Fourth Quarter 2016 Groundwater Monitoring Summary Report

J-4-2 Pipeline Release
Lea County, New Mexico
1RP-1728

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Table of Contents

Tables

Figures

Appendices

1. Introduction

This report summarizes groundwater monitoring activities conducted during the fourth quarter 2016 at the J-4-2 pipeline release (Site) in Lea County, New Mexico (Figure 1). Tasman Geosciences, LLC (Tasman) performed these activities on behalf of DCP Midstream, LP (DCP). The field activities described herein were conducted on December 20 and 21, 2016, with the purpose of monitoring groundwater flow and quality beneath the Site. The data collected during the reporting period were used to develop a groundwater elevation figure and analytical results figure to assist with evaluating current conditions at the Site.

2. Site Location and Background

The Site is located in the northeastern quarter of the northwestern quarter (Unit C) of Section 27, Township 19 South, Range 35 East approximately 3 miles south of the intersection of US Highway 82 and State Highway 483. The area is sparsely populated and land use is primarily associated with livestock grazing and oil and gas production and gathering.

Based on findings from previous Site investigations, a natural gas condensate release was reported at the Site on August 3, 2005. Environmental Plus Incorporated (EPI) of Eunice, New Mexico, performed initial Site investigation activities. EPI reported that the spill was limited to an approximate area of 2,800 square feet and it did not migrate to any surface water features. EPI installed monitoring wells MW-1, MW-2, and MW-3 as a part of the initial soil and groundwater characterization effort in February 2006. Monitoring wells MW-4, MW-6, MW-7, and MW-8 were installed in September 2006 as part of a Site investigation completed by American Environmental Consulting. Installation of monitoring well MW-5 was not completed during this event due to refusal while advancing the borehole. Groundwater samples collected in 2006 from the newly installed wells indicated that dissolved phase petroleum hydrocarbons had impacted groundwater at the Site in the vicinity of monitoring wells MW-1 and MW-2. MW-1 and MW-2 have also historically exhibited the presence of light non-aqueous phase liquid (LNAPL).

3. Groundwater Monitoring

This section describes the groundwater monitoring activities as well as laboratory analyses performed during the fourth quarter 2016 groundwater monitoring event. Monitoring activities included Site-wide groundwater gauging and groundwater 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 of groundwater elevation at the Site. During the fourth quarter 2016, groundwater levels were measured at seven monitoring well locations.

Groundwater levels were measured on the north side of the well casing to the nearest 0.01-foot using an oil-water interface probe (IP). Groundwater level data was later converted to elevation (feet above mean sea level [AMSL]).

Groundwater elevation measurements collected during the reporting period as well as historic groundwater elevations are presented in Table 1. A fourth quarter 2016 groundwater elevation contour map, included as Figure 3, indicates that groundwater flow at the Site trends to the south-southeast. The range of groundwater elevations, average groundwater elevation change from the previous monitoring event, and the calculated hydraulic gradient at the Site are summarized in the table below.

Summary of Measured Hydraulic Parameters

	Fourth Quarter 2016 (12/20/16)
Maximum Elevation (Well ID)	3,712.00 (MW-1)
Minimum Elevation (Well ID)	3,707.26 (MW-8)
Average Change from Previous Monitoring Event – All Wells	-0.30 feet
Hydraulic Gradient (ft/ft) / (Well IDs)	0.0066 (MW-1 to MW-8)

3.2 Groundwater Quality Monitoring

Subsequent to recording groundwater level measurements, groundwater samples were collected at each of the seven monitoring wells at the Site using dedicated polyethylene bailers. Groundwater samples were placed in clean laboratory supplied containers and shipped under chain-of-custody procedures to ALS Laboratories (ALS) in Houston, Texas for analysis.

Water quality samples were collected from seven wells and were submitted for analysis of chlorides by USEPA Method 9056.

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

During the fourth quarter 2016, Chloride was detected in all of the monitoring wells with concentrations ranging from 405 milligrams per liter (mg/L) in MW-8 to 2,670 mg/L in MW-3.

3.3 Data Quality Assurance / Quality Control

The data were 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.

3.4 Chloride Concentration Trends

Chloride concentrations in Site monitoring wells have remained relatively stable at levels above the New Mexico Water Quality Control Commission (NMWQCC) guideline of 250 mg/L since groundwater sampling was initiated and LNAPL has no longer been observed. The distribution and concentration gradient of chloride at the Site, illustrated on Figure 5, indicates an alternate, upgradient source. Due to the direction of groundwater flow and the chloride concentration gradient at the Site, the alternate source of the chloride impacts is likely associated with the oil and gas production site located approximately 250 feet upgradient and to the north from MW-4. As displayed in the photographs on the next page, the tank battery has an apparent abandoned pit to the west, surface staining around the pump jack, and poor housekeeping and spill prevention control and countermeasures (SPCC) procedures.

3.5 Upgradient Tank Battery Photos

4. Conclusions

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

- Trending from the third quarter 2015, groundwater elevations exhibited a slight decrease in the seven monitoring wells. These fluctuations are likely attributable to natural variations at the Site.
- Chloride concentrations in Site monitoring wells have remained relatively stable at levels above the NMWQCC guideline of 250 mg/L. The occurrence of these detections and the distribution and gradient of chloride concentrations at the Site indicate an alternate, upgradient source for the chloride detected on-Site. The alternate source of the chloride impacts is likely associated with the oil and gas production site located approximately 250 feet upgradient and to the north from MW-4.

5. Recommendations

Based on evaluation of fourth quarter 2016 and historic Site observations and monitoring results, recommendations for future activities include:

- In the *Third Quarter 2016 Groundwater Monitoring Summary Report* for the Site, DCP notified the NMOCD that groundwater samples will no longer be collected for BTEX analysis from the Site monitoring well network.
- Due to the concentration gradient throughout the Site monitoring wells, it is apparent that the observed chloride is due to an alternate, upgradient source and is not related to the natural gas condensate release that was reported by DCP on August 3, 2005. Therefore, DCP is formally requesting to remove chlorides from the analytical sampling suite for the Site.
- Contingent on approval from the NMOCD with regard to the chloride removal request discussed in the bullets above, DCP will submit a formal Site Closure Request.
- Should the chloride sampling removal request be denied, DCP will request to modify the groundwater sampling frequency from a quarterly to an annual sampling and reporting basis. Until such approval is received, quarterly sampling will continue.

Tables

TABLE 1
FOURTH QUARTER 2016
SUMMARY OF GROUNDWATER ELEVATION DATA
J-4-2 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	03/24/2016	27.43			NM	3,740.45	3,713.02	-0.10
MW-1	06/20/2016	27.71			38.54	3,740.45	3,712.74	-0.28
MW-1	09/28/2016	28.30			38.53	3,740.45	3,712.15	-0.59
MW-1	12/20/2016	28.45			38.53	3,740.45	3,712.00	-0.15
MW-2	03/24/2016	28.11			NM	3,740.62	3,712.51	-0.08
MW-2	06/20/2016	28.41			43.03	3,740.62	3,712.21	-0.30
MW-2	09/28/2016	28.95			42.98	3,740.62	3,711.67	-0.54
MW-2	12/20/2016	29.15			42.98	3,740.62	3,711.47	-0.20
MW-3	03/24/2016	27.10*			NM	3,739.39	3,712.29	-0.24
MW-3	06/20/2016	27.24*			35.22	3,739.39	3,712.15	-0.14
MW-3	09/28/2016	27.81*			35.20	3,739.39	3,711.58	-0.57
MW-3	12/20/2016	27.97			35.20	3,739.39	3,711.42	-0.16
MW-4	03/24/2016	27.29			NM	3,740.24	3,712.95	-0.13
MW-4	06/20/2016	27.59			37.56	3,740.24	3,712.65	-0.30
MW-4	09/28/2016	28.11			37.62.	3,740.24	3,712.13	-0.52
MW-4	12/20/2016	28.29			37.62.	3,740.24	3,711.95	-0.18
MW-6	03/24/2016	27.97			NM	3,739.96	3,711.99	-0.04
MW-6	06/20/2016	28.16			34.92	3,739.96	3,711.80	-0.19
MW-6	09/28/2016	28.66			34.95	3,739.96	3,711.30	-0.50
MW-6	12/20/2016	28.85			34.95	3,739.96	3,711.11	-0.19
MW-7	03/24/2016	30.39			NM	3,740.73	3,710.34	0.12
MW-7	06/20/2016	30.70			40.42	3,740.73	3,710.03	-0.31
MW-7	09/28/2016	31.67			40.55	3,740.73	3,709.06	-0.97
MW-7	12/20/2016	31.93			40.55	3,740.73	3,708.80	-0.26
MW-8	03/24/2016	28.92			NM	3,737.32	3,708.40	0.20
MW-8	06/20/2016	29.13			37.22	3,737.32	3,708.19	-0.21
MW-8	09/28/2016	29.80			39.25	3,737.32	3,707.52	-0.88
MW-8	12/20/2016	30.06			39.25	3,737.32	3,707.26	-0.93
							Average change in groundwater elevation (9/28/16 to 12/20/2016)	-0.30

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)

* Depth measured from top of well monument. Casing too low inside surface completion to allow measurement from TOC.

NM = Not Measured

NA = Not Applicable

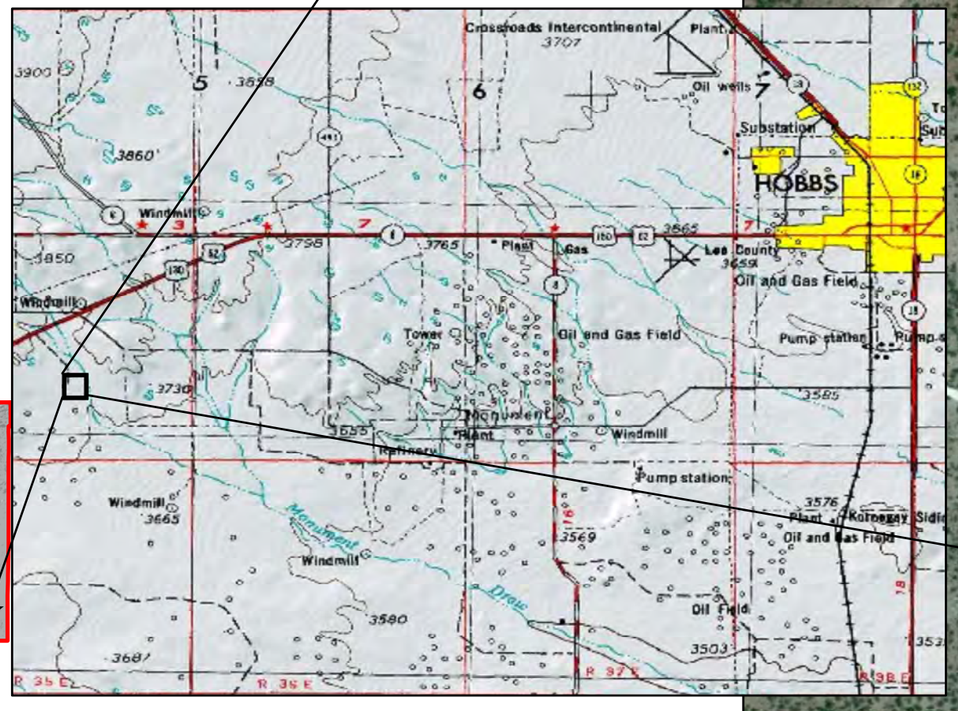
TABLE 2
FOURTH QUARTER 2016
SUMMARY OF CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

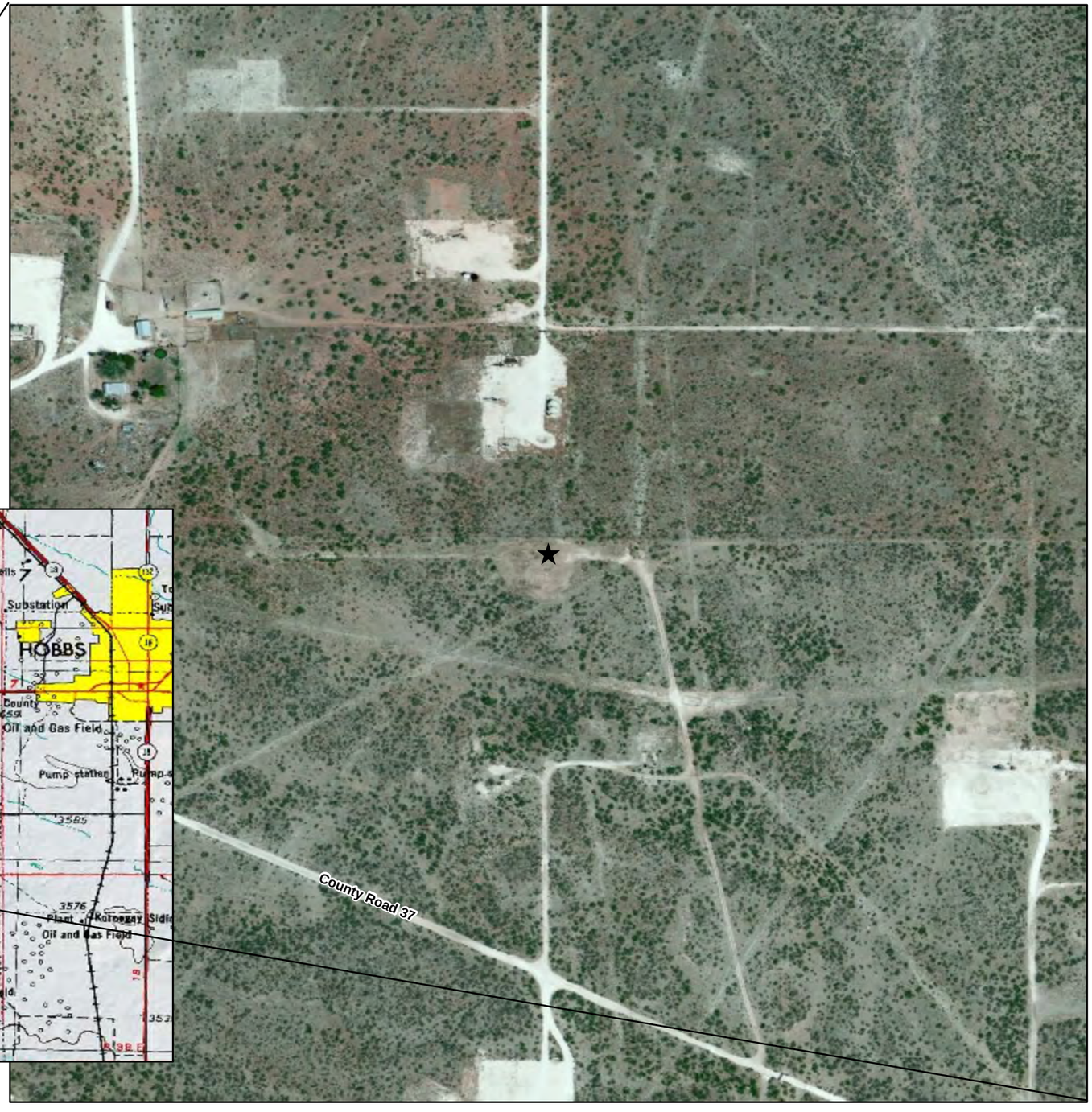
Location Identification	Sample Date	Chlorides (mg/L)	Comments
NMWQCC Guideline (mg/L)		**250**	
MW-1	12/20/2016	**2,270**	
MW-2	12/20/2016	**1,890**	
MW-3	12/21/2016	**2,670**	
MW-4	12/20/2016	**2,500**	
MW-6	12/20/2016	**925**	
MW-7	12/20/2016	**921**	
MW-8	12/20/2016	**405**	

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

Figures

N

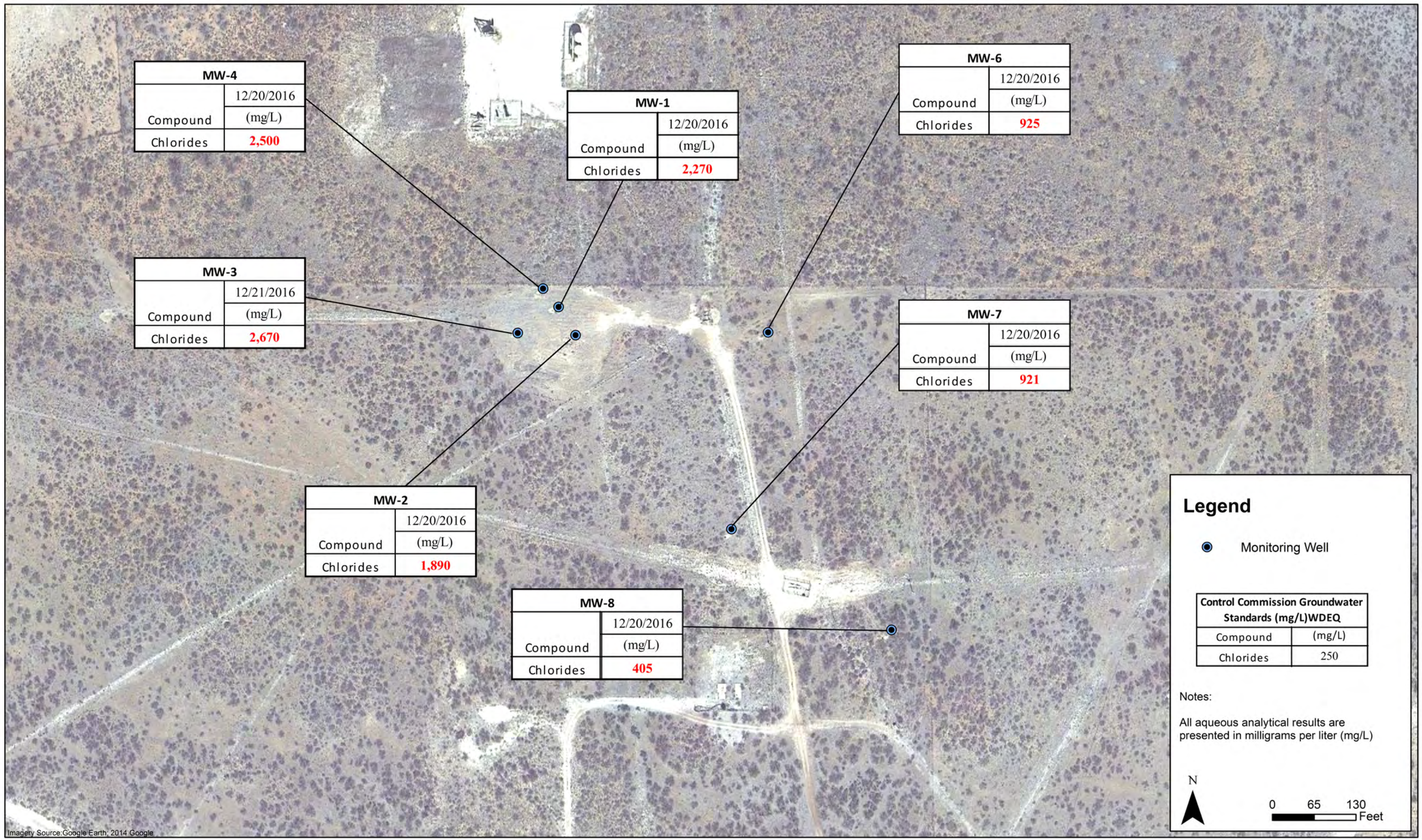




DATE: April 2015 DESIGNED BY: T. Johansen DRAWN BY: D. Arnold	TASMAN GEOSCIENCES **Tasman Geosciences, Inc.** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **J-4-2 Pipeline Release** NE 1/4, NW 1/4, Section 27, Township 19 South, Range 35 East Lea County, New Mexico	Site Location 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** **J-4-2 Pipeline Release** Fourth Quarter 2016 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, LLC** **6899 Pecos Street - Unit C** **Denver, CO 80221**	**DCP Midstream** **J-4-2 Pipeline Release** Fourth Quarter 2016 Groundwater Monitoring Summary Report	Groundwater Elevation Contour Map (December 20, 2016)	Figure 3



DATE: February 2017 DESIGNED BY: B. Humphrey DRAWN BY: D. Arnold	TASMAN GEOSCIENCES Tasman Geosciences, LLC 6899 Pecos Street - Unit C Denver, CO 80221	**DCP Midstream** **J-4-2 Pipeline Release** Fourth Quarter 2016 Groundwater Monitoring Summary Report	Analytical Results Map (December 20, 2016)	Figure 4

Appendix A

Historic Analytical Results

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-1	02/01/2006	**0.139**	0.326	0.34	0.31		
MW-1	09/01/2006	**0.0487**	0.0058	0.0284	0.0694		
MW-1	12/01/2006	LNAPL	LNAPL	LNAPL	LNAPL		
MW-1	03/01/2007	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	06/01/2007	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	09/01/2007	**0.011**	0.003	0.004	0.098		
MW-1	11/01/2007	**0.107**	0.024	0.014	0.39		
MW-1	03/01/2008	**0.037**	0.0155	0.014	0.215		
MW-1	06/01/2008	LNAPL	LNAPL	LNAPL	LNAPL		
MW-1	09/01/2008	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	12/01/2008	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	03/11/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	05/18/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	09/24/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	12/20/2009	<0.002	<0.002	.0014J	0.0418	**2,680**	
MW-1	03/10/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	06/13/2010	0.0016	<0.001	<0.0003	0.0095	**1,800**	
MW-1	09/29/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	12/08/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	03/30/2011	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	09/16/2011	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	12/07/2011	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-1	03/11/2012	<0.001	<0.002	<0.002	<0.004	**2,970**	
MW-1	06/05/2012	<0.001	<0.002	<0.002	<0.003	**2,480**	
MW-1	09/07/2012	<0.001	<0.002	<0.002	<0.003	**2,060**	
MW-1	12/04/2012	<0.001	<0.002	<0.002	<0.003	**2,240**	Duplicate sample collected
MW-1	02/22/2013	0.00027	<0.002	<0.002	<0.003	**2,110**	
MW-1	06/02/2013	<0.001	<0.002	<0.002	<0.003	**2,010**	Duplicate sample collected
MW-1	09/10/2013	<0.001	<0.002	<0.002	<0.003	**1,900**	Duplicate sample collected
MW-1	12/03/2013	<0.001	<0.002	<0.002	<0.003	**1,960**	Duplicate sample collected
MW-1	02/26/2014	<0.001	<0.002	<0.002	<0.003	**1,850**	Duplicate sample collected
MW-1 (duplicate)	02/26/2014	<0.001	<0.002	<0.002	<0.003	**1,920**	
MW-1	06/02/2014	<0.001	<0.002	<0.002	<0.003	**1,800**	Duplicate sample collected
MW-1 (duplicate)	06/02/2014	<0.001	<0.002	<0.002	<0.003	**1,850**	
MW-1	09/25/2014	<0.001	<0.001	<0.001	<0.001	**1,780**	Duplicate sample collected
MW-1 (duplicate)	09/25/2014	<0.001	<0.001	<0.001	<0.001	**1,780**	
MW-1	12/05/2014	<0.001	<0.001	<0.001	<0.003	**1,760**	Duplicate sample collected
MW-1 (duplicate)	12/05/2014	<0.001	<0.001	<0.001	<0.003	**1,770**	
MW-1	02/26/2015	<0.001	<0.001	<0.001	0.0031	**1,770**	Duplicate sample collected
MW-1 (duplicate)	02/26/2015	<0.001	<0.001	<0.001	0.0036	**1,800**	
MW-1	06/02/2015	<0.001	<0.001	<0.001	<0.003	**2,160**	Duplicate sample collected
MW-1 (duplicate)	06/02/2015	<0.001	<0.001	<0.001	<0.003	**2,190**	
MW-1	09/02/2015	<0.001	<0.001	<0.001	<0.003	**2,380**	Duplicate sample collected
MW-1 (duplicate)	09/02/2015	<0.001	<0.001	<0.001	<0.003	**2,320**	
MW-1	12/16/2015	<0.001	<0.001	<0.001	<0.003	**2,680**	Duplicate sample collected
MW-1 (duplicate)	12/16/2015	<0.001	<0.001	<0.001	<0.003	**2,630**	
MW-1	03/24/2016	<0.001	<0.001	<0.001	<0.003	**2,490**	Duplicate sample collected
MW-1(duplicate)	03/24/2016	<0.001	<0.001	<0.001	<0.003	**2,840**	
MW-1	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,420**	Duplicate sample collected
MW-1 (duplicate)	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,510**	
MW-1	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,040**	Duplicate sample collected
MW-1 (duplicate)	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,040**	
MW-1	12/20/2016	NA	NA	NA	NA	**2,270**	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-2	02/01/2006	**0.026**	0.038	0.04	0.335		
MW-2	09/01/2006	0.0045	<0.001	0.0027	0.0471		
MW-2	12/01/2006	0.006	0.003	0.003	0.0613		
MW-2	03/01/2007	**0.188**	0.006	0.026	0.125		
MW-2	06/01/2007	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	09/01/2007	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	11/01/2007	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	03/01/2008	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	06/01/2008	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	09/01/2008	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	12/01/2008	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	03/11/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	05/18/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	09/24/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	12/20/2009	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	03/10/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	06/13/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	09/29/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	12/08/2010	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	03/30/2011	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	09/16/2011	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	12/07/2011	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	03/11/2012	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	06/05/2012	0.00043	<0.002	0.0024	0.0069	**2,450**	
MW-2	09/07/2012	<0.001	<0.002	<0.002	<0.003	**2,280**	
MW-2	12/04/2012	<0.001	<0.002	0.0008	0.0028	**2,440**	
MW-2	02/22/2013	<0.001	<0.002	<0.002	<0.003	**2,390**	Duplicate sample collected
MW-2	06/02/2013	NS	NS	NS	NS	NS	
MW-2	09/10/2013	LNAPL	LNAPL	LNAPL	LNAPL	LNAPL	
MW-2	12/03/2013	<0.001	<0.002	<0.002	<0.003	**2,370**	
MW-2	02/26/2014	<0.001	<0.002	<0.002	<0.003	**2,100**	
MW-2	06/02/2014	<0.001	<0.002	<0.002	<0.003	**2,000**	MS/MSD sample collected
MW-2	09/25/2014	<0.001	<0.001	<0.001	<0.001	**2,030**	
MW-2	12/05/2014	<0.001	<0.001	<0.001	<0.003	**2,000**	
MW-2	02/26/2015	<0.001	<0.001	<0.001	<0.003	**1,970**	
MW-2	06/02/2015	<0.001	<0.001	0.0024	<0.003	**1,650**	
MW-2	09/02/2015	<0.001	<0.001	<0.001	<0.003	**1,870**	
MW-2	12/16/2015	<0.001	<0.001	<0.001	<0.003	**1,980**	
MW-2	03/24/2016	<0.001	<0.001	<0.001	<0.003	**2,130**	
MW-2	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,160**	
MW-2	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**1,790**	
MW-2	12/20/2016	NA	NA	NA	NA	**1,890**	

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J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-3	02/01/2006	<0.001	<0.001	<0.001	<0.002		
MW-3	09/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-3	12/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-3	03/01/2007	<0.002	<0.002	<0.002	<0.006	**7,800**	
MW-3	06/01/2007	0.003	0.005	0.002	0.01	**10,800**	
MW-3	09/01/2007	<0.001	<0.001	<0.001	<0.001		
MW-3	11/01/2007	0.0011J	<0.002	<0.002	<0.006		
MW-3	03/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-3	06/01/2008	<0.002	<0.002	<0.002	0.007		
MW-3	09/01/2008	<0.002	<0.002	<0.002	<0.006	**4,070**	
MW-3	12/01/2008	<0.002	<0.002	<0.002	<0.006	**2,625**	
MW-3	03/11/2009	<0.002	<0.002	<0.002	<0.002	**2,860**	
MW-3	05/18/2009	<0.002	<0.002	<0.002	<0.002	**3,270**	
MW-3	09/24/2009	<0.002	<0.002	<0.002	<0.006	**3,195**	
MW-3	12/20/2009	<0.002	<0.002	<0.002	<0.006	**3,605**	
MW-3	03/10/2010	<0.001	<0.002	<0.002	<0.004	**3,030**	
MW-3	06/13/2010	<0.0003	<0.001	<0.0003	<0.0006	**2,130**	
MW-3	09/29/2010	<0.001	<0.002	<0.002	<0.004	**2,220**	
MW-3	12/08/2010	<0.001	<0.002	<0.002	<0.004	**2,530**	
MW-3	03/30/2011	<0.001	<0.002	<0.002	<0.002	**2,230**	
MW-3	06/11/2011	<0.001	<0.002	<0.002	<0.004	**2,210**	
MW-3	09/16/2011	<0.001	<0.002	<0.002	<0.004	**2,190**	Duplicate sample collected
MW-3	12/07/2011	<0.001	<0.002	<0.002	<0.004	**2,230**	Duplicate sample collected
MW-3	03/11/2012	<0.001	<0.002	<0.002	<0.004	**2,210**	
MW-3	06/05/2012	<0.001	<0.002	<0.002	<0.003	**2,080**	
MW-3	09/07/2012	<0.001	<0.002	<0.002	<0.003	**2,180**	
MW-3	12/04/2012	<0.001	<0.002	<0.002	<0.003	**2,170**	
MW-3	02/22/2013	<0.001	<0.002	<0.002	<0.003	**2,050**	
MW-3	06/02/2013	<0.001	<0.002	<0.002	<0.003	**1,910**	
MW-3	09/10/2013	<0.001	<0.002	<0.002	<0.003	**1,730**	
MW-3	12/03/2013	<0.001	<0.002	<0.002	<0.003	**1,860**	
MW-3	02/26/2014	<0.001	<0.002	<0.002	<0.003	**1,570**	
MW-3	06/02/2014	<0.001	<0.002	<0.002	<0.003	**1,480**	
MW-3	09/25/2014	<0.001	<0.001	<0.001	<0.001	**1,570**	
MW-3	12/05/2014	<0.001	<0.001	<0.001	<0.003	**1,380**	
MW-3	02/26/2015	<0.001	<0.001	<0.001	<0.003	**1,530**	
MW-3	06/02/2015	<0.001	<0.001	<0.001	<0.003	**1,390**	
MW-3	09/02/2015	<0.001	<0.001	<0.001	<0.003	**1,690**	
MW-3	12/16/2015	<0.001	<0.001	<0.001	<0.003	**2,030**	
MW-3	03/24/2016	<0.001	<0.001	<0.001	<0.003	**2,230**	
MW-3	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,590**	
MW-3	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,520**	
MW-3	12/21/2016	NA	NA	NA	NA	**2,670**	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-4	06/01/2006	0.0086	.00093J	0.0092	0.0061		
MW-4	12/01/2006	**0.025**	0.005	<0.002	0.0065		
MW-4	03/01/2007	0.004	0.0006	<0.002	0.003	**1,300**	
MW-4	06/01/2007	<0.001	<0.001	<0.001	<0.001	**1,380**	
MW-4	09/01/2007	<0.001	<0.001	<0.001	<0.001		
MW-4	11/01/2007	<0.002	<0.002	<0.002	<0.006		
MW-4	03/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-4	06/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-4	09/01/2008	<0.002	<0.002	<0.002	0.0041 J	**1,440**	
MW-4	12/01/2008	<0.002	<0.002	<0.002	<0.006	70	
MW-4	03/11/2009	<0.002	<0.002	<0.002	<0.002	**1,390**	
MW-4	05/18/2009	<0.002	<0.002	<0.002	<0.002	**1,440**	
MW-4	09/24/2009	<0.002	<0.002	<0.002	<0.006	**1,490**	
MW-4	12/20/2009	<0.002	<0.002	<0.002	<0.006	**1,740**	
MW-4	03/10/2010	<0.001	<0.002	<0.002	<0.004	**1,950**	
MW-4	06/13/2010	<0.0003	<0.001	<0.0003	<0.0006	**2,150**	
MW-4	09/29/2010	<0.001	<0.002	<0.002	<0.004	**2,130**	
MW-4	12/08/2010	<0.001	<0.002	<0.002	<0.004	**2,740**	
MW-4	03/30/2011	<0.001	<0.002	<0.002	<0.002	**2,300**	
MW-4	06/11/2011	<0.001	<0.002	<0.002	<0.004	**2,230**	
MW-4	09/16/2011	<0.001	<0.002	<0.002	<0.004	**1,980**	
MW-4	12/07/2001	<0.001	<0.002	<0.002	<0.004	**2,010**	
MW-4	03/11/2012	<0.001	<0.002	<0.002	<0.004	**1,960**	Duplicate sample collected
MW-4	06/05/2012	<0.001	<0.002	<0.002	<0.003	**1,790**	Duplicate sample collected
MW-4	09/07/2012	<0.001	<0.002	<0.002	<0.003	**1,910**	Duplicate sample collected
MW-4	12/04/2012	<0.001	<0.002	<0.002	<0.003	**1,940**	
MW-4	02/22/2013	<0.001	<0.002	<0.002	<0.003	**1,900**	
MW-4	06/02/2013	<0.001	<0.002	<0.002	<0.003	**1,950**	
MW-4	09/10/2013	<0.001	<0.002	<0.002	<0.003	**1,860**	
MW-4	12/03/2013	<0.001	<0.002	<0.002	<0.003	**2,250**	
MW-4	02/26/2014	<0.001	<0.002	<0.002	<0.003	**2,000**	
MW-4	06/02/2014	<0.001	<0.002	<0.002	<0.003	**2,190**	
MW-4	09/25/2014	<0.001	<0.001	<0.001	<0.001	**2,260**	
MW-4	12/05/2014	<0.001	<0.001	<0.001	<0.003	**2,140**	
MW-4	02/26/2015	<0.001	<0.001	<0.001	<0.003	**1,890**	
MW-4	06/02/2015	<0.001	<0.001	<0.001	<0.003	**2,110**	
MW-4	09/02/2015	<0.001	<0.001	<0.001	<0.003	**2,450**	
MW-4	12/16/2015	<0.001	<0.001	<0.001	<0.003	**2,770**	
MW-4	03/24/2016	<0.001	<0.001	<0.001	<0.003	**2,710**	
MW-4	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,740**	
MW-4	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**2,300**	
MW-4	12/20/2016	NA	NA	NA	NA	**2,500**	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-6	09/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-6	12/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-6	03/01/2007	<0.002	<0.002	<0.002	<0.006	**669**	
MW-6	06/01/2007	<0.001	<0.001	<0.001	<0.001	**544**	
MW-6	09/01/2007	<0.001	<0.001	<0.001	<0.001		
MW-6	11/01/2007	<0.002	<0.002	<0.002	<0.006		
MW-6	03/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-6	06/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-6	09/01/2008	<0.002	<0.002	<0.002	<0.006	**537**	
MW-6	12/01/2008	<0.002	<0.002	<0.002	<0.002	**391**	
MW-6	03/11/2009	<0.002	<0.002	<0.002	<0.002	**363**	
MW-6	05/18/2009	<0.002	<0.002	<0.002	<0.006	**383**	
MW-6	09/24/2009	<0.002	<0.002	<0.002	<0.006	**373**	
MW-6	12/20/2009	<0.002	<0.002	<0.002	<0.006	**1,090**	
MW-6	03/10/2010	NS	NS	NS	NS	NS	
MW-6	06/13/2010	<0.0003	<0.001	<0.0003	<0.006	**533**	
MW-6	09/29/2010	<0.001	<0.002	<0.002	<0.004	**445**	
MW-6	12/08/2010	<0.001	<0.002	<0.002	<0.004	**513**	
MW-6	03/30/2011	<0.001	<0.002	<0.002	<0.002	**491**	
MW-6	06/11/2011	<0.001	<0.002	<0.002	<0.004	**503**	
MW-6	09/16/2011	<0.001	<0.002	<0.002	<0.004	**476**	
MW-6	12/07/2011	<0.001	<0.002	<0.002	<0.004	**526**	
MW-6	03/11/2012	<0.001	<0.002	<0.002	<0.004	**522**	
MW-6	06/05/2012	<0.001	<0.002	<0.002	<0.003	**532**	
MW-6	09/07/2012	NS	NS	NS	NS	NS	
MW-6	12/04/2012	<0.001	<0.002	<0.002	<0.003	**578**	
MW-6	02/22/2013	<0.001	<0.002	<0.002	<0.003	**536**	
MW-6	06/02/2013	<0.001	<0.002	<0.002	<0.003	**603**	
MW-6	09/10/2013	<0.001	<0.002	<0.002	<0.003	**619**	
MW-6	12/03/2013	<0.001	<0.002	<0.002	<0.003	**674**	
MW-6	02/26/2014	<0.001	<0.002	<0.002	<0.003	**595**	
MW-6	06/02/2014	<0.001	<0.002	<0.002	<0.003	**675**	
MW-6	09/25/2014	<0.001	<0.001	<0.001	<0.001	**757**	
MW-6	12/05/2014	<0.001	<0.001	<0.001	<0.003	**924**	
MW-6	02/26/2015	<0.001	<0.001	<0.001	<0.003	**817**	
MW-6	06/02/2015	<0.001	<0.001	<0.001	<0.003	**737**	
MW-6	09/02/2015	<0.001	<0.001	<0.001	<0.003	**858**	
MW-6	12/16/2015	<0.001	<0.001	<0.001	<0.003	**766**	
MW-6	03/24/2016	<0.001	<0.001	<0.001	<0.003	**786**	
MW-6	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**923**	
MW-6	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**914**	
MW-6	12/20/2016	NA	NA	NA	NA	**925**	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-7	09/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-7	12/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-7	03/01/2007	<0.002	<0.002	<0.002	<0.006	**1,230**	
MW-7	06/01/2007	<0.001	<0.001	<0.001	0.003	**1,150**	
MW-7	09/01/2007	<0.001	<0.001	<0.001	<0.001		
MW-7	11/01/2007	<0.002	<0.002	<0.002	<0.006		
MW-7	03/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-7	06/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-7	09/01/2008	<0.002	<0.002	<0.002	<0.006	**1,180**	
MW-7	12/01/2008	<0.002	<0.002	<0.002	<0.002	**1,050**	
MW-7	03/11/2009	<0.002	<0.002	<0.002	<0.002	**944**	
MW-7	05/18/2009	<0.002	<0.002	<0.002	<0.006	**1,090**	
MW-7	09/24/2009	<0.002	<0.002	<0.002	<0.006	**1,140**	
MW-7	12/20/2009	<0.002	<0.002	<0.002	<0.006	**1,440**	
MW-7	03/10/2010	<0.001	<0.002	<0.002	<0.004	**1,230**	
MW-7	06/13/2010	<0.0003	<0.001	<0.0003	<0.006	**1,280**	
MW-7	09/29/2010	<0.001	<0.002	<0.002	<0.004	**1,210**	
MW-7	12/08/2010	<0.001	<0.002	<0.002	<0.004	**1,180**	
MW-7	03/30/2011	<0.001	<0.002	<0.002	<0.002	**1,210**	
MW-7	06/11/2011	<0.001	<0.002	<0.002	<0.004	**1,210**	
MW-7	09/16/2011	<0.001	<0.002	<0.002	<0.004	**1,170**	
MW-7	12/07/2011	<0.001	<0.002	<0.002	<0.004	**1,200**	
MW-7	03/11/2012	<0.001	<0.002	<0.002	<0.004	**1,220**	
MW-7	06/05/2012	<0.001	<0.002	<0.002	<0.003	**1,120**	
MW-7	09/07/2012	<0.001	<0.002	<0.002	<0.003	**1,140**	
MW-7	12/04/2012	<0.001	<0.002	<0.002	<0.003	**1,120**	
MW-7	02/22/2013	<0.001	<0.002	<0.002	<0.003	**1,090**	
MW-7	06/02/2013	<0.001	<0.002	<0.002	<0.003	**1,040**	
MW-7	09/10/2013	<0.001	<0.002	<0.002	<0.003	**1,050**	
MW-7	12/03/2013	<0.001	<0.002	<0.002	<0.003	**1,150**	
MW-7	02/26/2014	<0.001	<0.002	<0.002	<0.003	**1,030**	
MW-7	06/02/2014	<0.001	<0.002	<0.002	<0.003	**1,020**	
MW-7	09/25/2014	<0.001	<0.001	<0.001	<0.001	**1,030**	
MW-7	12/05/2014	<0.001	<0.001	<0.001	<0.003	**915**	
MW-7	02/26/2015	<0.001	<0.001	<0.001	<0.003	**936**	
MW-7	06/02/2015	<0.001	<0.001	<0.001	<0.003	**879**	
MW-7	09/02/2015	<0.001	<0.001	<0.001	<0.003	**2,260**	
MW-7	12/16/2015	<0.001	<0.001	<0.001	<0.003	**1,250**	
MW-7	03/24/2016	<0.001	<0.001	<0.001	<0.003	**1,230**	
MW-7	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**1,230**	
MW-7	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**799**	
MW-7	12/20/2016	NA	NA	NA	NA	**921**	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
MW-8	09/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-8	12/01/2006	<0.002	<0.002	<0.002	<0.006		
MW-8	03/01/2007	<0.002	<0.002	<0.002	<0.006	**609**	
MW-8	06/01/2007	<0.001	<0.001	<0.001	<0.001	**617**	
MW-8	09/01/2007	<0.001	<0.001	<0.001	<0.001		
MW-8	11/01/2007	<0.002	<0.002	<0.002	<0.006		
MW-8	03/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-8	06/01/2008	<0.002	<0.002	<0.002	<0.006		
MW-8	09/01/2008	<0.002	<0.002	<0.002	<0.006	**735**	
MW-8	12/01/2008	<0.002	<0.002	<0.002	<0.002	**480**	
MW-8	03/11/2009	<0.002	<0.002	<0.002	<0.002	**417**	
MW-8	05/18/2009	<0.002	<0.002	<0.002	<0.006	**378**	
MW-8	09/24/2009	<0.002	<0.002	<0.002	<0.006	**403**	
MW-8	12/20/2009	<0.002	<0.002	<0.002	<0.006	**308**	
MW-8	03/10/2010	<0.001	<0.002	<0.002	<0.004	**414**	
MW-8	06/13/2010	<0.0003	<0.001	<0.0003	<0.006	**415**	
MW-8	09/29/2010	<0.001	<0.002	<0.002	<0.004	**347**	
MW-8	12/08/2010	<0.001	<0.002	<0.002	<0.004	**336**	
MW-8	03/30/2011	<0.001	<0.002	<0.002	<0.002	**383**	
MW-8	06/11/2011	<0.001	<0.002	<0.002	<0.004	**454**	
MW-8	09/16/2011	<0.001	<0.002	<0.002	<0.004	**368**	
MW-8	12/07/2011	<0.001	<0.002	<0.002	<0.004	**348**	
MW-8	03/11/2012	<0.001	<0.002	<0.002	<0.004	**345**	
MW-8	06/05/2012	<0.001	<0.002	<0.002	<0.003	**316**	
MW-8	09/07/2012	<0.001	<0.002	<0.002	<0.003	**308**	
MW-8	12/04/2012	<0.001	<0.002	<0.002	<0.003	**304**	
MW-8	02/22/2013	<0.001	<0.002	<0.002	<0.003	**290**	
MW-8	06/02/2013	<0.001	<0.002	<0.002	<0.003	**291**	
MW-8	09/10/2013	<0.001	<0.002	<0.002	<0.003	**297**	
MW-8	12/03/2013	<0.001	<0.002	<0.002	<0.003	**345**	
MW-8	02/26/2014	<0.001	<0.002	<0.002	<0.003	**319**	
MW-8	06/02/2014	<0.001	<0.002	<0.002	<0.003	**336**	
MW-8	09/25/2014	<0.001	<0.001	<0.001	<0.001	**352**	
MW-8	12/05/2014	<0.001	<0.001	<0.001	<0.003	**353**	
MW-8	02/26/2015	<0.001	<0.001	<0.001	<0.003	**345**	
MW-8	06/02/2015	<0.001	<0.001	<0.001	<0.003	**349**	
MW-8	09/02/2015	<0.001	<0.001	<0.001	<0.003	**379**	
MW-8	12/16/2015	<0.001	<0.001	<0.001	<0.003	**361**	
MW-8	03/24/2016	<0.001	<0.001	<0.001	<0.003	**393**	
MW-8	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	**394**	
MW-8	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	**383**	
MW-8	12/20/2016	NA	NA	NA	NA	**405**	

APPENDIX A
HISTORIC ANALYTICAL RESULTS
BTEX AND CHLORIDE CONCENTRATIONS IN GROUNDWATER
J-4-2 PIPELINE RELEASE
LEA COUNTY, NEW MEXICO

Location Identification	Sample Date	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)	Chlorides (mg/L)	Comments
NMWQCC Groundwater Standards (mg/L)		**0.01**	**0.75**	**0.75**	**0.62**	**250**	
Trip Blank	06/02/2014	<0.001	<0.002	<0.002	<0.003	NA	
Trip Blank	09/25/2014	<0.001	<0.001	<0.001	<0.001	NA	
Trip Blank	12/05/2014	<0.001	<0.001	<0.001	<0.003	NA	
Trip Blank	02/26/2015	<0.001	<0.001	<0.001	<0.003	NA	
Trip Blank	06/02/2015	<0.001	<0.001	<0.001	<0.003	NA	
Trip Blank	09/02/2015	<0.001	<0.001	<0.001	<0.003	NA	
Trip Blank	12/16/2015	<0.001	<0.001	<0.001	<0.003	NA	
Trip Blank	03/24/2016	<0.001	<0.001	<0.001	<0.003	NA	
Trip Blank	06/20/2016	<0.0010	<0.0010	<0.0010	<0.0030	NA	
Trip Blank	09/28/2016	<0.0010	<0.0010	<0.0010	<0.0030	NA	
Trip Blank	12/20/2016	NA	NA	NA	NA	NA	

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

NA = Not Analyzed

mg/L = milligrams per liter

Appendix B

Laboratory Analytical Report

- ALS Job #: HS16121147

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

December 30, 2016

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

Work Order: **HS16121147**

Laboratory Results for: **DCP J-4-2 Pipeline Release**

Dear Brian,

ALS Environmental received 7 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 J-4-2 Pipeline Release
Work Order: HS16121147

SAMPLE SUMMARY

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS16121147-01	MW-1	Water		20-Dec-2016 11:40	22-Dec-2016 10:10	☐
HS16121147-02	MW-2	Water		20-Dec-2016 11:55	22-Dec-2016 10:10	☐
HS16121147-03	MW-3	Water		21-Dec-2016 15:11	22-Dec-2016 10:10	☐
HS16121147-04	MW-4	Water		20-Dec-2016 11:45	22-Dec-2016 10:10	☐
HS16121147-05	MW-6	Water		20-Dec-2016 11:30	22-Dec-2016 10:10	☐
HS16121147-06	MW-7	Water		20-Dec-2016 11:15	22-Dec-2016 10:10	☐
HS16121147-07	MW-8	Water		20-Dec-2016 11:00	22-Dec-2016 10:10	☐

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Work Order: HS16121147

CASE NARRATIVE

WetChemistry by Method SW9056

Batch ID: R287481

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-1
Collection Date: 20-Dec-2016 11:40

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-01
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**2,270**		**50.0**	**mg/L**	100	30-Dec-2016 08:08

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-2
Collection Date: 20-Dec-2016 11:55

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-02
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**1,890**		**50.0**	**mg/L**	100	30-Dec-2016 08:23

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-3
Collection Date: 21-Dec-2016 15:11

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-03
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**2,670**		**50.0**	**mg/L**	100	30-Dec-2016 08:37

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-4
Collection Date: 20-Dec-2016 11:45

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-04
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**2,500**		**50.0**	**mg/L**	100	30-Dec-2016 08:52

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-6
Collection Date: 20-Dec-2016 11:30

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-05
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**925**		**25.0**	**mg/L**	50	30-Dec-2016 09:06

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-7
Collection Date: 20-Dec-2016 11:15

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-06
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**921**		**50.0**	**mg/L**	100	30-Dec-2016 09:21

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
Sample ID: MW-8
Collection Date: 20-Dec-2016 11:00

ANALYTICAL REPORT
WorkOrder:HS16121147
Lab ID:HS16121147-07
Matrix:Water

ANALYSES	RESULT	QUAL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
ANIONS BY SW9056A	**Method:SW9056**					Analyst: JBA
Chloride	**405**		**5.00**	**mg/L**	10	30-Dec-2016 16:50

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
WorkOrder: HS16121147

DATES REPORT

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
Batch ID R287481	**Test Name :** ANIONS BY SW9056A			**Matrix:** Water		
HS16121147-01	MW-1	20 Dec 2016 11:40			30 Dec 2016 08:08	100
HS16121147-02	MW-2	20 Dec 2016 11:55			30 Dec 2016 08:23	100
HS16121147-03	MW-3	21 Dec 2016 15:11			30 Dec 2016 08:37	100
HS16121147-04	MW-4	20 Dec 2016 11:45			30 Dec 2016 08:52	100
HS16121147-05	MW-6	20 Dec 2016 11:30			30 Dec 2016 09:06	50
HS16121147-06	MW-7	20 Dec 2016 11:15			30 Dec 2016 09:21	100
HS16121147-07	MW-8	20 Dec 2016 11:00			30 Dec 2016 16:50	10

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
WorkOrder: HS16121147

QC BATCH REPORT

Batch ID: R287481 **Instrument: ICS2100** **Method: SW9056**

MBLK Sample ID: **WBLKW2-122916** Units: **mg/L** Analysis Date: **29-Dec-2016 23:58**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949798** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	ND	0.500								

LCS Sample ID: **WLCSW2-122916** Units: **mg/L** Analysis Date: **30-Dec-2016 00:12**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949799** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.88	0.500	20	0	99.4	80 - 120				

LCSD Sample ID: **WLCSDW2-122916** Units: **mg/L** Analysis Date: **30-Dec-2016 00:27**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949800** PrepDate: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	19.89	0.500	20	0	99.5	80 - 120	19.88	0.0704	20	

MS Sample ID: **HS16121141-01MS** Units: **mg/L** Analysis Date: **30-Dec-2016 03:50**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949814** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1183	25.0	500	768.8	82.9	80 - 120				

MS Sample ID: **HS16121136-11MS** Units: **mg/L** Analysis Date: **30-Dec-2016 01:10**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949803** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	634.6	10.0	200	430.6	102	80 - 120				

MSD Sample ID: **HS16121141-01MSD** Units: **mg/L** Analysis Date: **30-Dec-2016 04:05**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949815** PrepDate: DF: **50**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	1243	25.0	500	768.8	94.9	80 - 120	1183	4.94	20	

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
WorkOrder: HS16121147

QC BATCH REPORT

Batch ID: R287481 **Instrument: ICS2100** **Method: SW9056**

MSD Sample ID: **HS16121136-11MSD** Units: **mg/L** Analysis Date: **30-Dec-2016 01:25**
Client ID: Run ID: **ICS2100_287481** SeqNo: **3949804** PrepDate: DF: **20**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chloride	613.4	10.0	200	430.6	91.4	80 - 120	634.6	3.39	20	

The following samples were analyzed in this batch: HS16121147-01 HS16121147-02 HS16121147-03 HS16121147-04 HS16121147-05 HS16121147-06 HS16121147-07

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

Client: Tasman Geosciences
Project: DCP J-4-2 Pipeline Release
WorkOrder: **HS16121147**

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 J-4-2 Pipeline Release
Work Order: HS16121147

SAMPLE TRACKING

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS16121147-01	MW-1	Login	12/22/2016 2:50:24 PM	KRM	19C
HS16121147-02	MW-2	Login	12/22/2016 2:50:24 PM	KRM	19C
HS16121147-03	MW-3	Login	12/22/2016 2:50:24 PM	KRM	19C
HS16121147-04	MW-4	Login	12/22/2016 2:50:24 PM	KRM	19C
HS16121147-05	MW-6	Login	12/22/2016 2:50:24 PM	KRM	19C
HS16121147-06	MW-7	Login	12/22/2016 2:50:24 PM	KRM	19C
HS16121147-07	MW-8	Login	12/22/2016 2:50:24 PM	KRM	19C

Sample Receipt Checklist

Client Name: Tasman Geosciences
Work Order: HS16121147
Date/Time Received: **22-Dec-2016 10:10**
Received by: **Jared R. Makan**

Checklist completed by: *Krysta Mathis* eSignature 22-Dec-2016 Date
Reviewed by: *Sonia West* eSignature 28-Dec-2016 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):	25452		
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:

Cincinnati, OH
+1 513 733 5336

Fort Collins, CO
+1 970 490 1511

Everett, WA
+1 425 356 2600

Holland, MI
+1 616 399 6070

Chain of Custody Form

Page 1 of 1

COC ID: 154432

HS16121147

WV

Tasman Geosciences

DCP J-4-2 Pipeline Release

ALS Project Manager:

Customer Information		Project Information			
Purchase Order	390669601	Project Name	DCP J-4-2 Pipeline Release	A	9056_anions_W (Chloride)
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 Weathers	D	
Address	6899 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	303-487-1226	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	MW-1	12-20-16	1140	Water	—	1	X										
2	MW-2		1155	Water	—	1	X										
3	MW-3	12-21-16	~~1200~~ 1311	Water	—	1	X										
4	MW-4		1145	Water	—	1	X										
5	MW-6		1130	Water	—	1	X										
6	MW-7		1115	Water	—	1	X										
7	MW-8		1100	Water	—	1	X										
8																	
9																	
10																	

Sampler(s) Please Print & Sign: Mitch Weller

Shipment Method: FedEx Overnight

Required Turnaround Time: (Check Box) 10 days

Results Due Date:

Relinquished by: Mitchell Weller	Date: 12-21-16	Time: 1300	Received by:	Notes: MW-3 locked, resampled @ 1311 on 12-21-16 (DCP J-4-2 Pipeline Project) 230 PM Next Preservative	
Relinquished by:	Date: 12-22-16	Time: 10:10	Received by (Laboratory): JM	Cooler ID	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	2542	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.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the...
3. The Chain of Custody is a legal document. All in...