



DCP Midstream
370 17th Street, Suite 2500
Denver, CO 80202
303-595-3331
303-605-2226 FAX

April 19, 2012

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

2012 APR 20 A 10: 14
RECEIVED OCD

**RE: 4th Quarter 2011 Groundwater Monitoring Results
DCP X-Line Pipeline Release (1RP-400-0)
Unit B, Section 7, T15S, R34E (Lat 33° 02' 11", Long 103° 32' 48")**

Dear Mr. Lowe:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the 4th Quarter 2011 Groundwater Monitoring Results for the DCP X-Line Pipeline Release located within the Etcheverry Ranch, Lea County, New Mexico.

If you have any questions regarding the report, please call at 303-605-1718 or e-mail me swweathers@dcpmidstream.com.

Sincerely

DCP Midstream, LP

Stephen Weathers, PG
Principal Environmental Specialist

cc: Mrs. Etcheverry, Landowner - Certified Mail 91 7108 2133 3938 9761 6618
Larry Johnson, OCD Hobbs District Office (Copy on CD)
Environmental Files

Fourth Quarter 2011 Groundwater Monitoring and Activities Summary Report

X-Line Pipeline Release – Etcheverry Ranch Lea County, New Mexico

1RP-400-0

Prepared for:



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

Prepared by:



Tasman Geosciences

5690 Webster, Ave
Arvada, CO 80002

February 20, 2012

Table of Contents

1. Introduction.....	1
2. Site Location and Background	1
3. Groundwater Monitoring	2
3.1 Groundwater Elevation Monitoring	2
3.2 Groundwater Quality Monitoring	2
4. Remediation System O&M Activities	3
4.1 Air Sparge System O&M	3
4.2 Soil Vapor Extraction System O&M.....	4
5. Conclusions.....	4
6. Recommendations.....	5

Tables

1	Fourth Quarter 2011 Summary of Groundwater Elevation Data
2	Fourth Quarter 2011 Summary of BTEX Concentrations in Groundwater

Figures

1	Site Location
2	Site Map With Monitoring Well Locations
3	Fourth Quarter 2011 Groundwater Elevation Contour Map – December 9, 2011
4	Fourth Quarter 2011 Analytical Results Map

Appendices

A	Groundwater Laboratory Analytical Results
B	SVE Effluent Vapor Sample Laboratory Analytical Results

1. Introduction

Tasman Geosciences, LLC (Tasman) is submitting to DCP Midstream (DCP) the results of the fourth quarter 2011 groundwater monitoring activities conducted December 9, 2011 and remediation system activities conducted December 7, 2011, at the X-Line Pipeline Release (Site) at the Etcheverry Ranch in Lea County, New Mexico (Figure 1). The purpose of the field activities described herein were to; a) determine the presence, if any, of light non-aqueous phase liquid (LNAPL) hydrocarbons; b) measure groundwater levels; c) obtain groundwater samples for chemical analysis; d) subsequently evaluate and present groundwater flow and quality conditions; and e) conduct remediation system operations and maintenance (O&M) activities. Current Site conditions were evaluated from field data and analytical laboratory results collected during the reporting period, as well as historical data collected by AEC.

2. Site Location and Background

The Site is located in New Mexico Oil Conservation Division (OCD) designated Unit B, Section 7, Township 15 South, Range 34 East (Figure 1). The OCD reference for the Site is 1R-0400. The facility coordinates are 33.036389 degrees north and 103.546667 degrees west. This area is sparsely populated and land use is primarily associated with livestock grazing and oil and gas extraction and conveyance.

Historical documents indicate that a pipeline release occurred at the Site location during the latter part of 2001. Soil boring activities conducted by Environmental Plus Incorporated (EPI) estimated that the contaminated soil column was approximately 40-feet in diameter at the surface, tapering to approximately 20-feet in diameter at 37-feet below ground surface (bgs) and extending at that diameter to the top of water table at approximately 75-feet bgs. EPI conducted soil excavation activities between January and March of 2002 which included the removal and disposal of approximately 6,746 cubic yards (yd³) of impacted material to a depth of 37 feet bgs. The material was then disposed of at the OCD approved and permitted Artesia Aeration Landfarm in Maljamar, New Mexico. Subsequent to excavation activities, the open pit was backfilled and compacted with overburden and unaffected materials. It was estimated that approximately 560 yd³ of impacted material remained in place.

Seven groundwater monitoring wells were installed at the site which are illustrated on Figure 2 (MW-1 through MW-7). Additionally, one light non-aqueous phase liquid (LNAPL) recovery well was installed and used to extract LNAPL material from the groundwater table. The well was re-drilled and used as a groundwater monitoring well (MW-8) following LNAPL recovery conducted between July 2003 and 2004.

Currently, the Site remediation components include an operational soil vapor extraction (SVE) and air sparge (AS) remediation system (System). Installation activities were completed by EPI and the system became fully functional by mid-June of 2003. Since that time, the system has had minimal downtime due, in part, to routine maintenance and minor equipment failures.

3. Groundwater Monitoring

This section describes the field groundwater monitoring activities as well as the laboratory analyses performed during the fourth quarter 2011 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 in groundwater at the Site. In addition, wells were measured for total depth and groundwater purge volumes calculated. During the fourth quarter 2011 monitoring event, groundwater levels were measured at seven of the eight monitoring well locations. Monitoring well MW-8 was not gauged as it was converted to an air sparge injection point December 7, 2011.

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) and were then converted to elevations (feet above mean sea level [AMSL])

Groundwater elevations collected during the fourth quarter 2011 monitoring event are presented in Table 1, and a fourth quarter 2011 groundwater elevation contour map is illustrated on Figure 3. Groundwater elevations ranged from 4,089.36 feet AMSL at monitoring well MW-1 to 4088.65 feet AMSL in monitoring well MW-5. Since surveyed top of casing (TOC) elevations are not available for monitoring wells MW-7 and MW-8, groundwater elevations could not be calculated for those wells. As illustrated on Figure 3, groundwater flow at the Site generally trends to the southeast with a gradient of approximately 0.002 foot per foot between monitoring wells MW-1 and MW-5.

3.2 Groundwater Quality Monitoring

Subsequent to the collection of groundwater level measurements at each monitoring well, groundwater samples were collected from seven of eight wells. Monitoring well MW-8 was not sampled as it was converted to an air sparge injection point December 7, 2011. A minimum of three well casing volumes of groundwater were purged using polyethylene bailers prior to collecting groundwater samples. Groundwater samples were collected using dedicated polyethylene bailers, placed in clean laboratory supplied containers and packed in an ice-filled cooler and maintained at approximately four 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.

Water quality samples were submitted to Accutest for benzene, toluene, ethylbenzene, and xylene (BTEX) analyses by United States Environmental Protection Agency (USEPA) Method 8260B.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the reporting period. Laboratory analytical reports for the event are included in Appendix A and analytical results are summarized on Figure 4. During the fourth quarter 2011 monitoring event, benzene, toluene, ethylbenzene, and xylenes were not detected above their respective NMWQCC Groundwater Standards in any of the sampled monitoring wells.

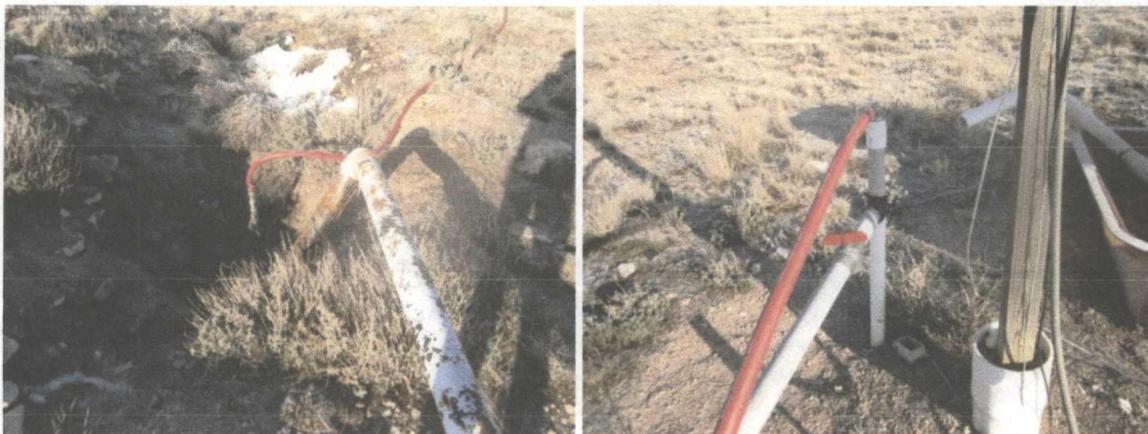
Water quality parameters were collected during the fourth quarter 2011 monitoring event and utilized to confirm groundwater stabilization prior to sample collection. Parameter stabilization was achieved within three purge volumes. Therefore, the analytical data are considered to be representative of Site conditions.

4. Remediation System O&M Activities

This Section describes the fourth quarter 2011 System O&M activities that were conducted at the Site.

4.1 Air Sparge System O&M

During the fourth quarter 2011 event, Tasman conducted O&M activities for the AS portion of the system. These activities included general start-up procedures for the AS blower unit, integrating monitoring well MW-8 into the AS network, and completing repairs to the conveyance lines at AS-8 and AS-9. On December 7, 2011 monitoring well MW-8 was converted to an AS injection point to address low level dissolved phase petroleum hydrocarbon concentrations present in groundwater in the vicinity of the well. The photographs below show how the conveyance line was connected to the AS header pipe and the connection to the wellhead.



Additionally, the AS injection well network was reconfigured to support optimal operation of existing AS wells in the vicinity of MW-8. The AS system was made operational on December 7, 2011 delivering five to seven pounds per square inch (psi) of air pressure into the subsurface at MW-8.

During a December 30, 2011 Site visit, it was discovered that the bearings for the AS blower unit were seized and the unit was not delivering pressurized air to the injection wells. The AS portion of the System was shut down, the blower unit was removed, and a new blower unit was installed on January 14, 2012.

4.2 Soil Vapor Extraction System O&M

During the fourth quarter 2011 event, Tasman conducted O&M activities for the SVE portion of the System including general start-up procedures for the SVE blower, the collection of SVE operational parameters, and collection of photoionization detector (PID) volatile organic compound (VOC) concentrations from the effluent stack of the SVE blower. Additionally, one vapor air sample was collected from the SVE blower effluent stack and shipped under chain-of-custody procedures to Accutest for analysis of BTEX and total petroleum hydrocarbons-gasoline range organics (TPH-GRO) using USEPA Method TO-3. The laboratory analytical report is included as Appendix B.

The SVE blower averaged 30.5 inches of water (in-H₂O) vacuum during the fourth quarter 2011 and the VOC PID reading collected from the effluent stack at start up was 60 parts per million (ppm). The BTEX and TPH-GRO concentrations in the SVE effluent stack vapor sample did not exceed their respective laboratory reporting limits.

5. Conclusions

Analysis of the fourth quarter 2011 groundwater data indicates that BTEX concentrations in groundwater did not exceed the regulatory limits at any of the wells sampled. Analytical results were reported above the laboratory detection limits for total xylenes and ethylbenzene in monitoring well MW-2. However, these results are below the NMWQCC Groundwater Standards. MW-8, which historically has the highest BTEX concentrations at the Site, was not sampled this quarter due to implementation of AS at the well location. A groundwater sample will be collected from MW-8 during the first quarter 2012 to assess the effectiveness of sparging at this well.

Based on the most current and historic groundwater concentration data, the plume is stable or declining. However, consistent low-level BTEX concentrations in groundwater warranted implementation of AS in the vicinity of MW-8.

6. Recommendations

Based on evaluation of data obtained during this reporting period, historical Site observations, and the remediation system operational parameters, the following recommendations have been developed for future activities at the Site:

- Continue quarterly groundwater monitoring and sampling activities at the monitoring well locations (including MW-8) provided in Table 1, and;
- Continue AS and SVE system operations to address residual BTEX concentration in groundwater in the vicinity of MW-8.

Tables

TABLE 1
FOURTH QUARTER 2011
SUMMARY OF GROUNDWATER ELEVATION DATA
X-LINE PIPELINE RELEASE - ETCHEVERRY RANCH
LEA COUNTY, NEW MEXICO

Location	Date	Depth to Groundwater (1) (feet)	Total Depth (2) (feet)	TOC Elevation (3) (feet amsl)	Groundwater Elevation (feet amsl)	Change in Groundwater Elevation Since Previous Event (4) (feet)
MW-1	12/9/10			4166.82	4089.40	0.06
MW-1	3/28/11			4166.82	4089.39	-0.01
MW-1	6/22/2011			4166.82	4089.35	-0.04
MW-1	9/18/2011	77.42	91.00	4166.82	4089.40	0.05
MW-1	12/9/2011	77.46	91.00	4166.82	4089.36	-0.04
MW-2	12/9/10			4166.66	4089.25	0.05
MW-2	3/28/11			4166.66	NM	-
MW-2	6/22/2011			4167.66	4089.18	-
MW-2	9/18/2011	77.42	88.00	4166.66	4089.24	0.06
MW-2	12/9/2011	77.46	88.00	4166.66	4089.20	-0.04
MW-3	12/9/10			4166.17	4089.03	0.06
MW-3	3/28/11			4166.17	NM	-
MW-3	6/22/2011			4166.17	4088.97	-
MW-3	9/18/2011	78.42	91.00	4166.17	4087.75	-1.22
MW-3	12/9/2011	77.46	91.00	4166.17	4088.71	0.96
MW-4	12/9/10			4166.40	4088.89	0.05
MW-4	3/28/11			4166.40	NM	-
MW-4	6/22/2011			4166.40	4088.83	-
MW-4	9/18/2011	77.55	91.00	4166.40	4088.85	0.02
MW-4	12/9/2011	77.60	91.00	4166.40	4088.80	-0.05
MW-5	12/9/10			4165.90	4088.82	0.10
MW-5	3/28/11			4165.90	NM	-
MW-5	6/22/2011			4165.90	4088.74	-
MW-5	9/18/2011	77.22	89.00	4165.90	4088.68	-0.06
MW-5	12/9/2011	77.25	89.00	4165.90	4088.65	-0.03
MW-6	12/9/10			4165.94	4088.85	0.03
MW-6	3/28/11			4165.94	NM	-
MW-6	6/22/2011			4165.94	4088.82	-
MW-6	9/18/2011	77.14	90.00	4165.94	4088.80	-0.02
MW-6	12/9/2011	77.27	90.00	4165.94	4088.67	-0.13
MW-7	12/9/10				4087.83	0.04
MW-7	3/28/11				NM	-
MW-7	6/22/2011				4088.82	-
MW-7	9/18/2011	76.69	85.00		NM	-
MW-7	12/9/2011	76.74	85.00	NM	NM	NM
MW-8	12/9/10					
MW-8	3/28/11					
MW-8	6/22/2011					
MW-8	9/18/2011	78.15	81.35		NM	NM
MW-8	12/9/2011	NM	81.35		NM	NM
Average Change in groundwater elevation since the previous monitoring event						0.11

Notes:

- 1- Depths measured from the north edge of the well casing.
- 2- Total depths were collected and recorded during the fourth quarter 2011 monitoring event.
- 3- TOC elevations for monitoring wells MW-7, & MW-8 were not available at the time this report was generated. Therefore, groundwater elevations for those wells could not be calculated.
- 4- Changes in groundwater elevation were calculated by subtracting the measurement collected during the previous monitoring even from the measurement collected during the most recent monitoring event.

Data presented for the 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 5.

amsl - feet above mean sea level.

TOC - top of casing

NM - not measured

TABLE 2
FOURTH QUARTER 2011
SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER
X-LINE PIPELINE RELEASE - ETCHEVERRY RANCH
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	12/9/2010	<0.001	<0.002	<0.002	<0.004	
MW-1	3/28/2011	<0.001	<0.002	<0.002	<0.004	
MW-1	6/22/2011	<0.001	<0.002	<0.002	<0.004	
MW-1	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-1	12/9/2011	<0.0005	<0.001	<0.001	<0.001	
MW-2	12/9/2010	0.00049	0.0147	<0.002	0.1317	
MW-2	3/28/2011	<0.001	0.005	<0.002	0.0455	
MW-2	6/22/2011	<0.002	1.002	<0.0164	1.185	
MW-2	9/18/2011	<0.001	<0.002	0.0123	0.14	
MW-2	12/9/2011	<0.0005	<0.001	0.0143	0.128	Duplicate Sample Collected
MW-3	12/9/2010	<0.001	<0.002	<0.002	<0.004	
MW-3	3/28/2011	<0.001	<0.002	<0.002	<0.004	
MW-3	6/22/2011	<0.001	<0.002	<0.002	<0.004	
MW-3	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-3	12/9/2011	<0.0005	<0.001	<0.001	<0.001	
MW-4	12/9/2010	<0.001	<0.002	<0.002	<0.004	
MW-4	3/28/2011	<0.001	<0.002	<0.002	<0.004	
MW-4	6/22/2011	<0.001	<0.002	<0.002	<0.004	
MW-4	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-4	12/9/2011	<0.0005	<0.001	<0.001	<0.001	
MW-5	12/9/2010	<0.001	<0.002	<0.002	<0.004	
MW-5	3/28/2011	<0.001	<0.002	<0.002	0.012	
MW-5	6/22/2011	<0.001	<0.002	<0.002	<0.004	
MW-5	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-5	12/9/2011	<0.0005	<0.001	<0.001	<0.001	
MW-6	12/9/2010	<0.001	<0.002	<0.002	<0.004	
MW-6	3/28/2011	<0.001	<0.002	<0.002	<0.004	
MW-6	6/22/2011	<0.001	<0.002	<0.002	<0.004	
MW-6	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-6	12/9/2011	<0.0005	<0.001	<0.001	<0.001	
MW-7	12/9/2010	<0.001	<0.003	<0.002	<0.004	
MW-7	3/28/2011	<0.001	<0.002	<0.002	<0.004	
MW-7	6/22/2011	<0.001	<0.002	<0.002	<0.004	
MW-7	9/18/2011	<0.001	<0.002	<0.002	<0.004	
MW-7	12/9/2011	<0.0005	<0.001	<0.001	<0.001	
MW-8	12/9/2010	NS	NS	NS	NS	
MW-8	3/28/2011	0.443	0.0817	0.717	2.34	
MW-8	6/22/2011	0.204	0.444	0.0822	2.72	
MW-8	9/18/2011	0.682	0.699	0.112	3.03	
MW-8*	12/9/2011	NS	NS	NS	NS	

Notes:

The environmental cleanup standards for water that are applicable to this Site are the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards.

Data presented for the 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.

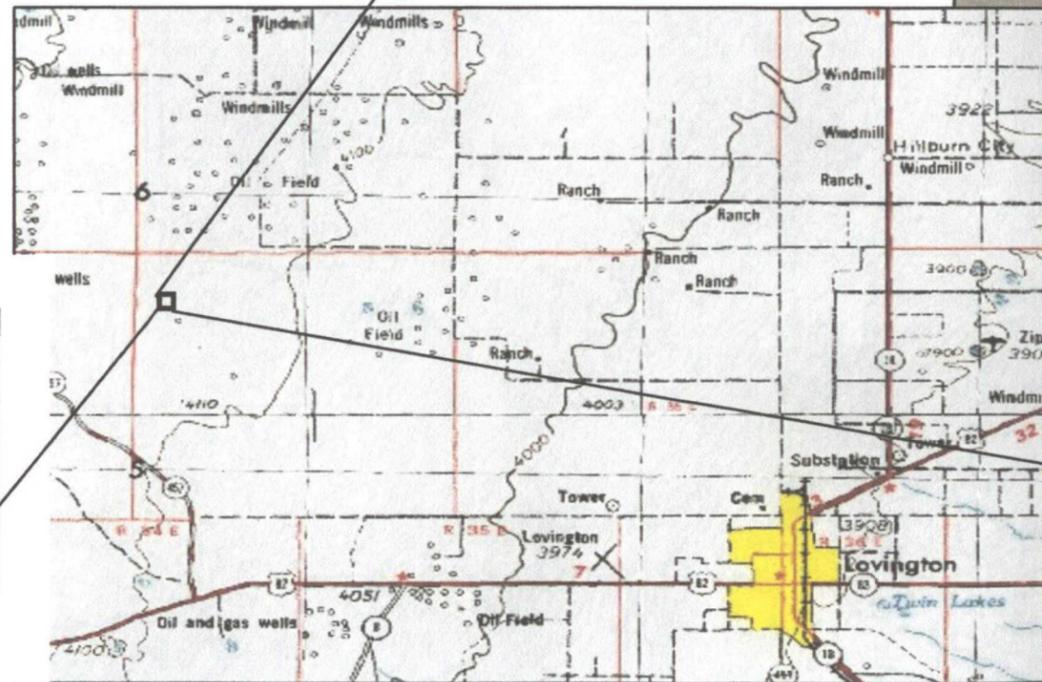
Sample locations are shown on Figure 2 and analytical results are illustrated on Figure 6.

NS = Not Sampled.

mg/L = milligrams per liter.

* - Monitoring well MW-8 was converted to an Air Sparge Injection point prior to the fourth quarter 2011 groundwater monitoring event. Therefore, groundwater samples were not collected from that well.

Figures



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



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

X-LINE PIPELINE RELEASE

*Fourth Quarter 2011
 Groundwater Monitoring
 Summary Report*

SITE LOCATION

FIGURE
 1



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



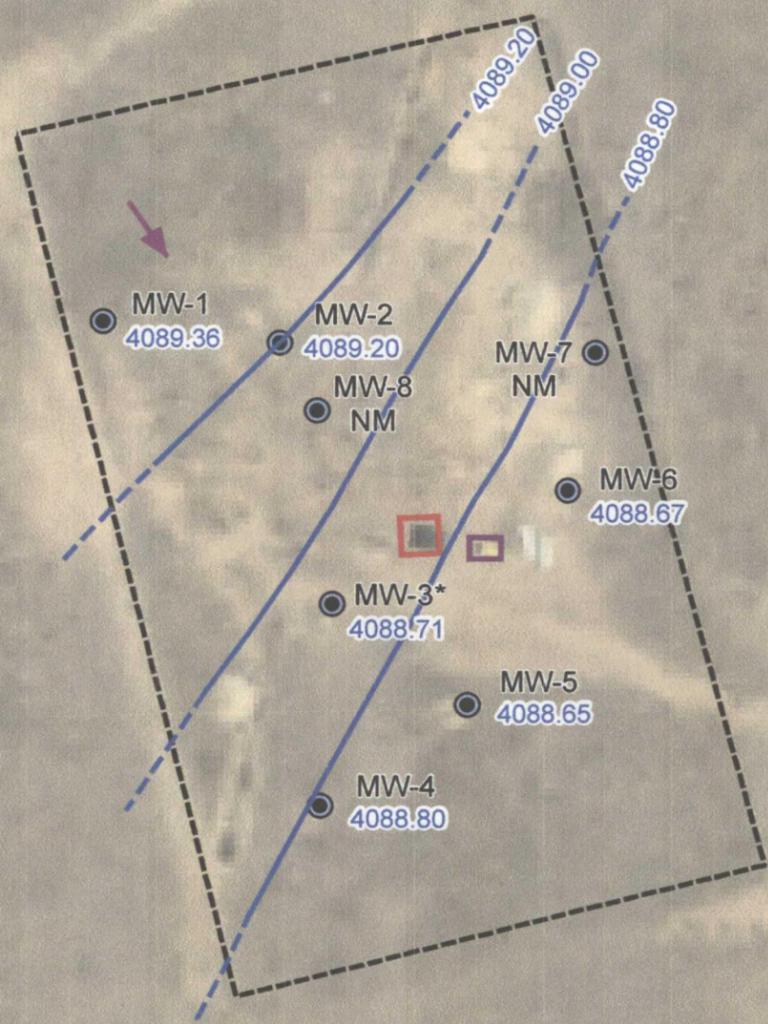
Tasman Geosciences, LLC
 5690 Webster St.
 Arvada, CO 8002
 720-988-2024

Tasman Geosciences

X-LINE PIPELINE RELEASE
*Fourth Quarter 2011
 Groundwater Monitoring
 Summary Report*

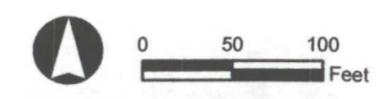
SITE MAP

FIGURE
2



- Legend**
- Monitoring Well
 - SVE & AS System Treatment Building
 - Treatment System Generator
 - Approximate Site Boundary
 - Groundwater Elevation Contour Line (feet AMSL), Dashed Where Inferred
 - 3,710.33 Measured Groundwater Elevation (feet AMSL)
 - Groundwater Flow Direction

Notes:
 NM - Top of casing elevations do not exist for those wells. Therefore, groundwater elevations could not be calculated for those wells.
 * Measured groundwater elevation was not used to calculate contours. Measured elevation is assumed to be mis-representative of actual value.



DESIGNED BY: C. Wasko
 DRAWN BY: J. Clonts
 SHEET CHK'D BY: _____
 CROSS CHK'D BY: _____
 APPROVED BY: _____
 APPROVED BY: _____



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

Tasman Geosciences

X-LINE PIPELINE RELEASE
*Fourth Quarter 2011
 Groundwater Monitoring
 Summary Report*

**GROUNDWATER ELEVATION
 CONTOUR MAP
 (DECEMBER 9, 2011)**

**FIGURE
 3**

MW-1		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	<0.002	<0.001
Total Xylenes	<0.004	<0.001

MW-2		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	0.123	0.0143
Total Xylenes	0.14	0.128

MW-7		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	<0.002	<0.001
Total Xylenes	<0.004	<0.001

MW-6		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	<0.002	<0.001
Total Xylenes	<0.004	<0.001

MW-3		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	<0.002	<0.001
Total Xylenes	<0.004	<0.001

MW-4		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	<0.002	<0.001
Total Xylenes	<0.004	<0.001

MW-5		
Compound	9/18/2011 (mg/L)	12/9/2011 (mg/L)
Benzene	<0.001	<0.0005
Toluene	<0.002	<0.001
Ethylbenzene	<0.002	<0.001
Total Xylenes	<0.004	<0.001

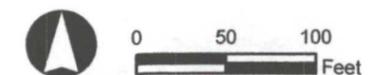
Legend

- Monitoring Well
- ▭ SVE & AS System Treatment Building
- ▭ Treatment System Generator
- Approximate Site Boundary

Notes:

MW-8 was not sampled due to SVE operation.

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



DESIGNED BY: C.Wasko
 DRAWN BY: J. Clonts
 SHEET CHK'D BY: _____
 CROSS CHK'D BY: _____
 APPROVED BY: _____
 APPROVED BY: _____



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

X-LINE PIPELINE RELEASE

*Fourth Quarter 2011
 Groundwater Monitoring
 Summary Report*

ANALYTICAL RESULTS MAP

**FIGURE
 4**

Appendix A

Groundwater Laboratory Analytical Report