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May 17, 2012

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

**RE: First 2012 Semi Annual Groundwater Monitoring Report  
DCP Linam Ranch Gas Plant (GW-015)  
Unit B, Section 6, Township 19 South, Range 37 East**

RECEIVED OGD  
2012 MAY 21 A 10:10

Dear Mr. Lowe:

DCP Midstream, LP (DCP) is pleased to submit for your review one copy of the First 2012 Semi Annual Groundwater Monitoring Report for the DCP Linam Ranch Gas Plant located in Lea County, New Mexico (Unit B Section 6, Township 19 South, Range 37 East).

The groundwater sampling was completed on March 5, 2012. The data indicate that the groundwater conditions remain stable. The next monitoring event is scheduled for the second half of 2012.

If you have any questions regarding the report, please call at 303-605-1695 or e-mail me [CECole@dcpmidstream.com](mailto:CECole@dcpmidstream.com).

Sincerely,

DCP Midstream, LP

A handwritten signature in cursive script that reads "Chandler E. Cole".

Chandler E Cole.  
Senior Environmental Specialist

Enclosure

cc: Larry Johnson – OCD District Office, Hobbs  
Environmental Files

# First Half 2012 Semi-Annual Groundwater Monitoring Summary Report

Linam Ranch Natural Gas Plant  
Lea County, New Mexico  
GW-015

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Prepared for:



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Denver, CO 80202

*Prepared by:*



Tasman Geosciences

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**May 1, 2012**

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## **1. Introduction**

Tasman Geosciences, LLC (Tasman) is submitting to DCP Midstream (DCP) the results of the first half 2012 semi-annual groundwater monitoring activities conducted March 5, 2012 at the Linam Ranch Natural Gas Plant (Site) in Lea County, New Mexico (Figure 1). The purpose of the field activities described herein were to: a) determine the presence of light non-aqueous phase liquid (LNAPL) hydrocarbons; b) measure groundwater levels; c) obtain groundwater samples for chemical analysis; and d) evaluate and present groundwater flow and quality conditions. Current Site conditions were evaluated from field data and analytical laboratory results collected during the reporting period.

## **2. Site Location and Background**

The Site is located in New Mexico Oil Conservation Division (OCD) designated Unit B, Section 6, Township 19 South, Range 37 East (Figure 1). The facility coordinates are 32.6965 degrees north and 103.2883 degrees west. This facility is active and includes an office complex and storage areas in addition to the main plant.

The Site has thirteen groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-10D, MW-11, MW-13), which were installed between 1991 and 1995 (Figure 2). In February 1994, hydrocarbon-impacted groundwater was detected during subsurface investigations performed at two areas within the plant. A follow-up subsurface investigation was performed in May 1994 to delineate the horizontal extent of hydrocarbon-impacted soils and groundwater. The OCD subsequently requested a work plan to completely define the extent of groundwater contamination at the plant. In October 1995, the OCD approved a quarterly sampling and monitoring program for the Site, which was reduced to semi-annual frequency in 1997 after the recommendations of a 1996 report submitted by Geoscience Consultants Ltd. (GCL).

## **3. Groundwater Monitoring**

This section describes the field groundwater monitoring activities as well as the laboratory analyses performed during the first half 2012 semi-annual monitoring event. Monitoring activities included Site-wide groundwater gauging, LNAPL measurements, groundwater purging and sampling, and packaging and shipping of the samples to the laboratory for chemical analyses. Figure 2 illustrates the groundwater monitoring network utilized to perform these activities at the Site.

### **3.1 Groundwater and LNAPL Elevation Monitoring**

During the first half 2012 semi-annual monitoring event, groundwater levels and LNAPL thickness, where present, were measured at thirteen Site monitoring well locations. Depth to groundwater and LNAPL were measured in order to evaluate hydraulic characteristics and provide information regarding

fluctuations in groundwater and LNAPL elevations at the Site. Monitoring wells that did not have LNAPL present were measured for total depth and a sampling purge volume calculated.

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 levels were subsequently converted to elevations (feet above mean sea level [AMSL]). Measured groundwater level data and elevations collected during the second half 2011 semi-annual monitoring event in addition to historical elevations are presented in Table 1. A contour map of first half 2012 semi-annual groundwater elevations is presented in Figure 3. Groundwater elevations ranged from 3,674.35 feet AMSL at monitoring well MW-5 to 3,666.68 feet AMSL at monitoring well MW-3. As illustrated on Figure 3, groundwater flow at the Site generally trends to the southeast with a gradient of approximately 0.0036 foot per foot between monitoring wells MW-5 and MW-3. Monitoring well MW-7, located at the northwest corner of the Site, was dry at the time of the sampling event.

LNAPL was detected at MW-4 with a thickness of 0.34 feet and MW-6 with a thickness of 3.1 feet.

### 3.2 Groundwater Quality Monitoring

Prior to collecting groundwater samples, groundwater levels, the presence of LNAPL, and total depth (in wells without LNAPL) were measured within Site monitoring wells as described above. A minimum of three well casing volumes of groundwater (calculated from total depth of the well and groundwater level measurements) was then purged using dedicated polyethylene bailers from the subject well prior to collecting groundwater samples. Purge water was collected and transported to a waste water sump onsite. Groundwater samples were collected using the same dedicated polyethylene bailers, placed in clean laboratory supplied containers for the selected analytical methods, packed in an ice-filled cooler and maintained at approximately 4 degrees Celsius ( $^{\circ}\text{C}$ ) for transportation. Groundwater samples were then shipped under chain-of-custody procedures to ALS Environmental (ALS) laboratory in Houston, Texas, for analysis.

Water quality samples were collected from ten of thirteen wells. Monitoring wells MW-4 and MW-6 were not sampled due to the presence of measurable LNAPL detected in the wells and monitoring well MW-7 was dry at the time of the sampling event. Water quality samples were submitted to ALS for analysis of benzene, toluene, ethylbenzene, and xylene (BTEX) by United States Environmental Protection Agency (USEPA) Method 8260B.

Table 2 summarizes BTEX concentrations in groundwater samples collected during the March 2012 event. Analytical results are summarized on Figure 4 and the laboratory analytical report is provided in Appendix A.

Analytical results for monitoring wells sampled are as follows:

- MW-1, MW-2, MW-3, MW-8, MW-9, MW-11, and MW-13: BTEX were non-detect (below laboratory reporting limits) in these wells;
- MW-5, MW-10, MW-10D: Benzene was detected in all three wells at concentrations of 0.24

mg/L, 2.2 mg/L, and 0.024 mg/L, respectively, which exceed the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standard of 0.01 mg/L. Ethylbenzene was detected in monitoring wells MW-5 and MW-10, but only the sample from MW-5 (2.0 mg/L) exceeded the NMWQCC Groundwater Standard (0.75mg/L). Toluene was detected in MW-10 and MW-10D, but was below the NMWQCC standard (0.75 mg/L). Total xylenes were detected in MW-10 but were below the NMWQCC standard (0.62 mg/L).

Water quality parameters were collected during the monitoring event. The Site monitoring wells did not require collection of more than three purge volumes to achieve parameter stabilization. As such, the analytical data are considered to be representative of Site conditions in that a minimum of 3 purge volumes were evacuated from all sampled monitoring wells during the 2012 first half semi-annual event.

#### **4. Remediation Activities**

Natural attenuation continues to provide effective control and passive remediation of the dissolved-phase groundwater plume as well as LNAPL on Site. Monitoring wells MW-2 and MW-3 act as “point of compliance” wells along the down-gradient facility boundary, and continue to report non-detect concentrations for dissolved-phase BTEX concentrations in groundwater. Based on the historic and recent data, it appears that natural attenuation provides effective remediation of residual impacts at the Site.

#### **5. Conclusions**

Measurable LNAPL persists at monitoring wells MW-4 and MW-6, located down gradient of the former oil water separator. Considering the apparent minimal subsurface lateral extent of LNAPL and minimal extent of dissolved-phase hydrocarbons at the Site, the residual source material does not appear significant in terms of emplaced volume.

The persistence of LNAPL in the vicinity of MW-4 and MW-6 and absence of down-gradient free phase hydrocarbons and dissolved-phase impact in groundwater indicates that the residual constituents of concern are not mobile in the subsurface and natural attenuation continues to persist at the site.

Elevated dissolved-phase benzene concentrations were detected at monitoring wells MW-10 and MW-10D in the central portion of the Site, suggesting the possibility of a secondary contaminant source area. However, concentrations in both MW-9 and MW-13, which are located immediately down gradient, remain non-detect for all BTEX constituents.

A key factor that may be affecting mobility of product at the Site likely includes the transmissivity of the subsurface formation and the hydraulic gradient across the Site. There appears to be minimal hydraulic gradient potential at the Site, so even though the subsurface may be transmissive, the overall plume velocity is slow and therefore, does not influence LNAPL mobility. Biodegradation of source material over distance and time from the point of release are likely occurring because dissolved-phase BTEX constituents in groundwater are minimal near the residual LNAPL. Analytical results in point-of-compliance wells along the down gradient property boundary continue to be non-detect for all BTEX constituents.

Ongoing semi-annual groundwater sampling activities will provide for continued monitoring of dissolved-phase BTEX concentrations and LNAPL trends.

## **6. Recommendations**

Based on evaluation of data collected during the reporting period and historical Site observations and monitoring results, the following recommendation has been developed for future activities:

- Continue semi-annual groundwater monitoring and sampling at the monitoring locations illustrated on Figure 2.

## Tables



**TABLE 1**  
**FIRST HALF 2012 SEMI-ANNUAL**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location	Date	Depth to Groundwater (1) (feet)	Depth to Product (1) (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	09/24/09				54.20	3718.29	3674.11	-0.18
MW-1	03/24/10				54.20	3718.29	3673.97	-0.14
MW-1	09/28/10				54.20	3718.29	3676.13	2.16
MW-1	04/28/11	45.75			54.20	3718.29	3674.43	-1.70
MW-1	09/13/11	46.05			54.31	3718.29	3672.24	-2.19
MW-1	03/05/12	46.43			54.31	3718.29	3671.86	-0.38
MW-2	09/24/09				50.50	3714.80	3672.50	-0.28
MW-2	03/24/10				50.50	3714.80	3672.10	-0.40
MW-2	09/28/10				50.50	3714.80	3675.64	3.54
MW-2	04/28/11	40.5			50.50	3714.80	3676.74	1.10
MW-2	09/12/11	45.47			50.50	3714.80	3669.33	-7.41
MW-2	03/05/12	45.95			50.50	3714.80	3668.85	-0.48
MW-3	09/24/09				55.30	3715.50	3669.92	0.00
MW-3	03/24/10				55.30	3715.50	3669.55	-0.37
MW-3	09/28/10				55.30	3715.50	3669.90	0.35
MW-3	04/28/11	48.33			55.30	3715.50	3669.37	-0.53
MW-3	09/12/11	48.55			55.44	3715.50	3666.95	-2.42
MW-3	03/05/12	48.82			55.44	3715.50	3666.68	-0.27
MW-4*	09/24/09				54.13	3720.46	3674.89	-0.25
MW-4*	03/24/10				54.13	3720.46	3674.95	0.06
MW-4*	09/28/10				54.13	3720.46	3675.55	0.60
MW-4*	04/28/11	46.91	46.68	0.23	54.13	3720.46	3673.72	-1.83
MW-4*	09/13/11	47.29	47.01	0.28	NM	3720.46	3673.38	-0.34
MW-4*	03/05/12	47.44	47.10	0.34	NM	3720.46	3673.28	-0.11
MW-5	09/24/09				55.20	3721.53	3675.71	-0.26
MW-5	03/24/10				55.20	3721.53	3675.71	0.00
MW-5	09/28/10				55.20	3721.53	3676.50	0.79
MW-5	04/28/11	46.59			55.20	3721.53	3677.01	0.51
MW-5	09/13/11	47.36			56.35	3721.53	3674.17	-2.84
MW-5	03/05/12	47.18			56.35	3721.53	3674.35	0.18
MW-6*	09/24/09				54.10	3720.99	3673.93	-0.35
MW-6*	03/24/10				54.10	3720.99	3673.7	-0.23
MW-6*	09/28/10				54.10	3720.99	3676.17	2.47
MW-6*	04/28/11	49.91	47.10	2.81	54.10	3720.99	3673.19	-2.98
MW-6*	09/13/11	50.75	47.42	3.33	NM	3720.99	3672.74	-0.45
MW-6*	03/05/12	50.84	47.74	3.1	NM	3720.99	3672.48	-0.26
MW-7	09/24/09	DRY			62.50	3728.57	DRY	
MW-7	03/24/10	DRY			62.50	3728.57	DRY	
MW-7	09/28/10	DRY			62.50	3728.57	DRY	
MW-7	04/28/11	DRY			62.50	3728.57	DRY	
MW-7	09/13/11	DRY			NM	3728.57	DRY	
MW-7	03/05/12	DRY			58.28	3728.57	DRY	
MW-8	09/24/09				58.30	3714.18	3671.99	-0.02
MW-8	03/24/10				58.30	3714.18	3671.31	-0.68
MW-8	09/28/10				58.30	3714.18	3673.72	2.41
MW-8	04/28/11	44.35			58.30	3714.18	3671.83	-1.89
MW-8	09/12/11	44.78			58.00	3714.18	3669.40	-2.43
MW-8	03/05/12	45.2			58.00	3714.18	3668.98	-0.42

**TABLE 1**  
**FIRST HALF 2012 SEMI-ANNUAL**  
**SUMMARY OF GROUNDWATER ELEVATION DATA**  
**LINAM RANCH**  
**LEA COUNTY, NEW MEXICO**

Location	Date	Depth to Groundwater (1) (feet)	Depth to Product (1) (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-9	09/24/09				59.10	3720.48	3671.38	-0.39
MW-9	03/24/10				59.10	3720.48	3671.03	-0.35
MW-9	09/28/10				59.10	3720.48	3671.51	0.48
MW-9	04/28/11	51.42			59.10	3720.48	3671.06	-0.45
MW-9	09/12/11	51.46			59.30	3720.48	3669.02	-2.04
MW-9	03/05/12	51.81			59.30	3720.48	3668.67	-0.35
MW-10	09/24/09				65.00	3720.76	3671.75	-0.47
MW-10	03/24/10				65.00	3720.76	3671.43	-0.32
MW-10	09/28/10				65.00	3720.76	3672.20	0.77
MW-10	04/28/11	51.34			65.00	3720.76	3671.56	-0.64
MW-10	09/12/11	51.35			65.15	3720.76	3669.41	-2.15
MW-10	03/05/12	51.78			65.15	3720.76	3668.98	-0.43
MW-10D	09/24/09				79.00	3720.85	3671.22	-0.42
MW-10D	03/24/10				79.00	3720.85	3671.28	0.06
MW-10D	09/28/10				79.00	3720.85	3671.63	0.35
MW-10D	04/28/11	52.4			79.00	3720.85	3671.14	-0.49
MW-10D	09/12/11	52.34			79.00	3720.85	3668.51	-2.63
MW-10D	03/05/12	52.85			79.00	3720.85	3668.00	-0.51
MW-11	09/24/09				62.80	3722.02	3672.32	-0.42
MW-11	03/24/10				62.80	3722.02	3671.93	-0.39
MW-11	09/28/10				62.80	3722.02	3673.04	1.11
MW-11	04/28/11	52.05			62.80	3722.02	3672.48	-0.56
MW-11	09/12/11	52.05			62.95	3722.02	3669.97	-2.51
MW-11	03/05/12	52.57			62.95	3722.02	3669.45	-0.52
MW-13	09/24/09				63.00	3721.63	3671.25	-0.35
MW-13	03/24/10				63.00	3721.63	3670.91	-0.34
MW-13	09/28/10				63.00	3721.63	3671.59	0.68
MW-13	04/28/11	53.03			63.00	3721.63	3670.96	-0.63
MW-13	09/12/11	53.2			62.95	3721.63	3668.43	-2.53
MW-13	03/05/12	53.56			62.95	3721.63	3668.07	-0.36
Average Change in groundwater elevation since the previous monitoring even								-0.33

Notes:

1- Depths measured from the north edge of the well casing.

2- Total depths were collected and recorded during the first half 2012 semi-annual monitoring event. Total depths were not collected in wells that had LNAPL.

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.

Data presented for the well locations includes previous five 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

\* Groundwater elevation was corrected for product thickness using the following calculation:

Groundwater elevation = (TOC Elevation - Measured Depth to Water) + (LNAPL Thickness in Well \* LNAPL Density)

LNAPL density was assumed to be approximately 0.75 grams per cubic centimeter

**TABLE 2**  
**FIRST HALF 2012 SEMI-ANNUAL**  
**SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER**  
**LINAM 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	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-1	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-1	09/28/10	<0.001	<0.002	<0.002	<0.004	
MW-1	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-1	09/13/11	<0.001	<0.002	<0.002	<0.004	
MW-1	03/05/12	<0.005	<0.005	<0.005	<0.015	
MW-2	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-2	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-2	09/28/10	<0.001	<0.002	<0.002	<0.004	
MW-2	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-2	09/12/11	<0.001	<0.002	<0.002	<0.004	
MW-2	03/05/12	<0.005	<0.005	<0.005	<0.015	
MW-3	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-3	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-3	09/28/10	<0.001	<0.002	<0.002	<0.004	
MW-3	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-3	09/12/11	<0.001	<0.002	<0.002	<0.004	
MW-3	03/05/12	<0.005	<0.005	<0.005	<0.015	
MW-4	09/24/09	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	03/24/10	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	09/28/10	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	04/28/11	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	09/13/11	LNAPL	LNAPL	LNAPL	LNAPL	
MW-4	03/05/12	LNAPL	LNAPL	LNAPL	LNAPL	
MW-5	09/24/09	0.0272	<0.002	0.227	<0.006	
MW-5	03/24/10	0.1300	<0.002	0.482	0.460	
MW-5	09/28/10	0.0095	<0.004	0.188	<0.008	
MW-5	04/28/11	0.1490	<0.004	0.776	<0.004	
MW-5	09/13/11	0.1300	<0.010	0.860	<0.020	
MW-5	03/05/12	0.240	<0.025	2.000	<0.075	
MW-6	09/24/09	LNAPL	LNAPL	LNAPL	LNAPL	
MW-6	03/24/10	LNAPL	LNAPL	LNAPL	LNAPL	
MW-6	09/28/10	LNAPL	LNAPL	LNAPL	LNAPL	
MW-6	04/28/11	LNAPL	LNAPL	LNAPL	LNAPL	
MW-6	09/13/11	LNAPL	LNAPL	LNAPL	LNAPL	
MW-6	03/05/12	LNAPL	LNAPL	LNAPL	LNAPL	
MW-7	09/24/09	NS	NS	NS	NS	
MW-7	03/24/10	NS	NS	NS	NS	
MW-7	09/28/10	NS	NS	NS	NS	
MW-7	04/28/11	NS	NS	NS	NS	
MW-7	09/13/11	NS	NS	NS	NS	
MW-7	03/05/12	NS	NS	NS	NS	
MW-8	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-8	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-8	09/28/10	<0.001	<0.002	<0.002	<0.004	
MW-8	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-8	09/12/11	<0.001	<0.002	<0.002	<0.004	
MW-8	03/05/12	<0.005	<0.005	<0.005	<0.015	

**TABLE 2**  
**FIRST HALF 2012 SEMI-ANNUAL**  
**SUMMARY OF BTEX CONCENTRATIONS IN GROUNDWATER**  
**LINAM 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-9	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-9	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-9	09/28/10	<0.001	<0.002	<0.002	<0.004	
MW-9	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-9	09/12/11	<0.001	<0.002	<0.002	<0.004	
MW-9	03/05/12	<0.005	<0.005	<0.005	<0.015	
MW-10	09/24/09	1.070	0.126	0.148	0.154	
MW-10	03/24/10	1.640	0.175	0.246	0.156	
MW-10	09/28/10	1.900	0.055	0.240	0.104	
MW-10	04/28/11	2.005	0.243	0.215	0.141	
MW-10	09/12/11	1.970	0.104	0.249	0.145	Duplicate Sample Collected
MW-10	03/05/12	2.200	0.110	0.230	0.130	
MW-10D	09/24/09	0.103	0.0496	0.0127	0.0261	
MW-10D	03/24/10	0.196	0.0703	0.0129	0.0202	
MW-10D	09/28/10	0.0402	0.0358	0.006	0.0077	
MW-10D	04/28/11	0.0512	0.0373	0.0063	0.0113	
MW-10D	09/12/11	0.0278	0.0131	0.0032	0.0060	
MW-10D	03/05/12	0.0240	0.0081	<0.005	<0.015	Duplicate Sample Collected
MW-11	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-11	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-11	09/28/10	0.0036	<0.002	<0.002	0.004	
MW-11	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-11	09/12/11	<0.001	<0.002	<0.002	<0.004	
MW-11	03/05/12	<0.005	<0.005	<0.005	<0.015	
MW-13	09/24/09	<0.002	<0.002	<0.002	<0.006	
MW-13	03/24/10	<0.002	<0.002	<0.002	<0.006	
MW-13	09/28/10	<0.001	<0.002	<0.002	<0.004	
MW-13	04/28/11	<0.001	<0.002	<0.002	<0.002	
MW-13	09/12/11	<0.001	<0.002	<0.002	<0.004	
MW-13	03/05/12	<0.005	<0.005	<0.005	<0.015	

Notes:

1.) The environmental cleanup standards for water that are applicable to the Linam Ranch site are the New Mexico Water Quality Control Commission (NMWQCC) Groundwater Standards.

3.) Data presented for the well locations includes previous five 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.

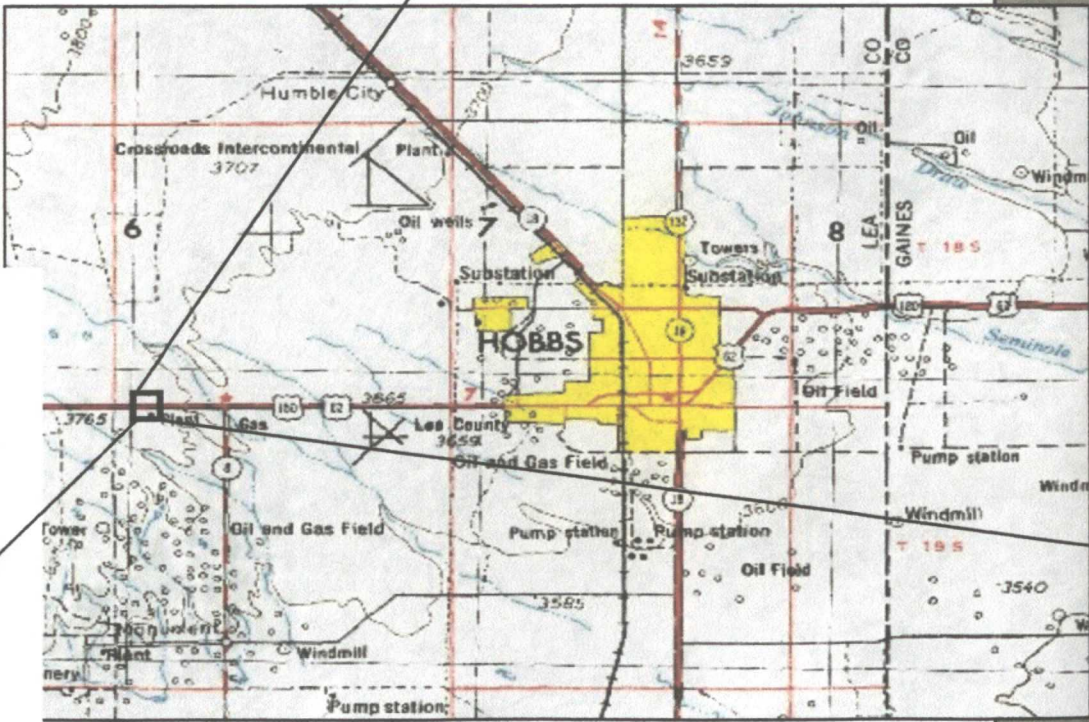
LNAPL = Light Non-Aqueous Phase Liquid

NS = Not Sampled.

mg/L = milligrams per liter.

## Figures





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

**LINAM RANCH GAS PLANT**  
*First Half 2012 Groundwater Monitoring  
Summary Report*

SITE LOCATION

FIGURE  
1





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



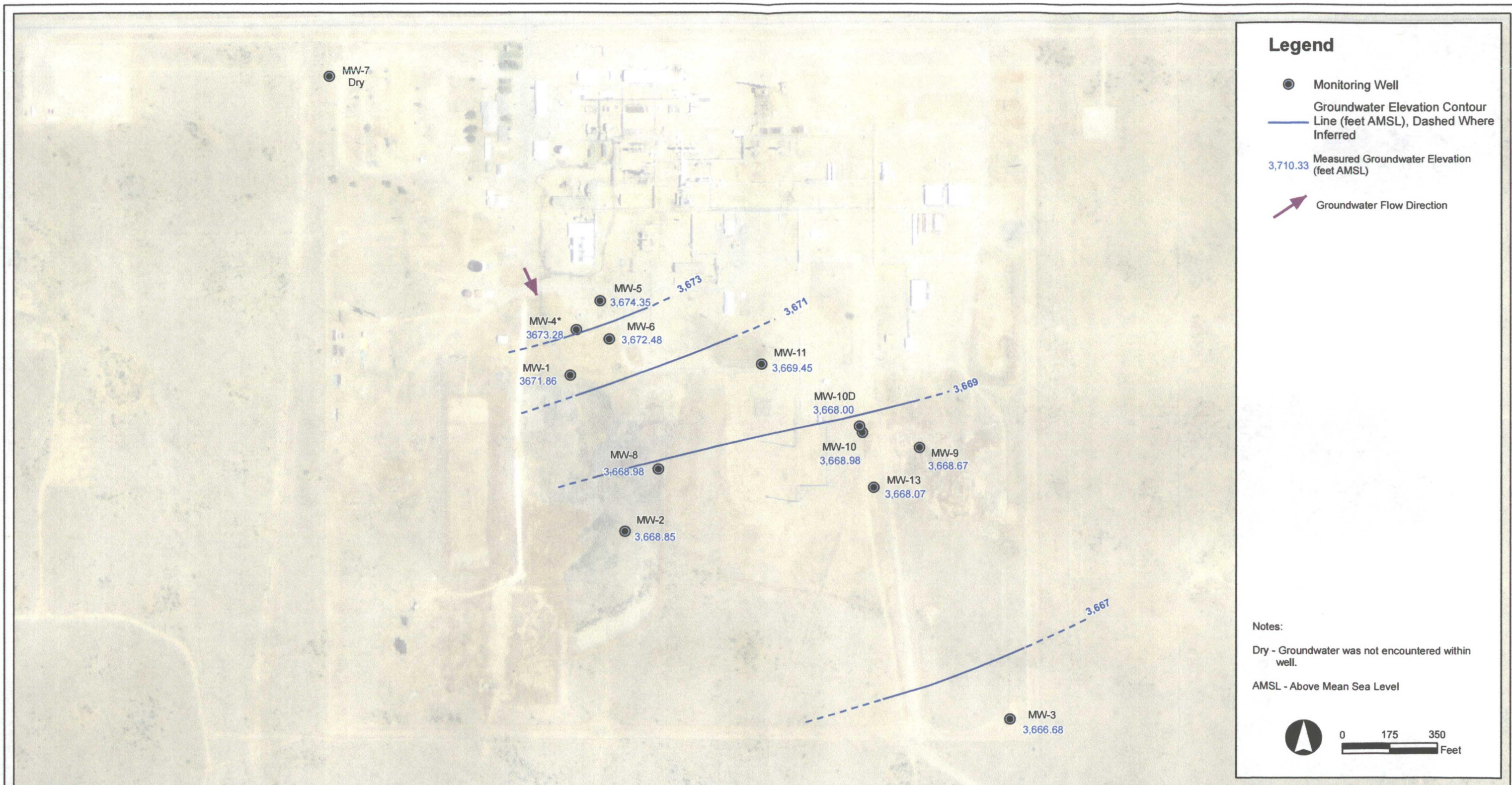
Tasman Geosciences, LLC  
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Arvada, CO 8002  
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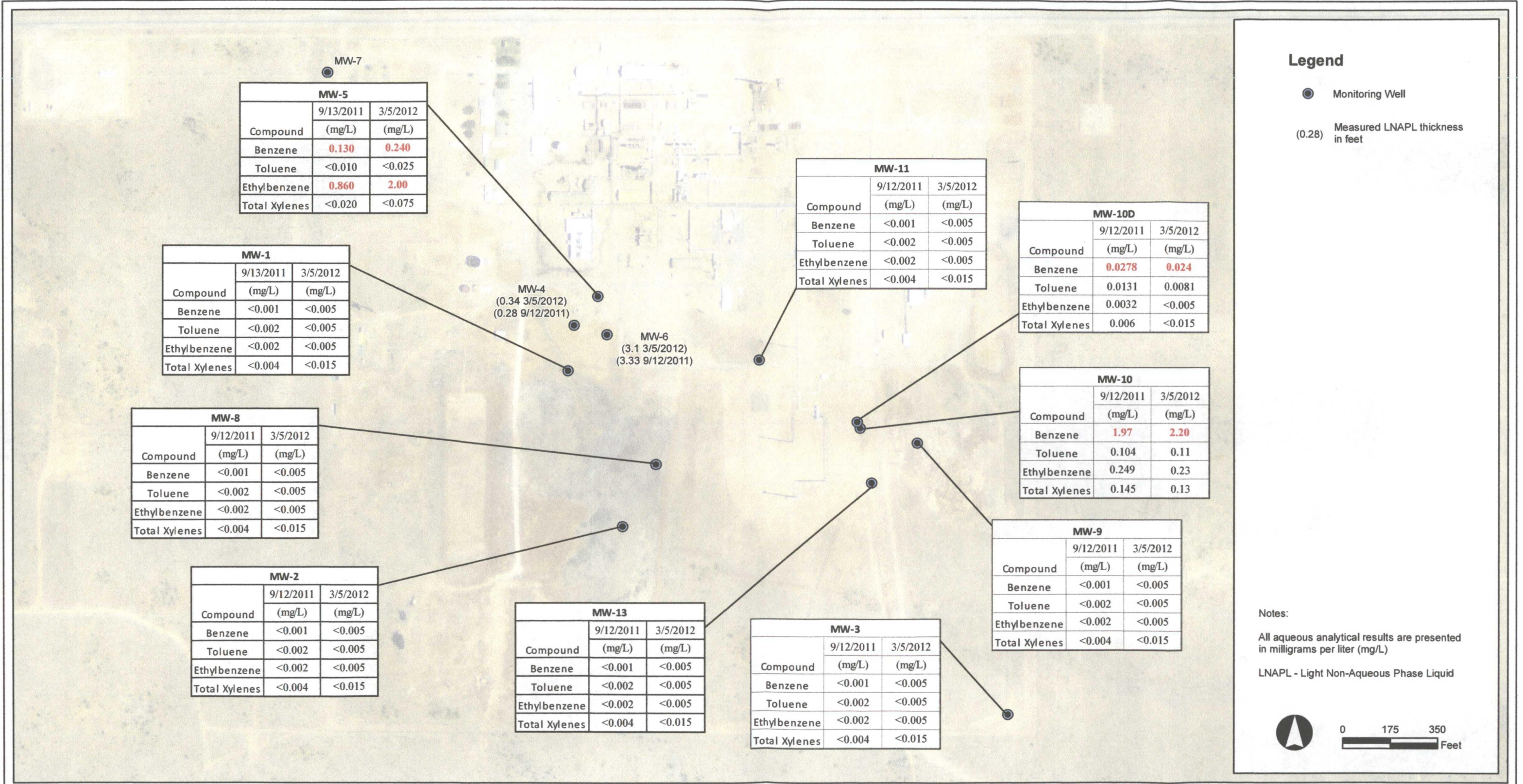
SITE MAP

FIGURE  
2










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



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**ANALYTICAL RESULTS  
MAP**

**FIGURE  
4**



**Appendix A**  
**Laboratory Analytical Report**



15-Mar-2012

Alyssa Beard  
Tasman Geosciences  
5690 Webster Street  
Arvada, CO 80002

Tel: (720) 988-2024  
Fax:

Re: DCP-Linam Ranch Gas Plant

Work Order: 1203263

Dear Alyssa,

ALS Environmental received 12 samples on 07-Mar-2012 09:25 AM for the analyses 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.

The total number of pages in this report is 22.

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

Sincerely,

Electronically approved by: Yvan K. Ty

Nicole Brown  
Senior Project Manager



Certificate No: T104704231-09A-TX



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