



DCP Midstream
370 17th Street, Suite 2500
Denver, CO 80202
303-595-3331
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January 16, 2012

Mr. Leonard Lowe
Environmental Engineer
New Mexico Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, NM 87505

**RE: 2nd 2011 Semi Annual Groundwater Monitoring Results
DCP C-Line Pipeline Release (1RP-401-0)
Lea County, NM (Unit O Section 31, T19S, R37E)**

Dear Mr. Lowe:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the 2nd 2011 Semi Annual Groundwater Monitoring Results for the DCP C-Line Pipeline, Release Site located in Lea County, New Mexico (Unit O Section 31, T19S, R37E, Latitude 32° 31' 29.7" N Longitude 103° 17' 11.7 W).

If you have any questions regarding the report, please call me at 303-605-1718.

Sincerely

DCP Midstream, LP

Stephen Weathers, PG
Principal Environmental Specialist

cc: Larry Johnson, OCD Hobbs District Office (Copy on CD)
Environmental Files

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Second Half 2011 Semi-Annual Groundwater
Monitoring Summary Report

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

Prepared for:



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

Prepared by:



Tasman Geosciences

5690 Webster, Ave
Arvada, CO 80002

November 22, 2011

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1. Introduction

Tasman Geosciences, LLC (Tasman) is submitting to DCP Midstream (DCP) the results of the second half 2011 semi-annual groundwater monitoring activities conducted September 17 and 18 of 2011 at the C-Line 50602 pipeline release (Site) in Lea County, New Mexico (Figure 1). The field activities described herein were performed with the purpose of monitoring groundwater flow and quality conditions and assessing the presence of light non-aqueous phase liquid (LNAPL) hydrocarbons in the Site subsurface. These activities were performed through September 2011 by American Environmental Consulting LLC (AEC) after which project responsibilities were transferred to Tasman Geosciences, LLC (Tasman). The data collected herein were used to develop groundwater elevation maps, constituent of concern (COC) isoconcentration maps, and COC concentration versus time graphs to evaluate current conditions at the Site.

2. Site Location and Background

The Site is located in the southeastern quarter of the southeastern quarter 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 extraction and some ranching. A minimum of five underground transfer pipelines traverse the Site, two of which are owned by DCP (Figure 2).

Based on review of historical reports from previous site investigations, the original condensate release occurred in early 2002. Environmental Plus Incorporated (EPI) completed remediation activities between April and June 2002 which included impacted soil excavation activities, compacted clay barrier installation, and investigative soil boring advancements. These activities were conducted at three (3) 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 down-gradient 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-6, MW-7 and MW-8) were installed to the southeast of the original release location to further delineate the extent of hydrocarbon migration. Additionally, MW-1 was re-drilled and converted from a two-inch diameter to a four-inch diameter LNAPL recovery well. An 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 in wells MW-1 and MW-4 was observed and the remediation system was shut down on June 26, 2006. Ancillary components of the system remain in place and MW-1 and 4 are currently utilized as monitoring well locations.

3. Groundwater Monitoring

This section describes the groundwater field and laboratory activities performed during the second half 2011 semi-annual monitoring event. Monitoring activities included Site-wide groundwater gauging, LNAPL gauging, and groundwater sampling. Figure 2 illustrates the groundwater monitoring network utilized to perform these activities at the Site.

3.1 Groundwater and LNAPL Elevation Monitoring

During the second half 2011, groundwater levels were measured at eight (8) Site monitoring well locations and LNAPL was not detected in any of the measured 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]) by subtracting the measured groundwater level from top of casing elevation survey datum.

Groundwater elevation measurements collected during the second half 2011 monitoring event as well as historical elevations are presented in Table 1 and a second half 2011 groundwater elevation contour map is illustrated on Figure 3. Groundwater elevations ranged from 3,449.64 feet AMSL at monitoring well MW-1 to 3,451.47 feet AMSL at monitoring well MW-2. As illustrated on Figure 3, groundwater flow at the Site generally trends to the east southeast with a downward gradient of approximately 0.005 foot per foot between monitoring wells MW-1 and MW-9.

3.2 Groundwater Quality Monitoring

Prior to collecting groundwater samples, groundwater levels and total well depth were measured at each of the Site monitoring wells, as previously described. Subsequently, a minimum of three well casing volumes of groundwater (calculated from total depth of the well and groundwater level measurements) were purged from the subject well prior to collecting groundwater samples. Groundwater samples were collected using dedicated polyethylene bailers, placed in clean laboratory supplied containers for the selected analytical methods, packed in an ice-filled cooler, and maintained at approximately four (4) degrees Celsius ($^{\circ}\text{C}$) for transportation. Groundwater samples were then shipped under chain-of-custody procedures to Accutest Laboratories (Accutest) in Wheat Ridge, Colorado, for analysis.

Groundwater samples were collected from monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8, and MW-9. Monitoring well MW-6 was not sampled and has been removed from the groundwater monitoring plan due to historically exhibiting non-detect concentrations of constituents of concern (COCs). Water quality samples were submitted to be analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260B.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the second half 2011 event. Laboratory analytical reports for the event are included in Appendix B, analytical results are summarized on Figure 4, and a dissolved-phase benzene isoconcentration map is illustrated on Figure 5. Water quality parameters were not collected during the monitoring event due to a malfunctioning field instrument. However, based on evaluation of previous monitoring field data sheets (First Half 2011), the site monitoring wells did not require collection of more than three (3) purge volumes to achieve parameter stabilization (where collected). As such, the analytical data are considered to be representative of site conditions in that a minimum 3 purge volumes were evacuated from all sampled monitoring wells during the 2011 second half semi-annual event.

4. Remediation Activities

LNAPL recovery and SVE at the Site appears to have sufficiently addressed hydrocarbon impacts at the Site so that dissolved phase concentrations in groundwater are stable and/or decreasing overtime. Natural attenuation continues to provide effective control of the groundwater plume on Site. This is evidenced by the sampling results for point of compliance (POC) wells MW-7, MW-8 and MW-9, which continue to exhibit non-detect dissolved-phase BTEX concentrations in groundwater.

5. Conclusions

While the dissolved phase hydrocarbon impacts exceeded the regulatory limits in two of the sampled monitoring wells (MW-1 and MW-3), COC concentrations continue to decline across the Site. Benzene concentrations versus time and groundwater elevation graphs are included in Appendix A for monitoring wells MW-1, MW-3, and MW-4. As illustrated by the graphs in Appendix A, it does not appear that there is a relationship between groundwater elevation and the presence of LNAPL or fluctuations in benzene concentrations. These graphs also illustrate that benzene concentrations continue to decline across the Site. Comparison of the second half 2011 monitoring data and historic information provides the following general observations:

- LNAPL has not been detected in any of the monitoring wells since March 14, 2007.
- Based on historic groundwater elevations, the groundwater elevation surface beneath the Site has remained stable with minor seasonal and annual fluctuations since monitoring was initiated. There has not been significant deviation from this trend during this monitoring period.
- Dissolved phase benzene concentrations above regulatory standards continue to be observed at MW-1 and MW-2 with steady or decreasing concentrations.

- The dissolved phase BTEX plume has continued to decrease over time, likely due to previous LNAPL recovery and SVE as well as attenuation factors.

6. Recommendations

Based on evaluation of 2011 and historical Site observations and monitoring results, recommendations have been developed for future activities, as included below:

- Continue semi-annual groundwater monitoring and sampling at monitoring well locations MW-1, MW-2, MW-3, MW-4, MW-5, MW7, MW-8, and MW-9.
- Evaluation of near term Site closure strategy that may include implementation of a polishing technique to reduce dissolved phase benzene concentrations to below regulatory thresholds.

Tables

TABLE 1
SECOND HALF 2011 SEMI-ANNUAL
SUMMARY OF GROUNDWATER ELEVATION DATA
C-LINE 50602 PIPELINE RELEASE, LEA COUNTY, NEW MEXICO

Location	Date	Depth to Groundwater (1) (feet)	Depth to Product (feet)	Free Phase Hydrocarbon Thickness (feet)	Total Depth (2) (feet)	TOC Elevation (feet amsl)	Groundwater Elevation (feet amsl)	Change in Groundwater Elevation Since Previous Event (3) (feet)
MW-1	9/09					3541.21	3450.91	-0.66
MW-1	3/10					3541.21	3451.47	0.56
MW-1	9/10					3541.21	3451.31	-0.16
MW-1	4/11	91.25				3541.21	3449.96	-1.35
MW-1	09/18/11	91.57			99.80	3541.21	3449.64	-0.32
MW-2	9/09					3540.91	3451.74	-0.13
MW-2	3/10					3540.91	3451.73	-0.01
MW-2	9/10					3540.91	3451.55	-0.18
MW-2	4/11	89.24				3540.91	3451.67	0.12
MW-2	09/17/11	89.44			99.86	3540.91	3451.47	-0.2
MW-3	9/09					3541.41	3450.92	-0.25
MW-3	3/10					3541.41	3451.02	0.1
MW-3	9/10					3541.41	3450.96	-0.06
MW-3	4/11	90.41				3541.41	3451.00	0.04
MW-3	09/18/11	90.84			102.40	3541.41	3450.57	-0.43
MW-4	9/09					3541.40	3450.86	-0.31
MW-4	3/10					3541.40	3451.26	0.4
MW-4	9/10					3541.40	3450.8	-0.46
MW-4	4/11	90.34				3541.40	3451.06	0.26
MW-4	09/18/11	90.84			99.10	3541.40	3450.56	-0.5
MW-5	9/09					3541.45	3450.72	-0.37
MW-5	3/10					3541.45	3450.97	0.25
MW-5	9/10					3541.45	3450.69	-0.28
MW-5	4/11	90.40				3541.45	3451.05	0.36
MW-5	09/18/11	90.92			101.35	3541.45	3450.53	-0.52
MW-6	9/09					3543.98	3447.81	-0.31
MW-6	3/10					3543.98	3447.89	0.08
MW-6	9/10					3543.98	3447.85	-0.04
MW-6	4/11	95.78				3543.98	3448.20	0.35
MW-6	NM	NM	NM		NM	3543.98	NM	NM
MW-7	9/09					3542.42	3450.34	-0.21
MW-7	3/10					3542.42	3450.47	0.13
MW-7	9/10					3542.42	3450.28	-0.19
MW-7	4/11	91.95				3542.42	3450.47	0.19
MW-7	09/17/11	92.23			100.34	3542.42	3450.19	-0.28
MW-8	9/09					3540.29	3450.34	-0.21
MW-8	3/10					3540.29	3450.47	0.13
MW-8	9/10					3540.29	3450.28	-0.19
MW-8	4/11	90.24				3540.29	3450.05	-0.23
MW-8	09/17/11	90.64			100.60	3540.29	3449.65	-0.4
MW-9	9/09					3539.62	3449.57	-0.45
MW-9	3/10					3539.62	3449.74	0.17
MW-9	9/10					3539.62	3449.66	-0.08
MW-9	4/11	89.51				3539.62	3450.11	0.45
MW-9	09/17/11	89.95			100.52	3539.62	3449.67	-0.44
Average Change in groundwater elevation since the previous monitoring event								-0.39

Notes:

- 1- Depths measured from the north edge of the well casing.
 - 2- Total depths were collected and recorded during the third quarter 2011 monitoring event.
 - 3- Changes in groundwater elevation calculated by subtracting the measurement collected during the previous monitoring even from the measurement collected during the most recent monitoring event.
 - Monitoring well location MW-6 has been removed from the sampling program due to exhibiting non-detect concentrations.
 - Data presented for all well locations includes previous four sampling events, when available. Historic groundwater elevation data for these locations are available upon request.
- Sample locations are shown on Figure 2 and a groundwater elevation contour map is shown on Figure 3.
- amsl - feet above mean sea level.
 TOC - top of casing.
 NM - Not Measured.

TABLE 2
SECOND HALF 2011 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
New Mexico Water Quality Control Commission Groundwater Standards (mg/L)		0.01	0.75	0.75	0.62	
MW-1	9/23/2009	0.658	0.0197	0.112	0.103	
MW-1	3/22/2010	0.276	0.016	0.0147	0.0557	
MW-1	9/16/2010	0.127	0.0319	0.0334	0.0399	
MW-1	4/25/2011	0.125	0.0416	0.0315	0.171	
MW-1	9/18/2011	0.0638	<0.002	0.0105	0.0093	
MW-2	9/23/2009	<0.002	<0.002	<0.002	<0.006	
MW-2	3/22/2010	<0.002	<0.002	<0.002	<0.006	
MW-2	9/16/2010	<0.001	<0.002	<0.002	<0.004	
MW-2	4/25/2011	<0.001	<0.002	<0.002	<0.002	
MW-2	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-3	9/23/2009	5.68	4.32	0.549	1.36	
MW-3	3/22/2010	2.615	1.475	0.218	0.5415	
MW-3	9/16/2010	0.9555	0.1785	0.0916	0.1197	
MW-3	4/25/2011	0.0798	<0.02	0.0111	0.0249	
MW-3	9/18/2011	0.0219	<0.002	<0.002	<0.004	Duplicate sample collected
MW-4	9/23/2009	0.0022	<0.002	0.0243	0.0186	
MW-4	3/22/2010	0.0129	0.0255	0.0107	0.0574	
MW-4	9/16/2010	<0.001	<0.002	<0.002	0.0921	
MW-4	4/25/2011	0.00925	0.02905	0.00365	0.102	
MW-4	9/18/2011	0.0024	<0.004	<0.004	<0.008	
MW-5	9/23/2009	<0.002	<0.002	<0.002	<0.006	
MW-5	3/22/2010	<0.002	0.0037	<0.002	0.0076	
MW-5	9/16/2010	<0.001	<0.002	<0.002	<0.004	
MW-5	4/25/2011	0.0017	0.0028	0.00043	0.0109	
MW-5	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-6	9/23/2009	NS	NS	NS	NS	
MW-6	3/22/2010	NS	NS	NS	NS	
MW-6	9/16/2010	NS	NS	NS	NS	
MW-6	4/25/2011	<0.001	<0.002	<0.002	<0.002	
MW-6	9/18/2011	NS	NS	NS	NS	
MW-7	9/23/2009	<0.002	<0.002	<0.002	<0.006	
MW-7	3/22/2010	<0.002	<0.002	<0.002	<0.006	
MW-7	9/16/2010	<0.001	<0.002	<0.002	<0.004	
MW-7	4/25/2011	<0.001	<0.002	<0.002	<0.002	
MW-7	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-8	9/23/2009	<0.002	<0.002	<0.002	<0.006	
MW-8	3/22/2010	<0.002	<0.002	<0.002	<0.006	
MW-8	9/16/2010	<0.001	<0.002	<0.002	<0.004	
MW-8	4/25/2011	<0.001	<0.002	<0.002	<0.002	
MW-8	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-9	9/23/2009	<0.002	<0.002	<0.002	<0.006	
MW-9	3/22/2010	<0.002	<0.002	<0.002	<0.006	
MW-9	9/16/2010	<0.001	<0.002	<0.002	<0.004	
MW-9	4/25/2011	<0.001	<0.002	<0.002	<0.002	
MW-9	9/18/2011	<0.001	<0.002	<0.002	<0.004	

Notes:

- 1.) The environmental cleanup standards for groundwater that are applicable to the C-Line Pipeline Release site are the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards.
- 2.) Monitoring well location MW-6 has been removed from the sampling program due to exhibiting non-detect concentrations.
- 3.) Data presented for all other well locations includes previous four sampling events, when available. Historic groundwater analytical results for these locations are available upon request.

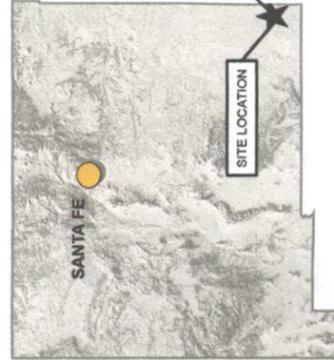
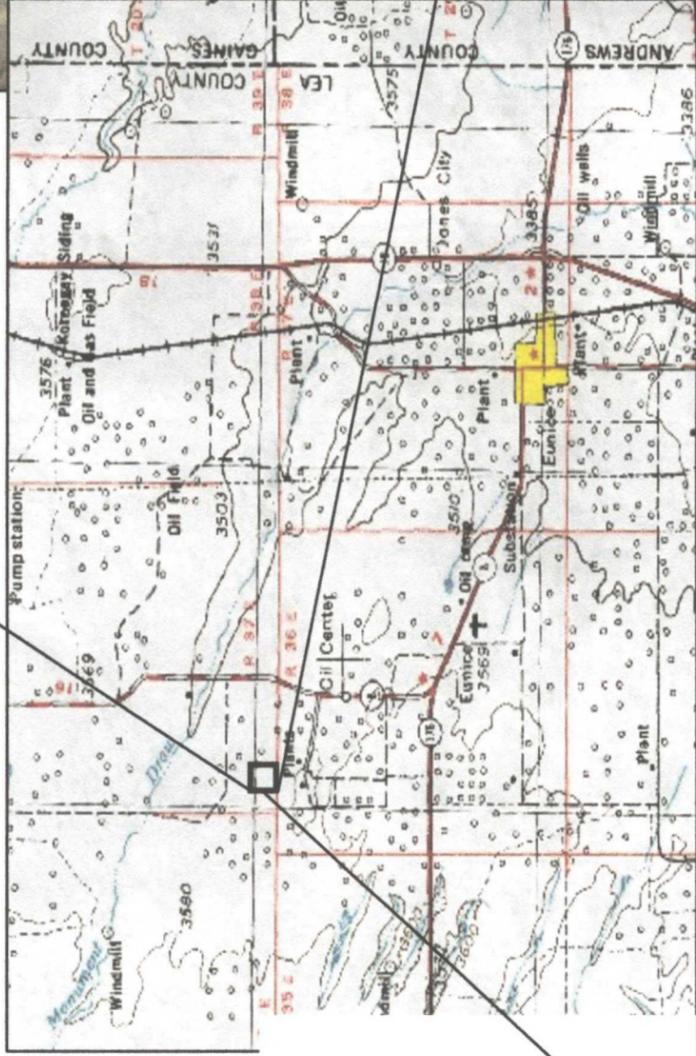
Bold red values indicate an exceedance of the NMWQCC groundwater standards for the Site.

Sample locations are shown on Figure 2 and analytical results are illustrated on Figure 4.

LNAPL = Light Non-Aqueous Phase Liquid

NS = Not sampled.

Figures



DESIGNED BY: B. Humphrey
 DRAWN BY: J. Clonts
 SHEET CHK'D BY: _____
 CROSS CHK'D BY: _____
 APPROVED BY: _____
 APPROVED BY: _____



Tasman Geosciences

Tasman Geosciences, LLC
 5690 Webster St.
 Arvada, CO 8002
 720-988-2024

C-LINE PIPELINE RELEASE

*Third Quarter 2011 Groundwater Monitoring
 Summary Report*

SITE LOCATION

PROJECT NO.
 FILE NAME:

**FIGURE
 1**

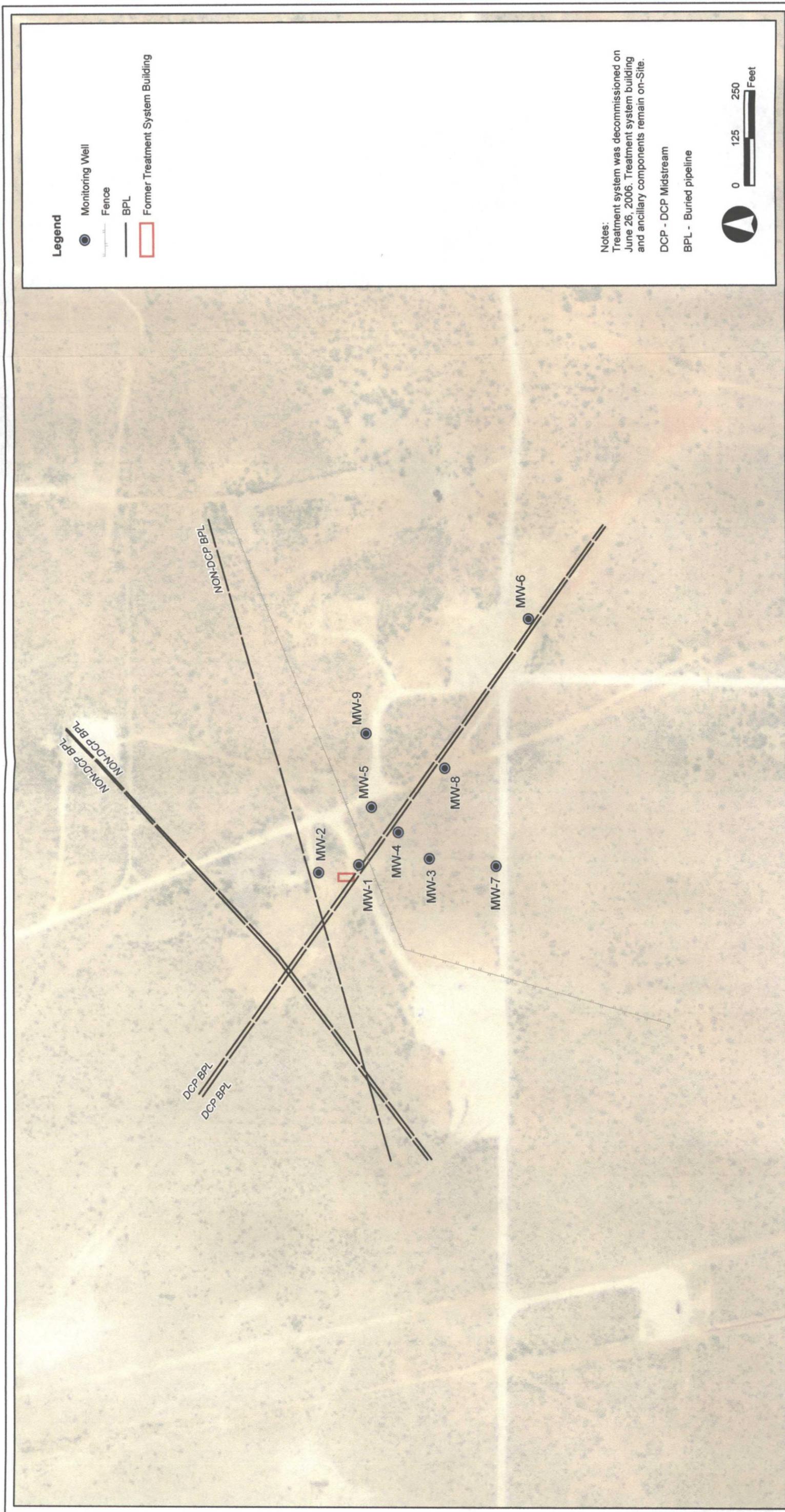


FIGURE 2

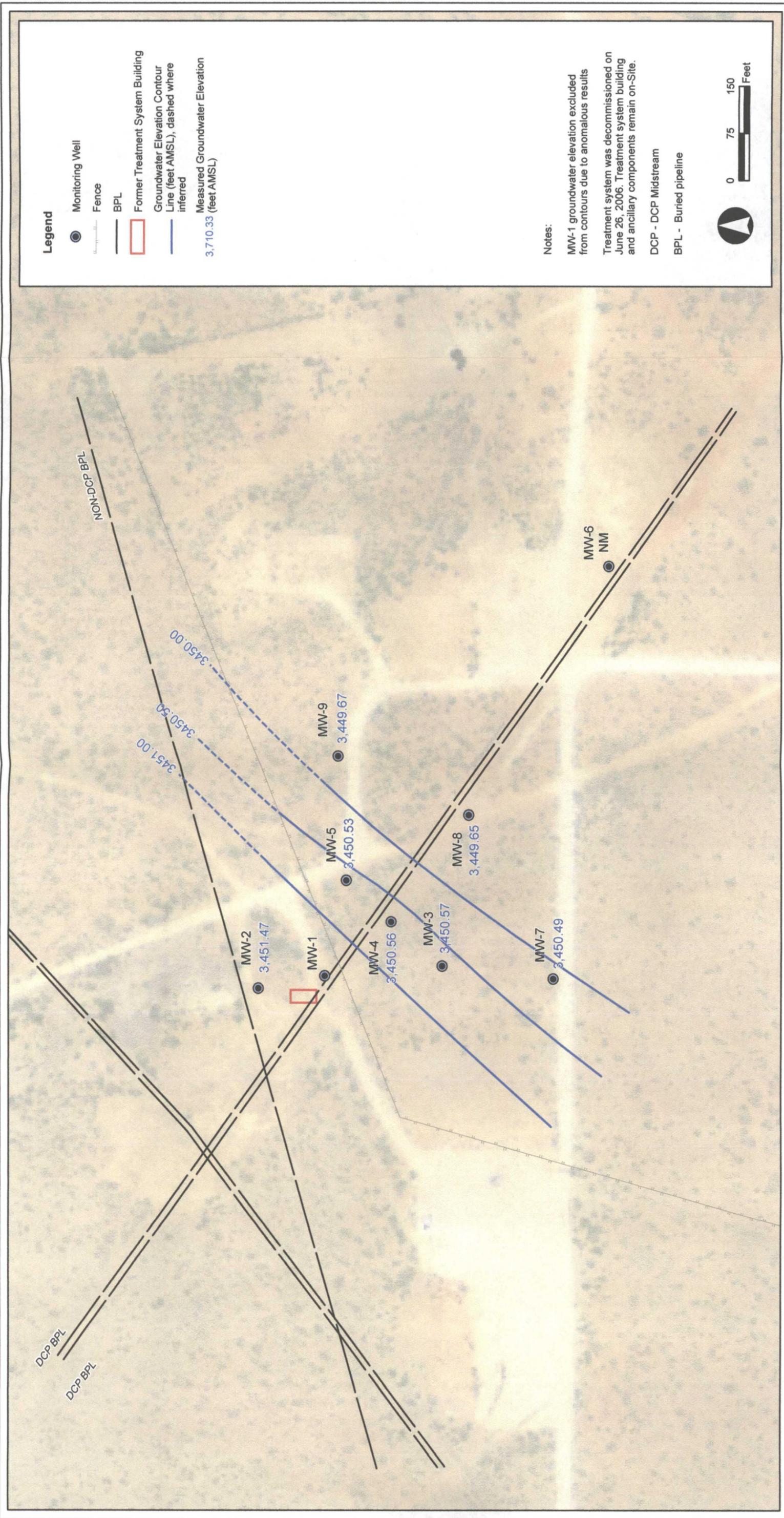
SITE MAP

C-LINE PIPELINE RELEASE
 Second Half 2011 Semi-Annual
 Groundwater Monitoring
 Summary Report

Tasman Geosciences, LLC
 5690 Webster St.
 Arvada, CO 8002
 720-988-2024

Tasman Geosciences

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C-LINE PIPELINE RELEASE
 Second Half 2011 Semi-Annual
 Groundwater Monitoring
 Summary Report

**GROUNDWATER ELEVATION
 CONTOUR MAP
 (SEPTEMBER 17 & 18, 2011)**

MW-5		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	0.0017	<0.001
Toluene	0.0028	<0.002
Ethylbenzene	0.00043	<0.002
Total Xylenes	0.0109	<0.004

MW-9		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	<0.001	<0.001
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.004

MW-8		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	<0.001	<0.001
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.004

MW-7		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	<0.001	<0.001
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.004

MW-2		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	<0.001	<0.001
Toluene	<0.002	<0.002
Ethylbenzene	<0.002	<0.002
Total Xylenes	<0.002	<0.004

MW-1		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	0.125	0.0638
Toluene	0.0416	<0.002
Ethylbenzene	0.0315	0.0105
Total Xylenes	0.171	0.0093

MW-4		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	0.00925	0.0024
Toluene	0.02905	<0.004
Ethylbenzene	0.00365	<0.004
Total Xylenes	0.102	<0.008

MW-3		
Compound	4/25/2011 (mg/L)	9/18/2011 (mg/L)
Benzene	0.0798	0.0219
Toluene	<0.02	<0.002
Ethylbenzene	0.0111	<0.002
Total Xylenes	0.0249	<0.004

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

DCP - DCP Midstream

BPL - Buried Pipeline

Data reported for the 4/25/11 monitoring event were collected by AEC and are provided in the First 2011 Semi-Annual groundwater monitoring report.

NS - Not Sampled

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

Legend

- Monitoring Well
- Fence
- BPL
- Former Treatment System Building



DESIGNED BY: B. Humphrey
DRAWN BY: J. Clonts
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
APPROVED BY:



Tasman Geosciences

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720-988-2024

C-LINE PIPELINE RELEASE
Second Half 2011 Semi-Annual
Groundwater Monitoring
Summary Report

ANALYTICAL RESULTS
MAP

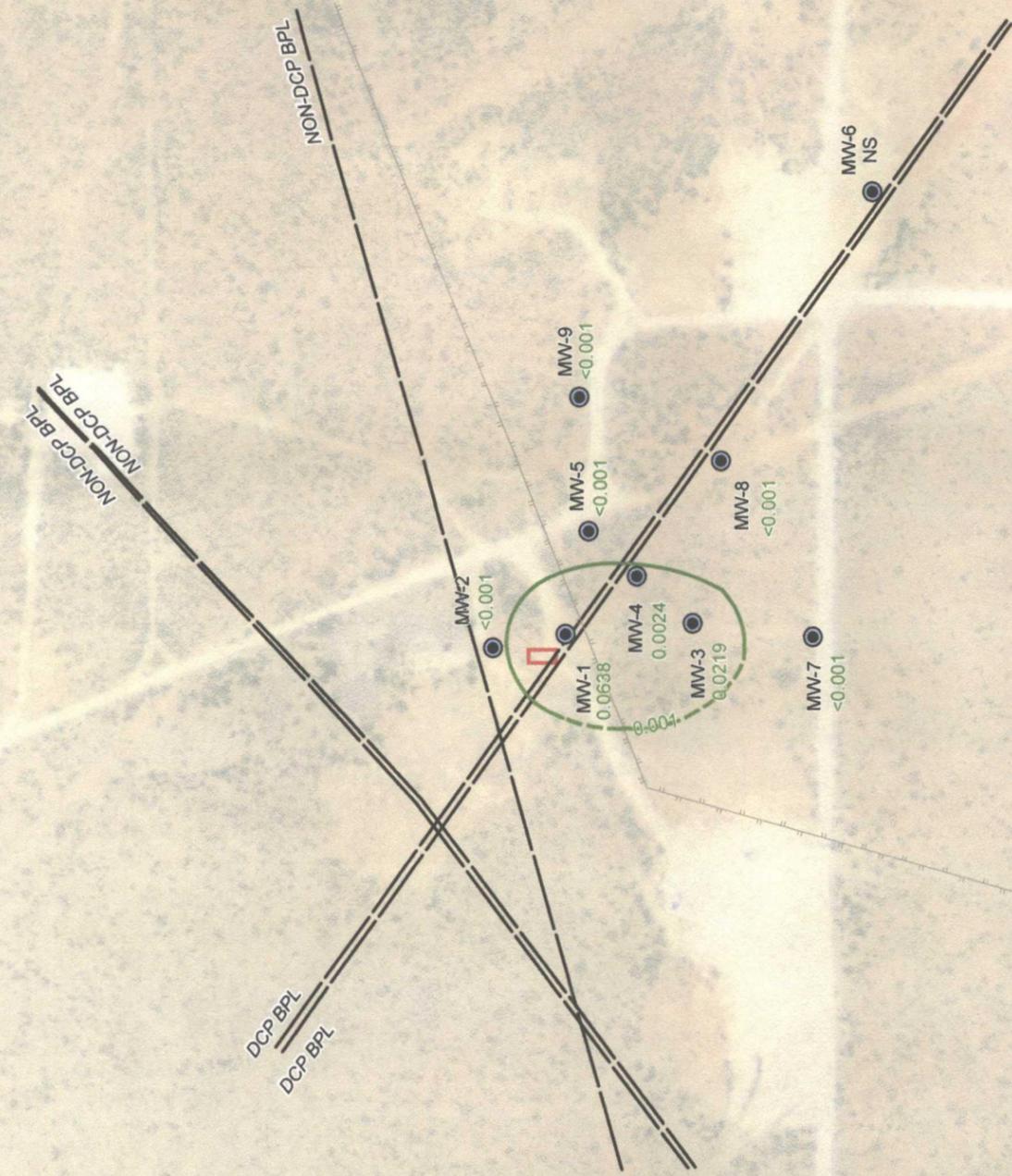
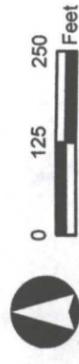
FIGURE
4

Legend

- Monitoring Well
- Fence
- BPL
- ▭ Former Treatment System Building
- Benzene isoconcentration contour line (mg/L). Dashed where inferred.
- 0.0638 Benzene concentration in mg/L.

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

- DCP - DCP Midstream
- BPL - Buried pipeline
- mg/L - milligrams per Liter
- NM - Not measured



BENZENE ISOCONCENTRATION CONTOUR MAP (SEPTEMBER 17 & 18, 2011)

C-LINE PIPELINE RELEASE
 Second Half 2011 Semi-Annual Groundwater Monitoring Summary Report

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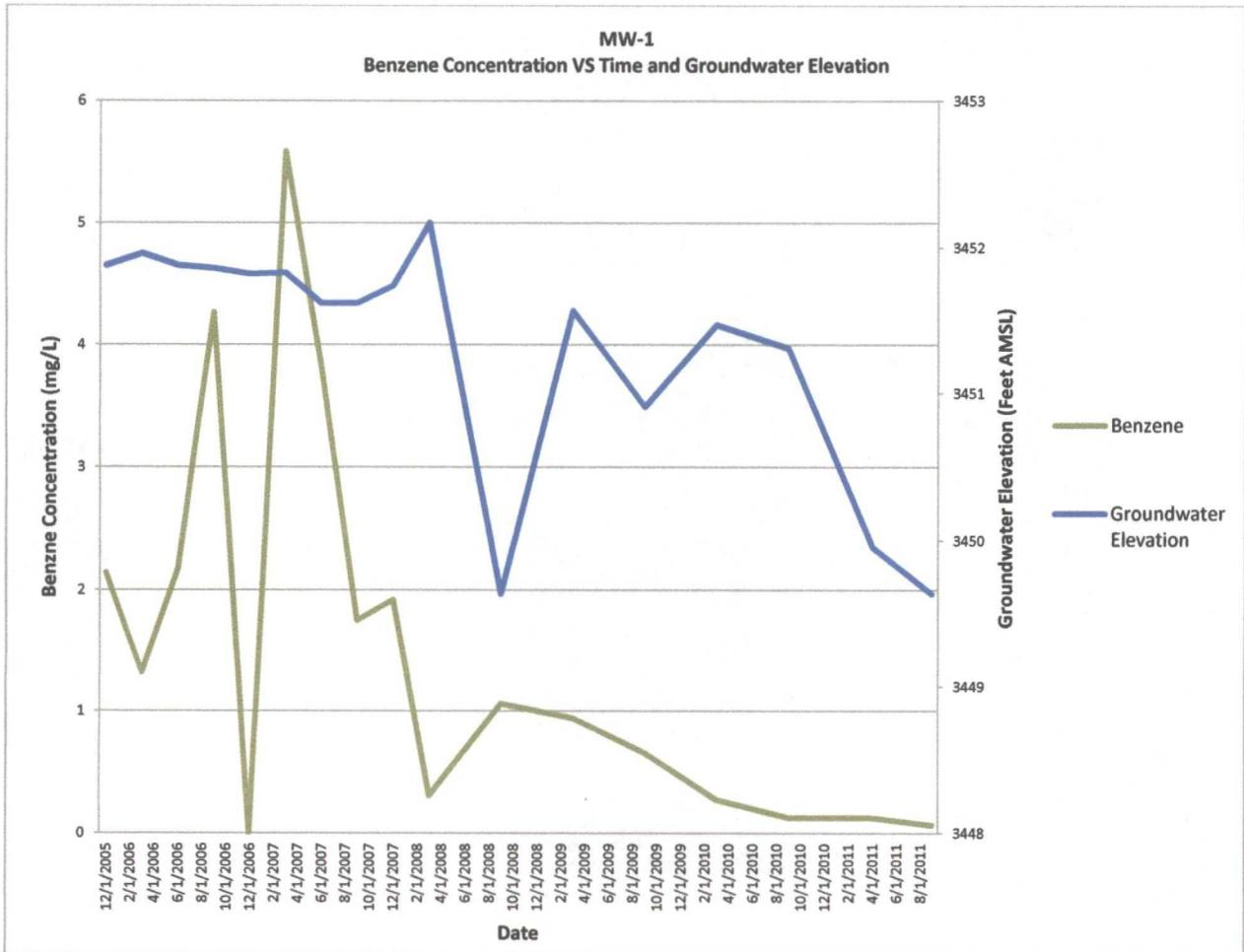


Tasman Geosciences

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 DRAWN BY: J. Clonts
 SHEET CHK'D BY:
 CROSS CHK'D BY:
 APPROVED BY:
 APPROVED BY:

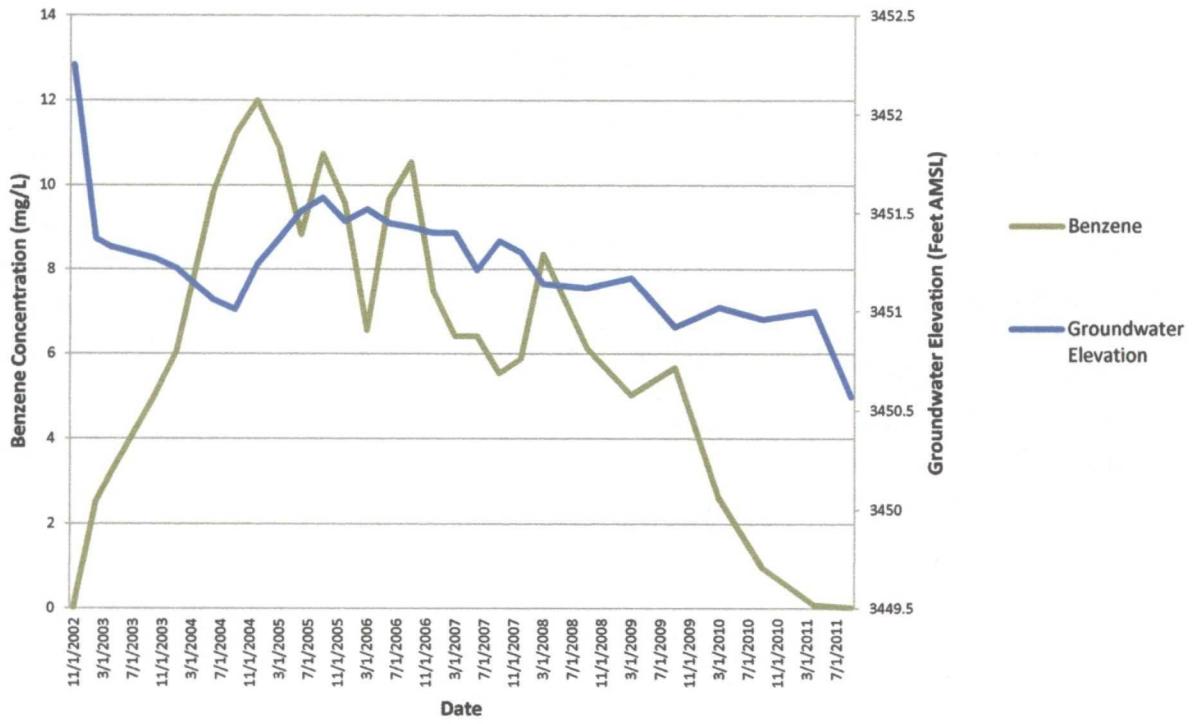
Appendix A

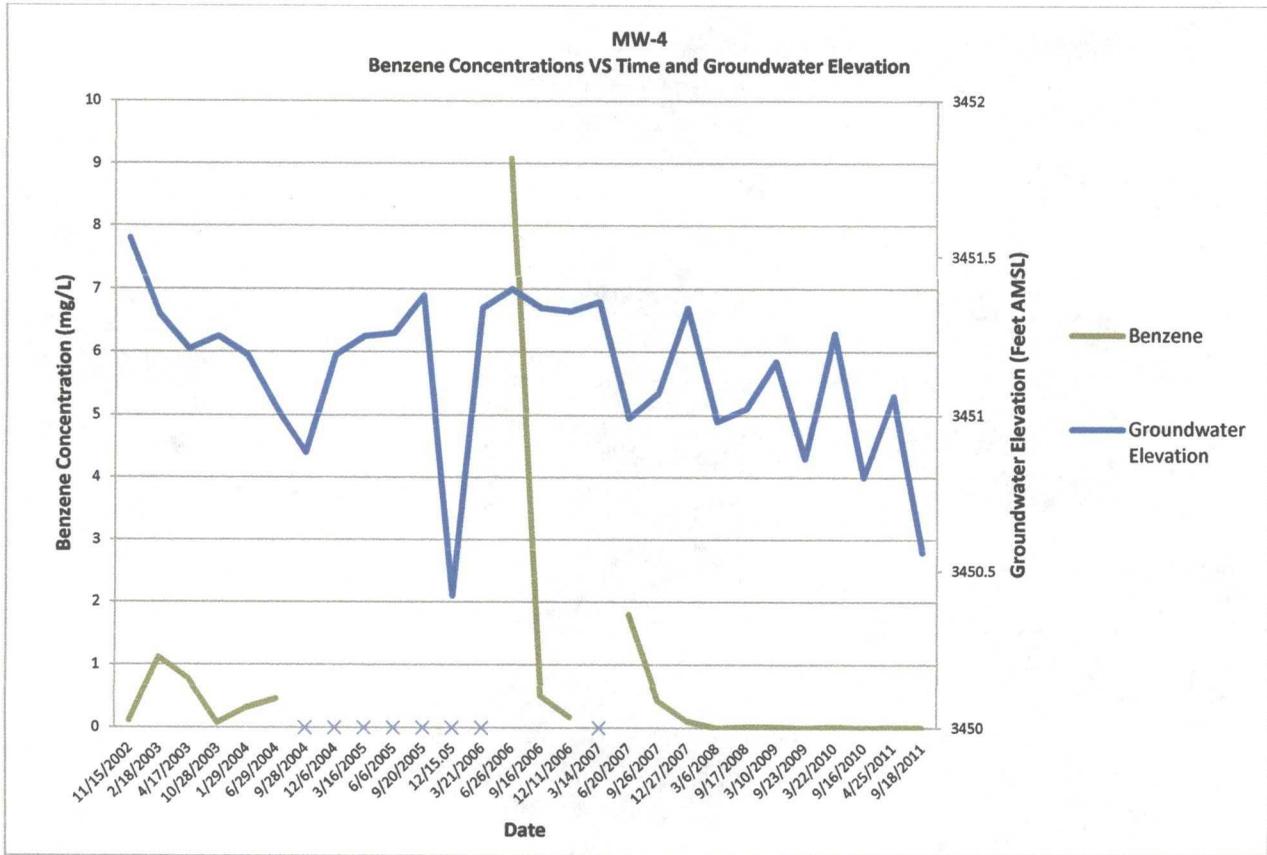
Benzene Concentration versus Time and Groundwater Elevation Graphs



Note:
LNAPL had been historically detected in MW-1 between November 15, 2002 and September 20, 2005.

MW-3
Benzene Concentration VS Time and Groundwater Elevation





Note:
 Dates that are marked with an X indicate that LNAPL was detected in the well and therefore, the well was not sampled.

Appendix B

Laboratory Analytical Report