers	D	
Address	5690 Webster Street	Address	370 17th Street, Suite 2500	E	
				F	
City/State/Zip	Arvada	City/State/Zip	Denver Colorado 80102	G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address	bhumphrey@tasman-geo.com	e-Mail Address		J	

HS16100009

Tasman Geosciences

DCP C-Line Pipeline Release

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-1	9-28-16	0910	Water	~~HCL~~ None	3	X										
2	MW-2		1025	Water	HCL	3	X										
3	MW-3		0950	Water	HCL	3	X										
4	MW-4		1000	Water	HCL	3	X										
5	MW-5		0915	Water	HCL	3	X										
6	MW-7		1110	Water	HCL	3	X										
7	MW-8		1025	Water	HCL	3	X										
8	MW-9		1027	Water	HCL	3	X										
9	Duplicate		—	Water	~~HCL~~ None	3	X										
10																	

Sampler(s) Please Print & Sign: Mitchell Weller

Shipment Method: FedEx Overnight

Required Turnaround Time: (Check Box) ☒ Std 10 WK days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Mitchell Weller	9-30-16	0900	
Relinquished by:	Date:	Time:	Received by (Laboratory):
			Jm 10.1.16 10:30
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.
24678	0.90

QC Package: (Check One Box Below)
☒ Level 2 Std QC ☐ TRRP ChkList
☐ Level 3 Std QC/Raw da ☐ TRRP Level 4
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

11

ALS Environmental

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Middletown, PA +1 717 944 5541
Spring City, PA +1 610 948 4903
Salt Lake City, UT +1 801 266 7700
South Charleston, WV +1 304 356 3168
York, PA +1 717 505 5280

Chain of Custody Form

COC ID: 149212

ALS Project Manager: | ALS Work Order #:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	DCP C-Line Pipeline Release	A	BTEX (8260)
Work Order		Project Number	390262220 F210	B	
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP	C	
Send Report To	Brian Humphrey	Invoice Attn	Steve Weathers	D	HS16100009
Address	5690 Webster Street	Address	370 17th Street, Suite 2500	E	Tasman Geosciences
				F	DCP C-Line Pipeline Release
City/State/Zip	Arvada	City/State/Zip	Denver Colorado 80102	G	
Phone		Phone		H	
Fax		Fax		I	
e-Mail Address	bhumphrey@tasman-geo.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Trip Blank	9-28-16	—	Water	HCL	2	X										
2																	
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mitchell Weller

Shipment Method: FedEx Overnight

Required Turnaround Time: (Check Box) ☒ Std 10 WK days ☐ 5 WK Days ☐ 2 WK Days ☐ 24 Hour ☐ Other

Results Due Date:

Relinquished by: Mitchell Weller — Date: 9-30-16 — Time: 0900 — Received by: —

Relinquished by: — Date: — Time: — Received by (Laboratory): JM 10/1/16. 10:30

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

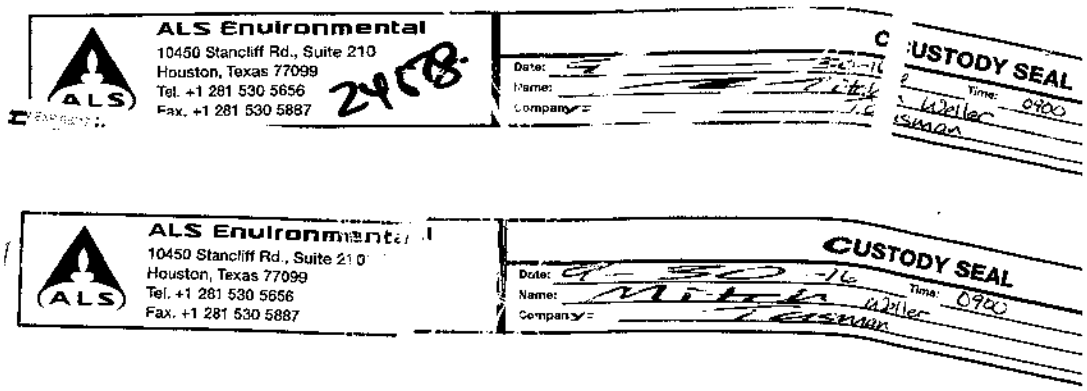
Notes:

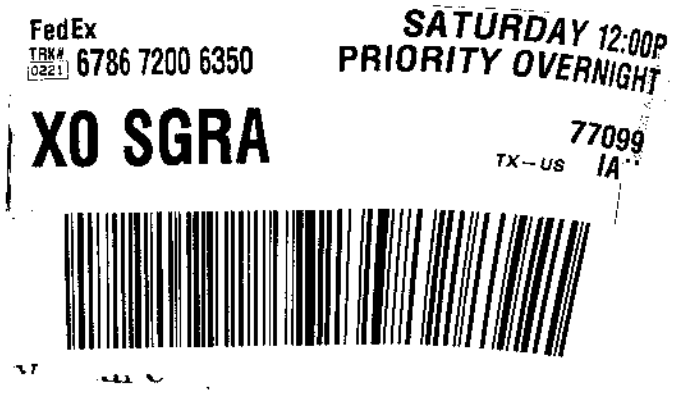
Cooler ID	Cooler Temp.
24698	

QC Package: (Check One Box Below)
☒ Level 2 Std QC ☐ TRRP ChkList
☐ Level 3 Std QC/Raw da ☐ TRRP Level 4
☐ Level 4 SW846/CLP
☐ Other/EDD

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.





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December 27, 2016

Brian Humphrey
Tasman Geosciences
6899 Pecos St
Unit C
Denver, CO 80221

Work Order: **HS16121148**

Laboratory Results for: **DCP C-Line Pipeline Release**

Dear Brian,

ALS Environmental received 11 sample(s) on Dec 22, 2016 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Sonia West

Generated By: Dayna.Fisher
Sonia West
Project Manager

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Work Order: HS16121148

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16121148-01	MW-1	Water		19-Dec-2016 11:20	22-Dec-2016 10:10	☐
HS16121148-02	MW-2	Water		19-Dec-2016 11:07	22-Dec-2016 10:10	☐
HS16121148-03	MW-3	Water		19-Dec-2016 13:31	22-Dec-2016 10:10	☐
HS16121148-04	MW-4	Water		19-Dec-2016 12:30	22-Dec-2016 10:10	☐
HS16121148-05	MW-5	Water		19-Dec-2016 12:20	22-Dec-2016 10:10	☐
HS16121148-06	MW-6	Water		19-Dec-2016 14:00	22-Dec-2016 10:10	☐
HS16121148-07	MW-7	Water		19-Dec-2016 13:25	22-Dec-2016 10:10	☐
HS16121148-08	MW-8	Water		19-Dec-2016 13:23	22-Dec-2016 10:10	☐
HS16121148-09	MW-9	Water		19-Dec-2016 12:16	22-Dec-2016 10:10	☐
HS16121148-10	DUPLICATE	Water		19-Dec-2016 00:00	22-Dec-2016 10:10	☐
HS16121148-11	TRIP BLANK 120816-29	Water		19-Dec-2016 00:00	22-Dec-2016 10:10	☐

Client: Tasman Geosciences **CASE NARRATIVE**
Project: DCP C-Line Pipeline Release
Work Order: HS16121148

GCMS Volatiles by Method SW8260

Batch ID: R287116

• The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.

Batch ID: R287098

Sample ID: **HS16121152-01**
• MSD is for an unrelated sample.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-1
Collection Date: 19-Dec-2016 11:20

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	23-Dec-2016 07:14
Toluene	ND		0.0010	mg/L	1	23-Dec-2016 07:14
Ethylbenzene	**0.0081**		**0.0010**	**mg/L**	1	23-Dec-2016 07:14
Xylenes, Total	**0.0060**		**0.0010**	**mg/L**	1	23-Dec-2016 07:14
Surr: 1,2-Dichloroethane-d4	*96.3*		*71-125*	*%REC*	*1*	*23-Dec-2016 07:14*
Surr: 4-Bromofluorobenzene	*92.7*		*70-125*	*%REC*	*1*	*23-Dec-2016 07:14*
Surr: Dibromofluoromethane	*87.2*		*74-125*	*%REC*	*1*	*23-Dec-2016 07:14*
Surr: Toluene-d8	*102*		*75-125*	*%REC*	*1*	*23-Dec-2016 07:14*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-2
Collection Date: 19-Dec-2016 11:07

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-02
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	23-Dec-2016 07:40
Toluene	ND		0.0010	mg/L	1	23-Dec-2016 07:40
Ethylbenzene	ND		0.0010	mg/L	1	23-Dec-2016 07:40
Xylenes, Total	ND		0.0010	mg/L	1	23-Dec-2016 07:40
Surr: 1,2-Dichloroethane-d4	*92.5*		*71-125*	*%REC*	*1*	*23-Dec-2016 07:40*
Surr: 4-Bromofluorobenzene	*91.5*		*70-125*	*%REC*	*1*	*23-Dec-2016 07:40*
Surr: Dibromofluoromethane	*88.0*		*74-125*	*%REC*	*1*	*23-Dec-2016 07:40*
Surr: Toluene-d8	*96.8*		*75-125*	*%REC*	*1*	*23-Dec-2016 07:40*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-3
Collection Date: 19-Dec-2016 13:31

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	23-Dec-2016 08:06
Toluene	ND		0.0010	mg/L	1	23-Dec-2016 08:06
Ethylbenzene	ND		0.0010	mg/L	1	23-Dec-2016 08:06
Xylenes, Total	ND		0.0010	mg/L	1	23-Dec-2016 08:06
Surr: 1,2-Dichloroethane-d4	*102*		*71-125*	*%REC*	*1*	*23-Dec-2016 08:06*
Surr: 4-Bromofluorobenzene	*101*		*70-125*	*%REC*	*1*	*23-Dec-2016 08:06*
Surr: Dibromofluoromethane	*88.7*		*74-125*	*%REC*	*1*	*23-Dec-2016 08:06*
Surr: Toluene-d8	*104*		*75-125*	*%REC*	*1*	*23-Dec-2016 08:06*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-4
Collection Date: 19-Dec-2016 12:30

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-04
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	23-Dec-2016 08:32
Toluene	ND		0.0010	mg/L	1	23-Dec-2016 08:32
Ethylbenzene	ND		0.0010	mg/L	1	23-Dec-2016 08:32
Xylenes, Total	ND		0.0010	mg/L	1	23-Dec-2016 08:32
Surr: 1,2-Dichloroethane-d4	*93.4*		*71-125*	*%REC*	*1*	*23-Dec-2016 08:32*
Surr: 4-Bromofluorobenzene	*91.1*		*70-125*	*%REC*	*1*	*23-Dec-2016 08:32*
Surr: Dibromofluoromethane	*78.6*		*74-125*	*%REC*	*1*	*23-Dec-2016 08:32*
Surr: Toluene-d8	*102*		*75-125*	*%REC*	*1*	*23-Dec-2016 08:32*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-5
Collection Date: 19-Dec-2016 12:20

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	23-Dec-2016 08:58
Toluene	ND		0.0010	mg/L	1	23-Dec-2016 08:58
Ethylbenzene	ND		0.0010	mg/L	1	23-Dec-2016 08:58
Xylenes, Total	ND		0.0010	mg/L	1	23-Dec-2016 08:58
Surr: 1,2-Dichloroethane-d4	*95.1*		*71-125*	*%REC*	*1*	*23-Dec-2016 08:58*
Surr: 4-Bromofluorobenzene	*89.4*		*70-125*	*%REC*	*1*	*23-Dec-2016 08:58*
Surr: Dibromofluoromethane	*89.2*		*74-125*	*%REC*	*1*	*23-Dec-2016 08:58*
Surr: Toluene-d8	*106*		*75-125*	*%REC*	*1*	*23-Dec-2016 08:58*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-6
Collection Date: 19-Dec-2016 14:00

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 07:02
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 07:02
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 07:02
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 07:02
Surr: 1,2-Dichloroethane-d4	*84.2*		*71-125*	*%REC*	*1*	*24-Dec-2016 07:02*
Surr: 4-Bromofluorobenzene	*89.0*		*70-125*	*%REC*	*1*	*24-Dec-2016 07:02*
Surr: Dibromofluoromethane	*92.5*		*74-125*	*%REC*	*1*	*24-Dec-2016 07:02*
Surr: Toluene-d8	*99.8*		*75-125*	*%REC*	*1*	*24-Dec-2016 07:02*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-7
Collection Date: 19-Dec-2016 13:25

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-07
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 07:26
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 07:26
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 07:26
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 07:26
Surr: 1,2-Dichloroethane-d4	*79.0*		*71-125*	*%REC*	*1*	*24-Dec-2016 07:26*
Surr: 4-Bromofluorobenzene	*93.7*		*70-125*	*%REC*	*1*	*24-Dec-2016 07:26*
Surr: Dibromofluoromethane	*90.3*		*74-125*	*%REC*	*1*	*24-Dec-2016 07:26*
Surr: Toluene-d8	*98.9*		*75-125*	*%REC*	*1*	*24-Dec-2016 07:26*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-8
Collection Date: 19-Dec-2016 13:23

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-08
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 07:50
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 07:50
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 07:50
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 07:50
Surr: 1,2-Dichloroethane-d4	*80.2*		*71-125*	*%REC*	*1*	*24-Dec-2016 07:50*
Surr: 4-Bromofluorobenzene	*92.0*		*70-125*	*%REC*	*1*	*24-Dec-2016 07:50*
Surr: Dibromofluoromethane	*88.9*		*74-125*	*%REC*	*1*	*24-Dec-2016 07:50*
Surr: Toluene-d8	*103*		*75-125*	*%REC*	*1*	*24-Dec-2016 07:50*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: MW-9
Collection Date: 19-Dec-2016 12:16

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-09
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 08:13
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 08:13
Ethylbenzene	ND		0.0010	mg/L	1	24-Dec-2016 08:13
Xylenes, Total	ND		0.0010	mg/L	1	24-Dec-2016 08:13
Surr: 1,2-Dichloroethane-d4	*79.5*		*71-125*	*%REC*	*1*	*24-Dec-2016 08:13*
Surr: 4-Bromofluorobenzene	*88.3*		*70-125*	*%REC*	*1*	*24-Dec-2016 08:13*
Surr: Dibromofluoromethane	*90.5*		*74-125*	*%REC*	*1*	*24-Dec-2016 08:13*
Surr: Toluene-d8	*94.8*		*75-125*	*%REC*	*1*	*24-Dec-2016 08:13*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: DUPLICATE
Collection Date: 19-Dec-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-10
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	24-Dec-2016 08:37
Toluene	ND		0.0010	mg/L	1	24-Dec-2016 08:37
Ethylbenzene	**0.0064**		**0.0010**	**mg/L**	1	24-Dec-2016 08:37
Xylenes, Total	**0.0047**		**0.0010**	**mg/L**	1	24-Dec-2016 08:37
Surr: 1,2-Dichloroethane-d4	*78.9*		*71-125*	*%REC*	*1*	*24-Dec-2016 08:37*
Surr: 4-Bromofluorobenzene	*93.3*		*70-125*	*%REC*	*1*	*24-Dec-2016 08:37*
Surr: Dibromofluoromethane	*91.1*		*74-125*	*%REC*	*1*	*24-Dec-2016 08:37*
Surr: Toluene-d8	*104*		*75-125*	*%REC*	*1*	*24-Dec-2016 08:37*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Sample ID: TRIP BLANK 120816-29
Collection Date: 19-Dec-2016 00:00

ANALYTICAL REPORT
WorkOrder:HS16121148
Lab ID:HS16121148-11
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
LOW LEVEL VOLATILES BY SW8260C	**Method:SW8260**					Analyst: PC
Benzene	ND		0.0010	mg/L	1	23-Dec-2016 06:48
Toluene	ND		0.0010	mg/L	1	23-Dec-2016 06:48
Ethylbenzene	ND		0.0010	mg/L	1	23-Dec-2016 06:48
Xylenes, Total	ND		0.0010	mg/L	1	23-Dec-2016 06:48
Surr: 1,2-Dichloroethane-d4	*91.3*		*71-125*	*%REC*	*1*	*23-Dec-2016 06:48*
Surr: 4-Bromofluorobenzene	*85.8*		*70-125*	*%REC*	*1*	*23-Dec-2016 06:48*
Surr: Dibromofluoromethane	*85.8*		*74-125*	*%REC*	*1*	*23-Dec-2016 06:48*
Surr: Toluene-d8	*99.0*		*75-125*	*%REC*	*1*	*23-Dec-2016 06:48*

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16121148

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R287098	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16121148-01	MW-1	19 Dec 2016 11:20			23 Dec 2016 07:14	1
HS16121148-02	MW-2	19 Dec 2016 11:07			23 Dec 2016 07:40	1
HS16121148-03	MW-3	19 Dec 2016 13:31			23 Dec 2016 08:06	1
HS16121148-04	MW-4	19 Dec 2016 12:30			23 Dec 2016 08:32	1
HS16121148-05	MW-5	19 Dec 2016 12:20			23 Dec 2016 08:58	1
HS16121148-11	TRIP BLANK 120816-29	19 Dec 2016 00:00			23 Dec 2016 06:48	1
Batch ID R287116	**Test Name :** LOW LEVEL VOLATILES BY SW8260C			**Matrix:** Water		
HS16121148-06	MW-6	19 Dec 2016 14:00			24 Dec 2016 07:02	1
HS16121148-07	MW-7	19 Dec 2016 13:25			24 Dec 2016 07:26	1
HS16121148-08	MW-8	19 Dec 2016 13:23			24 Dec 2016 07:50	1
HS16121148-09	MW-9	19 Dec 2016 12:16			24 Dec 2016 08:13	1
HS16121148-10	DUPLICATE	19 Dec 2016 00:00			24 Dec 2016 08:37	1

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16121148

QC BATCH REPORT

Batch ID: R287098 **Instrument: VOA1** **Method: SW8260**

MBLK Sample ID: **VBLKW-161222** Units: **ug/L** Analysis Date: **23-Dec-2016 03:45**
Client ID: Run ID: **VOA1_287098** SeqNo: **3941606** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	1.0								
Surr: 1,2-Dichloroethane-d4	*43.22*	*1.0*	*50*	*0*	*86.4*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*48.82*	*1.0*	*50*	*0*	*97.6*	*70 - 125*				
Surr: Dibromofluoromethane	*43.05*	*1.0*	*50*	*0*	*86.1*	*74 - 125*				
Surr: Toluene-d8	*53.19*	*1.0*	*50*	*0*	*106*	*75 - 125*				

LCS Sample ID: **VLCSW-161222** Units: **ug/L** Analysis Date: **23-Dec-2016 02:53**
Client ID: Run ID: **VOA1_287098** SeqNo: **3941605** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.21	1.0	50	0	86.4	75 - 122				
Ethylbenzene	48.87	1.0	50	0	97.7	80 - 120				
Toluene	45.4	1.0	50	0	90.8	75 - 121				
Xylenes, Total	146.3	1.0	150	0	97.5	79 - 124				
Surr: 1,2-Dichloroethane-d4	*47.29*	*1.0*	*50*	*0*	*94.6*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*50.68*	*1.0*	*50*	*0*	*101*	*70 - 125*				
Surr: Dibromofluoromethane	*46.55*	*1.0*	*50*	*0*	*93.1*	*74 - 125*				
Surr: Toluene-d8	*49.51*	*1.0*	*50*	*0*	*99.0*	*75 - 125*				

MS Sample ID: **HS16121152-01MS** Units: **ug/L** Analysis Date: **23-Dec-2016 05:03**
Client ID: Run ID: **VOA1_287098** SeqNo: **3941609** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	38.12	1.0	50	0	76.2	75 - 122				
Ethylbenzene	43.77	1.0	50	0	87.5	80 - 120				
Toluene	40.3	1.0	50	0	80.6	75 - 121				
Xylenes, Total	131.2	1.0	150	0	87.5	80 - 124				
Surr: 1,2-Dichloroethane-d4	*54.75*	*1.0*	*50*	*0*	*110*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*47.1*	*1.0*	*50*	*0*	*94.2*	*70 - 125*				
Surr: Dibromofluoromethane	*45.28*	*1.0*	*50*	*0*	*90.6*	*74 - 125*				
Surr: Toluene-d8	*45.82*	*1.0*	*50*	*0*	*91.6*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16121148

QC BATCH REPORT

Batch ID: R287098 **Instrument: VOA1** **Method: SW8260**

MSD Sample ID: **HS16121152-01MSD** Units: **ug/L** Analysis Date: **23-Dec-2016 05:30**
Client ID: Run ID: **VOA1_287098** SeqNo: **3941610** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	41.92	1.0	50	0	83.8	75 - 122	38.12	9.5	20	
Ethylbenzene	44.81	1.0	50	0	89.6	80 - 120	43.77	2.34	20	
Toluene	45.04	1.0	50	0	90.1	75 - 121	40.3	11.1	20	
Xylenes, Total	137.1	1.0	150	0	91.4	80 - 124	131.2	4.4	20	
Surr: 1,2-Dichloroethane-d4	*48.23*	*1.0*	*50*	*0*	*96.5*	*71 - 125*	*54.75*	*12.7*	*20*	
Surr: 4-Bromofluorobenzene	*52.56*	*1.0*	*50*	*0*	*105*	*70 - 125*	*47.1*	*11*	*20*	
Surr: Dibromofluoromethane	*45.18*	*1.0*	*50*	*0*	*90.4*	*74 - 125*	*45.28*	*0.239*	*20*	
Surr: Toluene-d8	*58.75*	*1.0*	*50*	*0*	*117*	*75 - 125*	*45.82*	*24.7*	*20*	R

The following samples were analyzed in this batch: HS16121148-01 HS16121148-02 HS16121148-03 HS16121148-04 HS16121148-05 HS16121148-11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16121148

QC BATCH REPORT

Batch ID: R287116 **Instrument: VOA6** **Method: SW8260**

MBLK Sample ID: **VBLKW-161223** Units: **ug/L** Analysis Date: **24-Dec-2016 00:18**
Client ID: Run ID: **VOA6_287116** SeqNo: **3942065** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	ND	1.0								
Ethylbenzene	ND	1.0								
Toluene	ND	1.0								
Xylenes, Total	ND	1.0								
Surr: 1,2-Dichloroethane-d4	*42.8*	*1.0*	*50*	*0*	*85.6*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*45.67*	*1.0*	*50*	*0*	*91.3*	*70 - 125*				
Surr: Dibromofluoromethane	*45.97*	*1.0*	*50*	*0*	*91.9*	*74 - 125*				
Surr: Toluene-d8	*48.81*	*1.0*	*50*	*0*	*97.6*	*75 - 125*				

LCS Sample ID: **VLCSW-161223** Units: **ug/L** Analysis Date: **23-Dec-2016 23:31**
Client ID: Run ID: **VOA6_287116** SeqNo: **3942064** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	45.49	1.0	50	0	91.0	75 - 122				
Ethylbenzene	48.5	1.0	50	0	97.0	80 - 120				
Toluene	47.02	1.0	50	0	94.0	75 - 121				
Xylenes, Total	145.4	1.0	150	0	96.9	79 - 124				
Surr: 1,2-Dichloroethane-d4	*42.62*	*1.0*	*50*	*0*	*85.2*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*48.45*	*1.0*	*50*	*0*	*96.9*	*70 - 125*				
Surr: Dibromofluoromethane	*46.26*	*1.0*	*50*	*0*	*92.5*	*74 - 125*				
Surr: Toluene-d8	*52.28*	*1.0*	*50*	*0*	*105*	*75 - 125*				

MS Sample ID: **HS16121155-01MS** Units: **ug/L** Analysis Date: **24-Dec-2016 01:30**
Client ID: Run ID: **VOA6_287116** SeqNo: **3942068** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	39.49	1.0	50	0	79.0	75 - 122				
Ethylbenzene	40.98	1.0	50	0	82.0	80 - 120				
Toluene	39.61	1.0	50	0	79.2	75 - 121				
Xylenes, Total	124	1.0	150	0	82.7	80 - 124				
Surr: 1,2-Dichloroethane-d4	*42.69*	*1.0*	*50*	*0*	*85.4*	*71 - 125*				
Surr: 4-Bromofluorobenzene	*48.5*	*1.0*	*50*	*0*	*97.0*	*70 - 125*				
Surr: Dibromofluoromethane	*45.66*	*1.0*	*50*	*0*	*91.3*	*74 - 125*				
Surr: Toluene-d8	*51.67*	*1.0*	*50*	*0*	*103*	*75 - 125*				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: HS16121148

QC BATCH REPORT

Batch ID: R287116 **Instrument: VOA6** **Method: SW8260**

MSD Sample ID: **HS16121155-01MSD** Units: **ug/L** Analysis Date: **24-Dec-2016 01:53**
Client ID: Run ID: **VOA6_287116** SeqNo: **3942069** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Benzene	40.53	1.0	50	0	81.1	75 - 122	39.49	2.59	20	
Ethylbenzene	43.47	1.0	50	0	86.9	80 - 120	40.98	5.91	20	
Toluene	42	1.0	50	0	84.0	75 - 121	39.61	5.85	20	
Xylenes, Total	132.1	1.0	150	0	88.1	80 - 124	124	6.36	20	
Surr: 1,2-Dichloroethane-d4	*42.51*	*1.0*	*50*	*0*	*85.0*	*71 - 125*	*42.69*	*0.425*	*20*	
Surr: 4-Bromofluorobenzene	*47.39*	*1.0*	*50*	*0*	*94.8*	*70 - 125*	*48.5*	*2.3*	*20*	
Surr: Dibromofluoromethane	*45.78*	*1.0*	*50*	*0*	*91.6*	*74 - 125*	*45.66*	*0.249*	*20*	
Surr: Toluene-d8	*50.13*	*1.0*	*50*	*0*	*100*	*75 - 125*	*51.67*	*3.03*	*20*	

The following samples were analyzed in this batch: HS16121148-06 HS16121148-07 HS16121148-08 HS16121148-09 HS16121148-10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
WorkOrder: **HS16121148**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Unit Reported	Description
mg/L	Milligrams per Liter

CERTIFICATIONS,ACCREDITATIONS & LICENSES

Agency	Number	Expire Date
Arkansas	16-022-1	27-Mar-2017
California	2919 2016-2018	31-Jul-2018
Illinois	003872	09-May-2017
Kansas	E-10352 2016-2017	31-Jul-2017
Kentucky	96 2016-2017	30-Apr-2017
Louisiana	03087 2016-2017	30-Jun-2017
North Carolina	624 - 2016	31-Dec-2016
North Dakota	R193 2016-2017	30-Apr-2017
Oklahoma	2016-122	31-Aug-2017
Texas	TX104704231-16-17	30-Apr-2017

Client: Tasman Geosciences
Project: DCP C-Line Pipeline Release
Work Order: HS16121148

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16121148-01	MW-1	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-02	MW-2	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-03	MW-3	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-04	MW-4	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-05	MW-5	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-06	MW-6	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-07	MW-7	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-08	MW-8	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-09	MW-9	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-10	DUPLICATE	Login	12/22/2016 2:58:33 PM	KRM	VW-3
HS16121148-11	TRIP BLANK 120816-29	Login	12/22/2016 2:58:33 PM	KRM	VW-3

Sample Receipt Checklist

Client Name: Tasman Geosciences
Work Order: HS16121148
Date/Time Received: **22-Dec-2016 10:10**
Received by: **Jared R. Makan**

Checklist completed by: *Krysta Mathis* 22-Dec-2016
eSignature | Date

Reviewed by: _____
eSignature | Date

Matrices: **WATERS**
Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
TX1005 solids received in hermetically sealed vials?	Yes ☐	No ☐	N/A ☑
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.3/2.6 U/C	11	
Cooler(s)/Kit(s):	24542		
Date/Time sample(s) sent to storage:	12/22/2016 17:00		
Water - VOA vials have zero headspace?	Yes ☑	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

Corrective Action:

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Holland, MI +1 616 399 6070

Chain of Custody Form

Page 1 of 2

COC ID: 154438

HS16121148

Tasman Geosciences

DCP C-Line Pipeline Release

WV

Customer Information		Project Information	
Purchase Order	900262220	ALS Project Manager:	
Work Order		Project Name	DCP C-Line Pipeline Release
Company Name	Tasman Geosciences	Project Number	F210
Send Report To	Brian Humphrey	Bill To Company	DCP Midstream, LP
Address	6899 Pecos St Unit C	Invoice Attn	Stephen Weathers
		Address	370 17th Street, Suite 2500
City/State/Zip	Denver, CO 80221	City/State/Zip	Denver, Colorado 80202
Phone	303 487-1228	Phone	
Fax		Fax	
e-Mail Address		e-Mail Address	

A	8260_LL_W (BTEX)
B	
C	
D	
E	
F	
G	
H	
I	
J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	MW-1	12-19-16	1120	Water	1	3	X										
2	MW-2		1107	Water		3	X										
3	MW-3		1331	Water		3	X										
4	MW-4		1230	Water		3	X										
5	MW-6		1220	Water		3	X										
6	MW-5		1400	Water		3	X										
7	MW-7		1325	Water		3	X										
8	MW-8		1323	Water		3	X										
9	MW-9		1216	Water		3	X										
10																	

Sampler(s) Please Print & Sign: Mitch Weller

Shipment Method: FedEx Overnight

Required Turnaround Time: (Check Box) 10 days

Results Due Date:

Relinquished by:	Date:	Time:	Received by:
Mitchell Weller	12-21-16	1300	
Relinquished by:	Date:	Time:	Received by (Laboratory):
	12/22/16	10:10	JM
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)
25452	2.3 IR11 CF0.3	QC Level STD Other

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

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Chain of Custody Form

Page 2 of 2

COC ID: 154437

HS16121148

WV

Tasman Geosciences

DCP C-Line Pipeline Release

ALS Project Manager:

Customer Information		Project Information	
Purchase Order	3902822?0	Project Name	DCP C-Line Pipeline Release
Work Order		Project Number	F210
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP
Send Report To	Brian Humphrey	Invoice Attn	Stephen Weathers
Address	8899 Pecos St Unit C	Address	370 17th Street, Suite 2500
City/State/Zip	Denver, CO 80221	City/State/Zip	Denver, Colorado 80202
Phone	303-487 1228	Phone	
Fax		Fax	
e-Mail Address		e-Mail Address	

	A	B	C	D	E	F	G	H	I	J
	8260_LL_W (BTEX)									

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Duplicate	12-19-16	—	Water	1	3	X										
2	Trip Blank	—	—	Water	—	2	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mitch Weller

Shipment Method: FedEx Overnight

Required Turnaround Time: (Check Box) 10 days

Results Due Date:

	Date:	Time:	
Relinquished by: Mitchell Weller	12-21-16	1300	Received by:
Relinquished by: —	12/22/16	10:10	Received by (Laboratory): JM
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.
25451	2.3
	IR11
	CF03

QC Package: (Check One Box Below)

QC Level: STD

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

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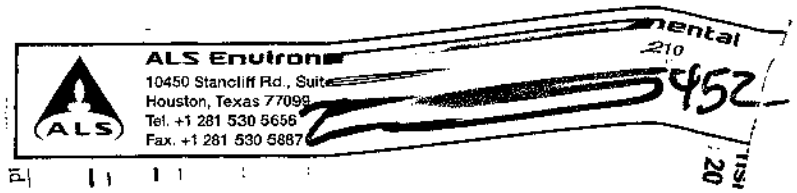

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Chain of Custody Form

HS16121148

WV

Page 1 of 2

COC ID: 154438

Tasman Geosciences
DCP C-Line Pipeline Release

Customer Information		Project Information		ALS Project Manager:
Purchase Order	290262220	Project Name	DCP C-Line Pipeline Release	A 8260_LL_W (BTEX)
Work Order		Project Number	F210	B
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP	C
Send Report To	Brian Humphrey	Invoice Attn	Stephen Weadlee	D
Address	1899 Pecos St Unit C	Address	370 17th Street, Suite 2500	E F
City/State/Zip	Denver, CO 80211	City/State/Zip	Denver Colorado 80202	G
Phone	303 484-1028	Phone		H
Fax		Fax		I
e-Mail Address		e-Mail Address		J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	CMW-1	12-19-16	1120	Water	1	3	X										
2	CMW-2		1107	Water		3	X										
3	CMW-3		1331	Water		3	X										
4	CMW-4		1230	Water		3	X										
5	CMW-5		1220	Water		3	X										
6	CMW-6		1400	Water		3	X										
7	CMW-7		1325	Water		3	X										
8	CMW-8		1323	Water		3	X										
9	CMW-9		1216	Water		3	X										
10																	

Page 27 of 29

Sampler(s) Please Print & Sign: Mitch Weller

Shipment Method: Fed Ex Overnight

Required Turnaround Time: (Check Box) 10 days

Results Due Date:

Relinquished by: Mitch Weller — Date: 12-21-16 — Time: 1300 — Received by:

Relinquished by: — Date: 12/22/16 — Time: 10:10 — Received by (Laboratory): JM

Logged by (Laboratory): — Date: — Time: — Checked by (Laboratory):

Notes:

Cooler ID	Cooler Temp.
25452	2.3
	1X11
	CF02

QC Package: (Check One Box Below)
QC Level: STD
Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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Chain of Custody Form

COC ID: 154437

HS16121148

WV

Tasman Geosciences

DCP C-Line Pipeline Release

Customer Information		Project Information		ALS Project Manager:	
Purchase Order	390262220	Project Name	DCP C-Line Pipeline Release	A	8260_LL_W (BTEX)
Work Order		Project Number	F216	B	
Company Name	Tasman Geosciences	Bill To Company	DCP Midstream, LP	C	
Send Report To	Brian Humphrey	Invoice Attn	Stephen Weathers	D	
Address	3699 Pecos St Unit C	Address	370 17th Street, Suite 2500	E	
				F	
City/State/Zip	Denver, CO 80221	City/State/Zip	Denver, Colorado 80102	G	
Phone	303-487-1228	Phone		H	
Fax		Fax		I	
e-Mail Address		e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	Duplicate	12-19-16	—	Water	1	3	X										
2	Trip Blank	—	—	Water	—	2	X										
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mitch Weller

Shipment Method: FedEx Overnight

Required Turnaround Time: (Check Box) TAT: 10 days Other:

Results Due Date:

Relinquished by: Mitchell Weller	Date: 12-21-16	Time: 1300	Received by:	
Relinquished by: —	Date: 12/22/16	Time: 10:10	Received by (Laboratory): JM	
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

Notes: [DCP C-Line Pipeline Release]

Cooler ID	Cooler Temp.
25452	2-3
	IR11
	CF0.3

QC Package: (Check One Box Below)

QC Level: STD

Other:

Preservative Key: 1-HCl 2-HNO_3 3-H_2SO_4 4-NaOH 5-$Na_2S_2O_3$ 6-$NaHSO_4$ 7-Other 8-4°C 9-5035

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
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