

**AP-055**

**4<sup>th</sup> QTR 2010 GW Results**

**DATE:  
03.31.11**





**DCP Midstream**  
370 17<sup>th</sup> Street, Suite 2500  
Denver, CO 80202  
**303-595-3331**  
303-605-2226 FAX

RECEIVED OCD

March 31, 2011

2011 APR -1 A 12:50

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

**RE: 4th Quarter 2010 Groundwater Results  
DCP Midstream, LP RR Ext. Pipeline Release (AP #55)  
Unit C, Section 19, Township 20 South, Range 37 East  
Lea County, New Mexico**

Dear Mr. Lowe:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the 4<sup>th</sup> Quarter 2010 Groundwater Results for the DCP RR Ext. Pipeline Release located in Lea County, New Mexico (Unit C, Section 19, Township 20 South, Range 37 East).

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

Sincerely

**DCP Midstream, LP**

Stephen Weathers, PG  
Principal Environmental Specialist

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



March 22, 2011

Mr. Stephen Weathers  
DCP Midstream, LP  
370 17<sup>th</sup> Street, Suite 2500  
Denver, CO 80202

Re: Summary of Fourth Quarter 2010 Groundwater Monitoring Activities  
DCP RR Ext Pipeline Release **Unit C, Section 19 Township 20 South, Range 37  
East (AP #55)**

Dear Mr. Weathers:

This letter report summarizes the fourth quarter 2010 groundwater monitoring activities that were completed at the DCP Midstream (DCP) RR Ext Site (Figure 1). The approximate site coordinates are 32.5624 north, 103.2923 west.

The work was completed on December 9, 2010. The 12 well locations are shown on Figure 2. The well construction information is summarized in Table 1. The fluid levels were measured at each well prior to purging to check for free phase hydrocarbons (FPH) and to calculate the casing volumes. Wells MW-3, MW-4, MW-5, MW-9 and MW-10 contained FPH so they were not purged and sampled.

The remaining seven wells were purged to equilibration using dedicated bailers based on the field parameters of temperature, pH and conductivity. They were then sampled for benzene, toluene, ethylbenzene and xylenes (BTEX) using EPA Method SW846 8260B and for chlorides using EPA Method SW846 9056. A field duplicate from MW-2 and a matrix spike/matrix spike duplicate (MS/MSD) from MW-6 were collected to evaluate quality control. All affected purge water was disposed of at the DCP Linam Ranch facility.

The water gauging data are summarized in Table 2. The water-table elevations for the wells containing FPH were adjusted using the following formula:

$$GWE_{\text{corr}} = MGWE + (PT * PD); \text{ where}$$

- MGWE is the actual measured groundwater elevation;
- PT is the measured free-phase hydrocarbon thickness; and
- PD is the free phase hydrocarbon density (assumed 0.75)

A summary of all of the corrected water-table elevations is attached. Well hydrographs are plotted on Figure 3 for MW-1 to MW-8. Figure 3 indicates that the water table generally rose across the site at a relatively consistent rate for a third consecutive quarter with two exceptions. The calculated water table in MW-4 and MW-5, both of which contain FPH, fell slightly.



A summary of FPH thickness in all of the wells is included as Table 3. There was no FPH measured in the wells between March 2008 and September 2009. FPH was first measured in MW-4 in September 2009, and it has been present since then. FPH was then measured in MW-4 and MW-5 beginning in March 2010. FPH has been measured in MW-9 and MW-10 since they were installed in June 2010. The FPH thickness decreased in all wells between September 2010 and December 2010 (Figure 4). The FPH thickness in MW-4, the well that has contained it the longest, has decreased consistently since December 2009. This trend may indicate that the source of the FPH is no longer present.

The measured water table elevations from MW-1 to MW-8 were used to generate a groundwater contour map using the Surfer program with a kriging option (Figure 5). Groundwater appears to flow toward the south down gradient of MW-5. The generally-southward groundwater flow pattern is similar to that exhibited in the past. Wells MW-9 through MW-12 will be surveyed and integrated into the water table after the additional monitoring wells are installed the first quarter of 2011.

The measured field parameters and a copy of the laboratory report for this sampling event are attached. The results are summarized in Table 4. The quality control evaluation data can be summarized as follows:

- The samples were all analyzed within the required holding times;
- The method blanks were all within their control limits;
- The blank spikes were all within their control limits;
- The individual sample surrogates results were within the method ranges;
- The matrix spike/matrix spike duplicates for MW-6 and for the laboratory-selected sample were within their control ranges; and
- The differences between the MW-1 primary and duplicate samples were less than 10 percent for benzene, ethylbenzene and chlorides. The differences were approximately 30 percent for toluene and m,p-xylenes (o-xylenes not detected), but the results are considered acceptable because of passing the other quality control evaluations.

The above results indicate that the data are suitable for evaluation for groundwater monitoring purposes.

The New Mexico Water Quality Control Commission (NMWQCC) groundwater standards are included at the top of Table 4. The constituents that exceeded those standards are highlighted in bold text. MW-1 and MW-2 exceeded the NMWQCC groundwater standard for benzene but the remaining constituents were below their respective standards. There was no BTEX detected in wells MW-6, MW-8, MW-11 and MW-12.



Figure 6 shows the benzene concentrations and locations of the wells that contained FPH for the sampling event. The extent of dissolved phase BTEX is delineated to the south, southeast and east by MW-6, MW-7, MW-11 and MW-12. Additional characterization is necessary to delineate the extent of hydrocarbon impacts to the north, southwest and west. AEC submitted a work plan in the recommendations of the second quarter groundwater monitoring report to install the additional characterization wells to the New Mexico State Land Office (SLO) and the New Mexico Oil Conservation Division. The SLO issued the necessary permits in mid-December 2010 so the wells will be installed the first quarter of 2011.

All of the historical BTEX data collected for this project are attached. Figure 7 graphs the benzene concentration verses time for affected wells MW-1 and MW-2. The concentration in MW-1 dropped, and it continues to exhibit a cyclical concentration variation although it does not appear to correspond to a seasonal timeframe. The concentration in MW-2 remained at the same approximate concentration.

The BTEX concentrations in MW-8 have remained undetected since May 2009. This fact establishes that the dissolved-phase plume is defined at its up-gradient northwest boundary.

The historical chloride data are summarized in Table 5. The laboratory measured concentrations between 278 and 533 excluding the wells that contained FPH.

The chloride concentrations verses time for the wells that have not contained FPH over the duration of the project are plotted on Figure 8 minus the anomalously-high values that were measured in March 2010. The graphs indicate that the chloride values increased slightly in a uniform fashion in all of the wells. The chloride concentration in MW-2 continues to approach the values in the other wells.

## **CONCLUSIONS AND RECOMMENDATIONS**

AEC concludes the following based upon the data collected to date:

1. The water table appears to behave uniformly across the site in response to external factors indicating that the natural groundwater regime has returned to an equilibrated state following the soils remediation activities.
2. The general southward groundwater flow reflects the regional conditions present in this area. Better definition will be provided when the water-table information from the additional existing and proposed wells is incorporated into the data set.



3. The recent FPH behavior does not match the initial spill timeframe but the measured thicknesses now appear to be declining. The FPH thickness in MW-4 has declined by over a foot since its maximum in December 2009. It has also declined in MW-3 and MW-5 to a lesser degree. This trend may indicate that the source of the FPH is no longer present.
4. The dissolved-phase hydrocarbon plume has not been defined to the south and west. Also, the appearance of benzene at trace concentrations in eastern well MW-7 may indicate additional plume expansion in that direction. These trace concentrations remain approximately 20 times lower than the NMWQCC groundwater standards so any plume expansion in this direction would have to be substantial before exceedance issues would arise.

The next monitoring event is scheduled for the first quarter of 2011. Do not hesitate to contact me if you have any comments or questions on this report

Respectfully Submitted,  
**AMERICAN ENVIRONMENTAL CONSULTING, LLC**

*Michael H. Stewart*

Michael H. Stewart, P.E., C.P.G.  
Principal Engineer

attachments



## TABLES



Table 1 – Summary of Well Construction at the DCP RR Ext Location

Well	Date Installed	Total Depth (ground)	Screen Interval (ground)	Sand Interval
MW-1	3/08	37.5	17.5-37.5	16-37.5
MW-2	3/08	37.5	17.5-37.5	16-37.5
MW-3	3/08	37.5	17.5-37.5	16-37.5
MW-4	3/08	37.5	17.5-37.5	16-37.5
MW-5	3/08	37.5	17.5-37.5	16-37.5
MW-6	6/08	37.5	17.5-37.5	16-37.5
MW-7	6/08	37.5	17.5-37.5	16-37.5
MW-8	6/08	37.5	17.5-37.5	16-37.5
MW-9	6/10	38	18-38	16-38
MW-10	6/10	38	18-38	16-38
MW-11	6/10	38	18-38	16-38
MW-12	6/10	38	18-38	16-38

Units are feet

All wells are 2-inch diameter

Wells were grouted to the surface with hydrated bentonite pellets and completed with above-ground well protectors



Table 2 - Summary of Fourth Quarter 2010 Fluids Measurement Data

Well	Depth to Water	Depth to Product	FPH Thickness	Water Table Elevation
MW-1	29.26			3,505.31
MW-2	30.05			3,505.13
MW-3	31.90	31.13	0.77	3,505.25
MW-4	31.42	30.36	1.06	3,504.58
MW-5	32.10	31.03	1.07	3,504.62
MW-6	31.40			3,504.76
MW-7	32.11			3,504.98
MW-8	30.98			3505.43
MW-9	30.10	29.00	1.10	NE
MW-10	30.48	29.01	1.47	NE
MW-11	31.29			NE
MW-12	27.68			NE

Units are Feet

NE: not established: Casing elevation not yet measured



Table 3 - Free Phase Hydrocarbon Thickness Summary

Well	MW-3	MW-4	MW-5	MW-9	MW-10
03/19/08	0.00	0.00	0.00		
06/29/08	0.00	0.00	0.00		
09/17/08	0.00	0.00	0.00		
12/03/08	0.00	0.00	0.00		
05/19/09	0.00	0.00	0.00		
09/23/09	0.00	1.00	0.00		
12/20/09	0.00	1.88	0.00		
03/22/10	0.00	1.71	0.27		
06/30/10	0.94	1.56	1.62	1.33	1.10
09/28/10	0.91	0.58	1.28	1.20	1.60
12/09/10	0.77	1.06	1.07	1.10	1.47

Units are Feet

Blank cell: Well not installed



Table 4 - RR Ext Fourth Quarter 2010 Groundwater Sampling Results

Well	Benzene	Toluene	Ethyl- benzene	Total Xylenes	m,p- Xylenes	o- Xylenes	Chlorides
NMWQCC Standards	0.010	0.75	0.75	0.62			250
MW-1	<b>0.708</b>	0.0099J	0.0796	0.0047J	0.0047J	<0.01	448
MW-2	<b>16.9</b>	0.399	0.458	0.0926J	0.0926J	<0.2	273
MW-2 DUP	<b>17.5</b>	0.556	0.452	0.127J	0.127J	<0.2	284
MW-6	<0.001	<0.002	<0.002	<0.004	<0.004	<0.002	359
MW-7	<0.001	<0.002	<0.002	<0.004	<0.004	<0.002	345
MW-8	<0.001	<0.002	<0.002	<0.004	<0.004	<0.002	533
MW-11	<0.001	<0.002	<0.002	<0.004	<0.004	<0.002	383
MW-12	<0.001	<0.002	<0.002	<0.004	<0.004	<0.002	501
Trip Blank	<0.001	<0.002	<0.002	<0.004			

Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards

Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards

J: Estimated concentration between the method detection limit and the reporting limit



Table 5 - RR Ext Chlorides Groundwater Monitoring Results Summary

Well	9/08	12/08	3/09	5/09	9/09	12/09	3/10
MW-1	507	447	432	462	422	363	800
MW-2	109	NS	114	109	139	199	700
MW-3	363	301	273	313	363	398	440
MW-4	318	281	229	226	FPH	FPH	FPH
MW-5	373	318	288	363	358	313	FPH
MW-6	363	325	298	308	296	393	700
MW-7	378	348	283	298	273	328	750
MW-8	512	393	472	450	477	472	800

Well	6/10	9/10	12/10
MW-1	510	442	448
MW-2	233	263	278
MW-3	FPH	FPH	FPH
MW-4	FPH	FPH	FPH
MW-5	FPH	FPH	FPH
MW-6	402	337	359
MW-7	385	326	345
MW-8	553	486	533
MW-9	532*	FPH	FPH
MW-10	656*	FPH	FPH
MW-11	407	365	383
MW-12	514	464	501

Units are mg/l

Duplicate values averaged together

FPH free phase hydrocarbons present

\* Collected with FPH in the well but believed to be representative



## FIGURES



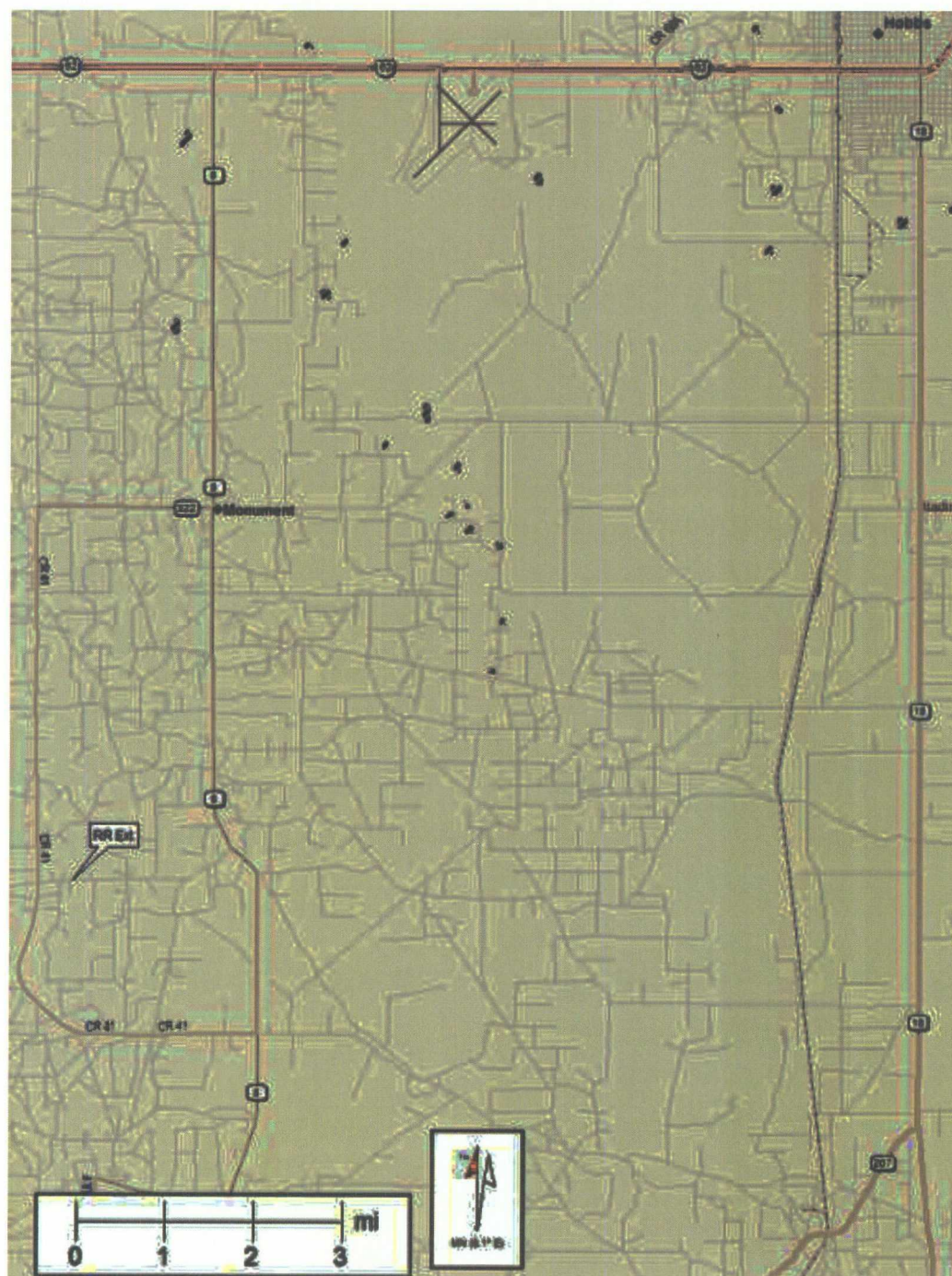


Figure 1 – Site Location  
RR Ext - Groundwater Monitoring



DRAWN BY: MHS

REVISED:

DATE: 5/06



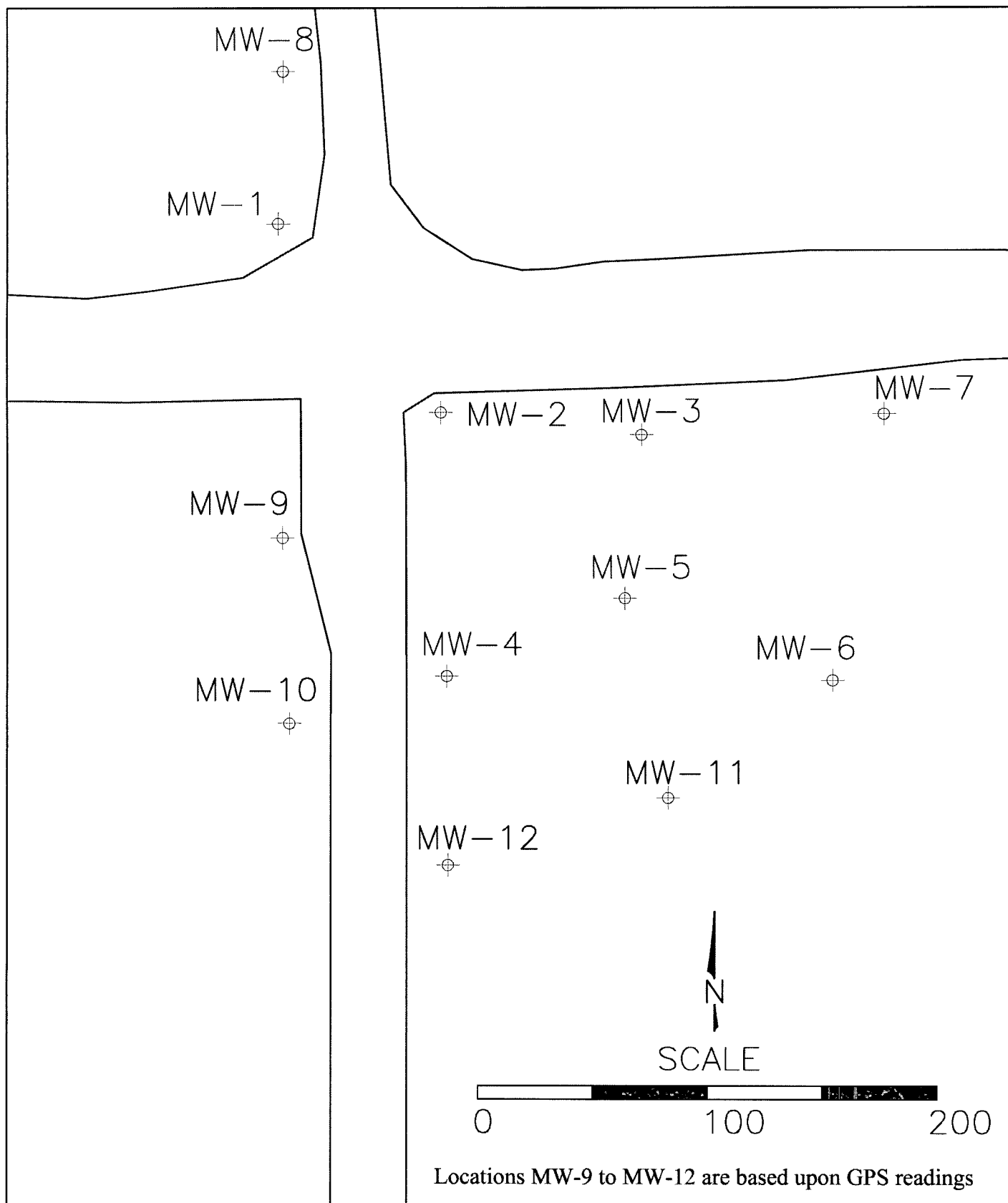


Figure 2 - Monitoring Well Locations  
RR Ext - Groundwater Monitoring



DRAWN BY: MHS

REVISED:

DATE: 8/10



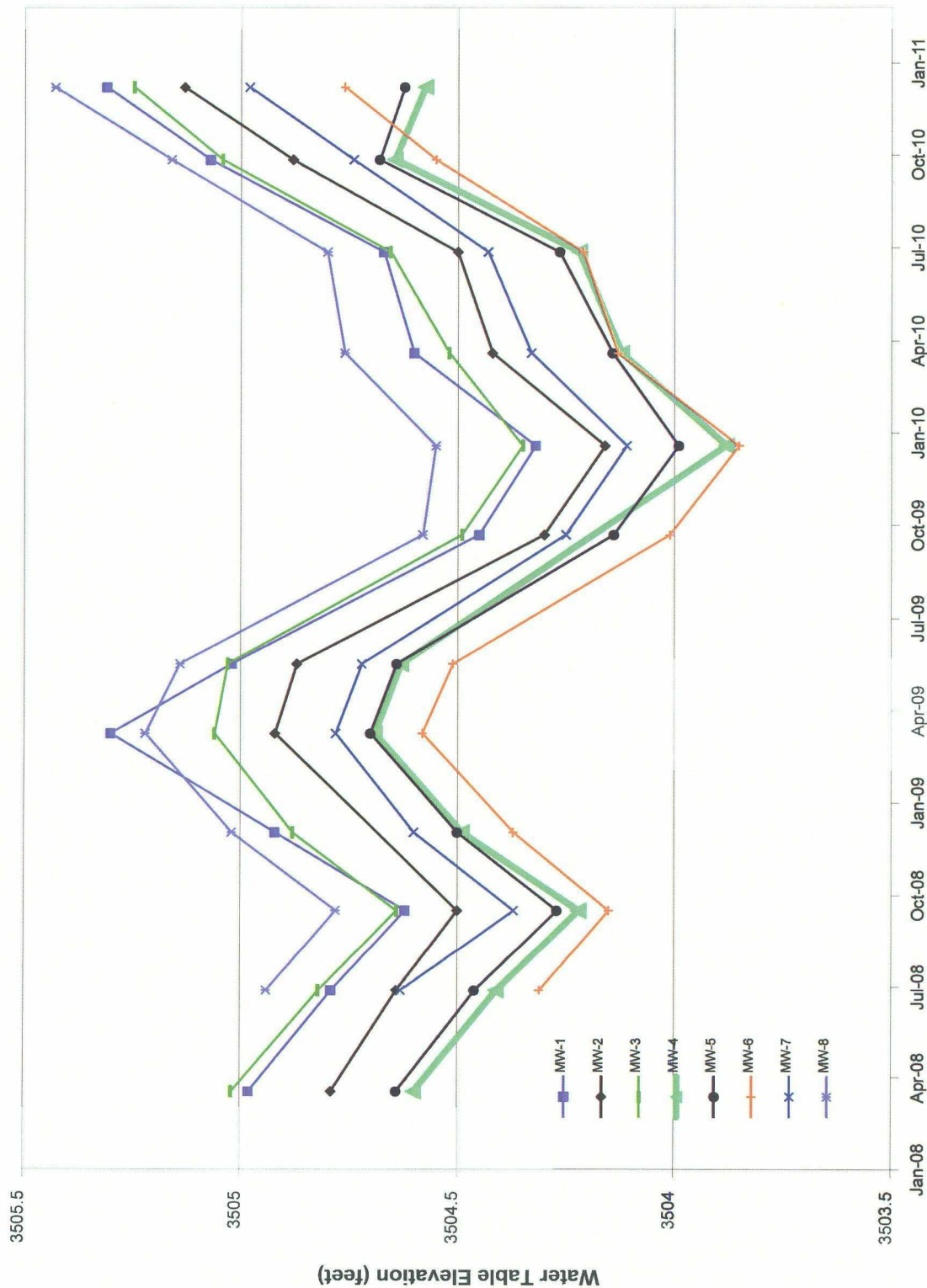


Figure 3 – Monitoring Well Hydrographs

RR Ext - Groundwater Monitoring

dcp  
Midstream

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DATE: 1/11



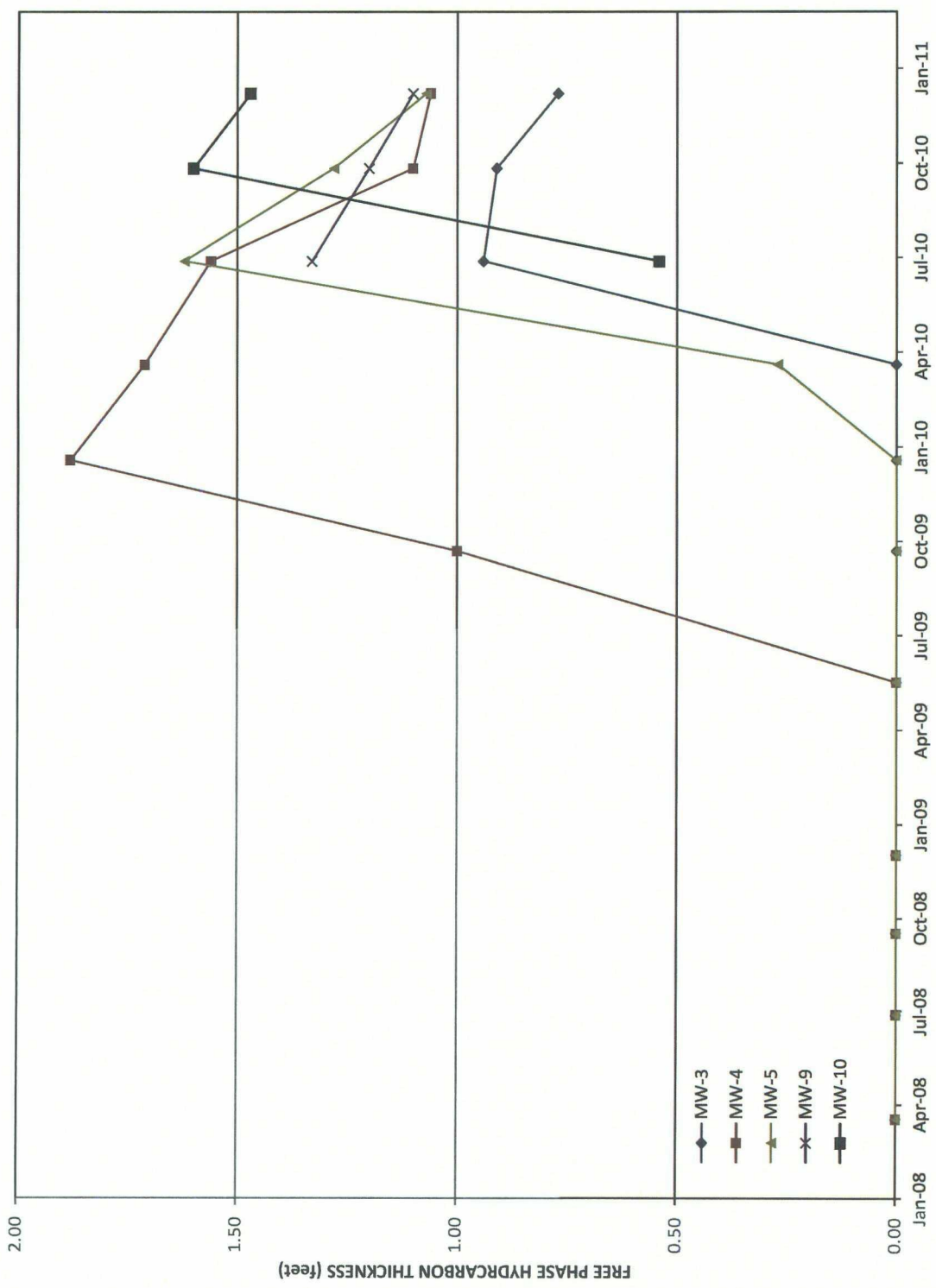


Figure 4 – Free Phase Hydrocarbon Thickness

RR Ext - Groundwater Monitoring  
 dcp Midstream  
 DRAWN BY: MHS  
 DATE: 1/11



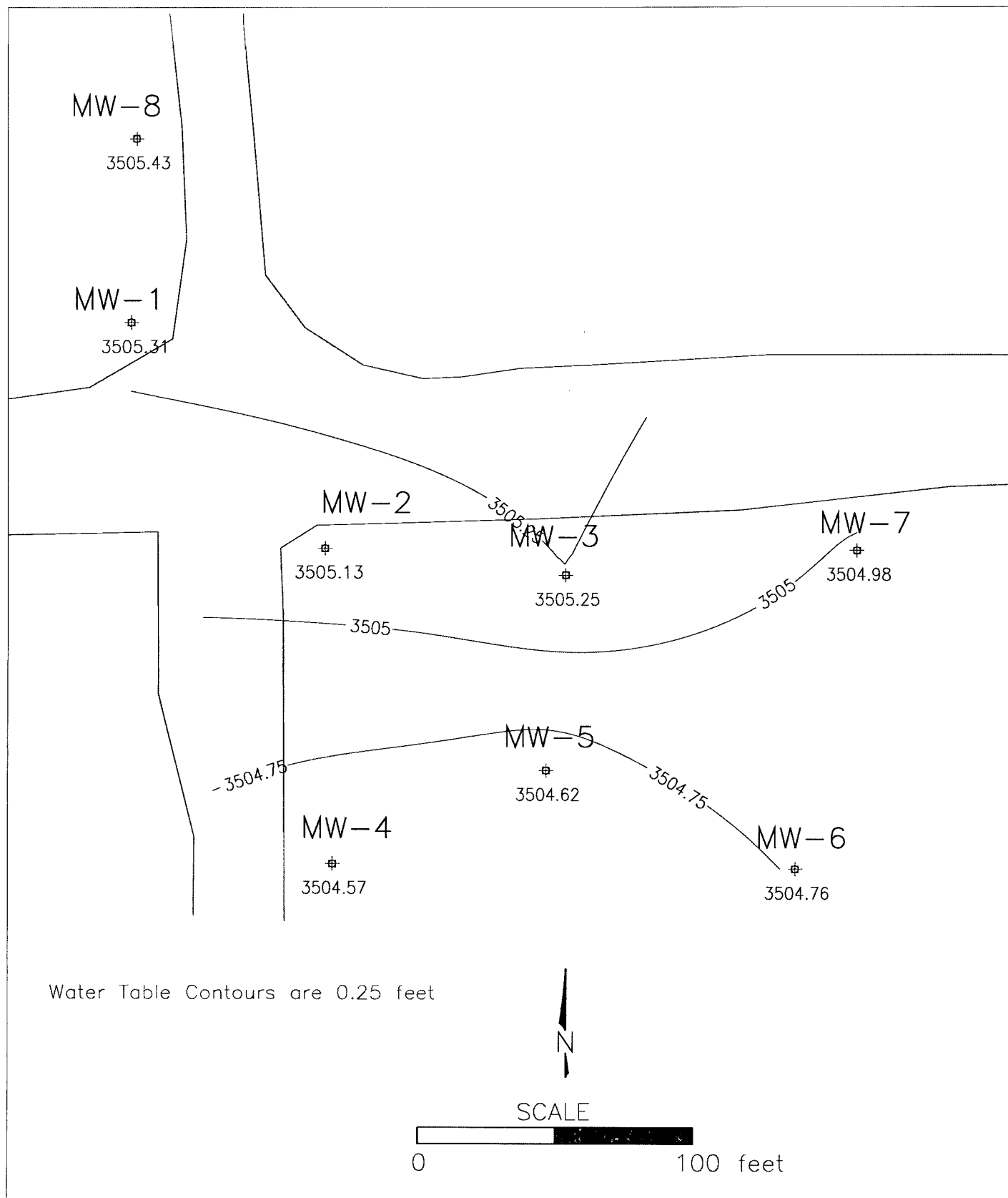


Figure 5 - December 2010 Water Table Elevation

RR Ext - Groundwater Monitoring



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REVISED:

DATE: 1/11



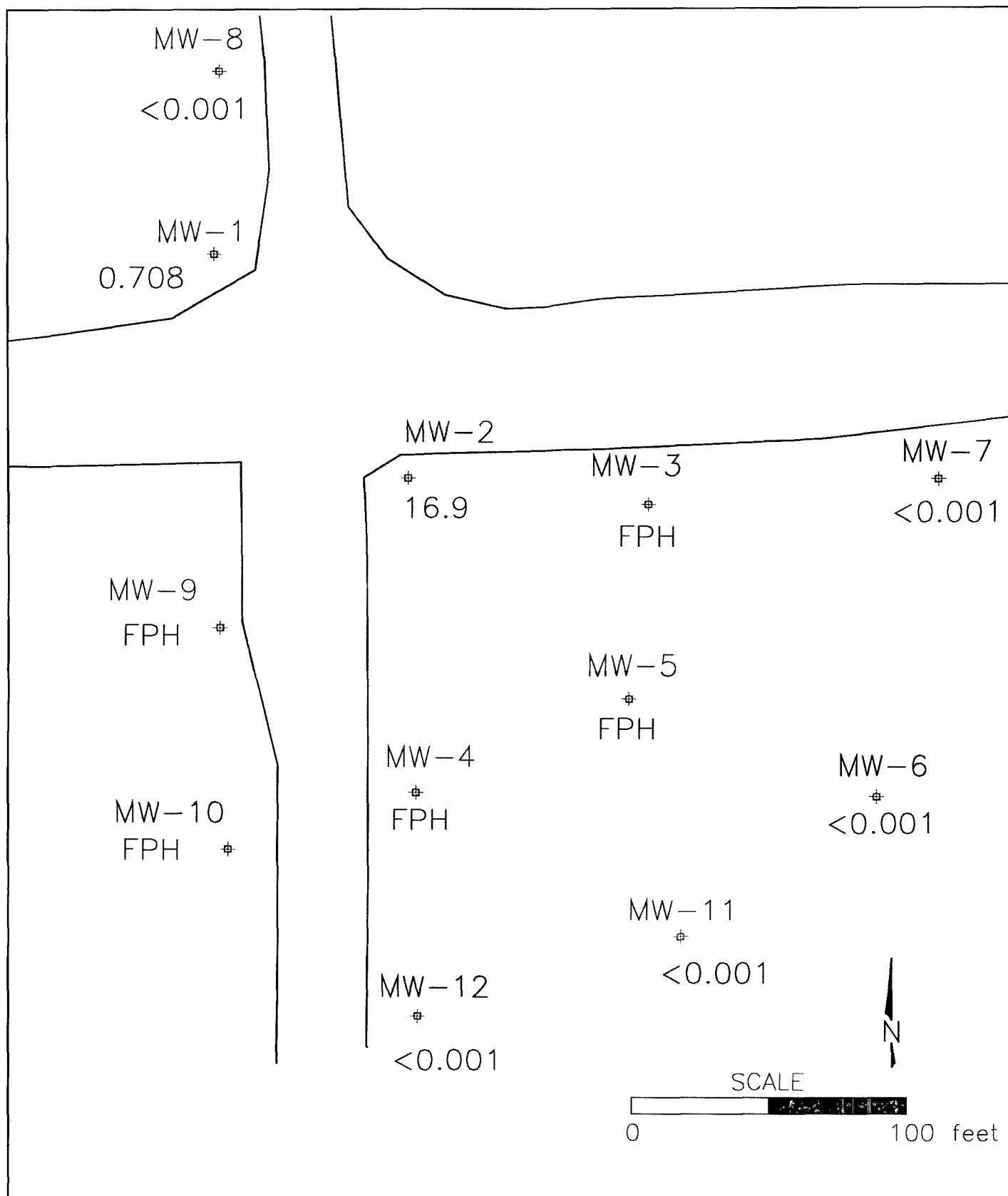


Figure 6 - December 2010 Benzene Concentrations

RR Ext - Groundwater Monitoring



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DATE: 1/11



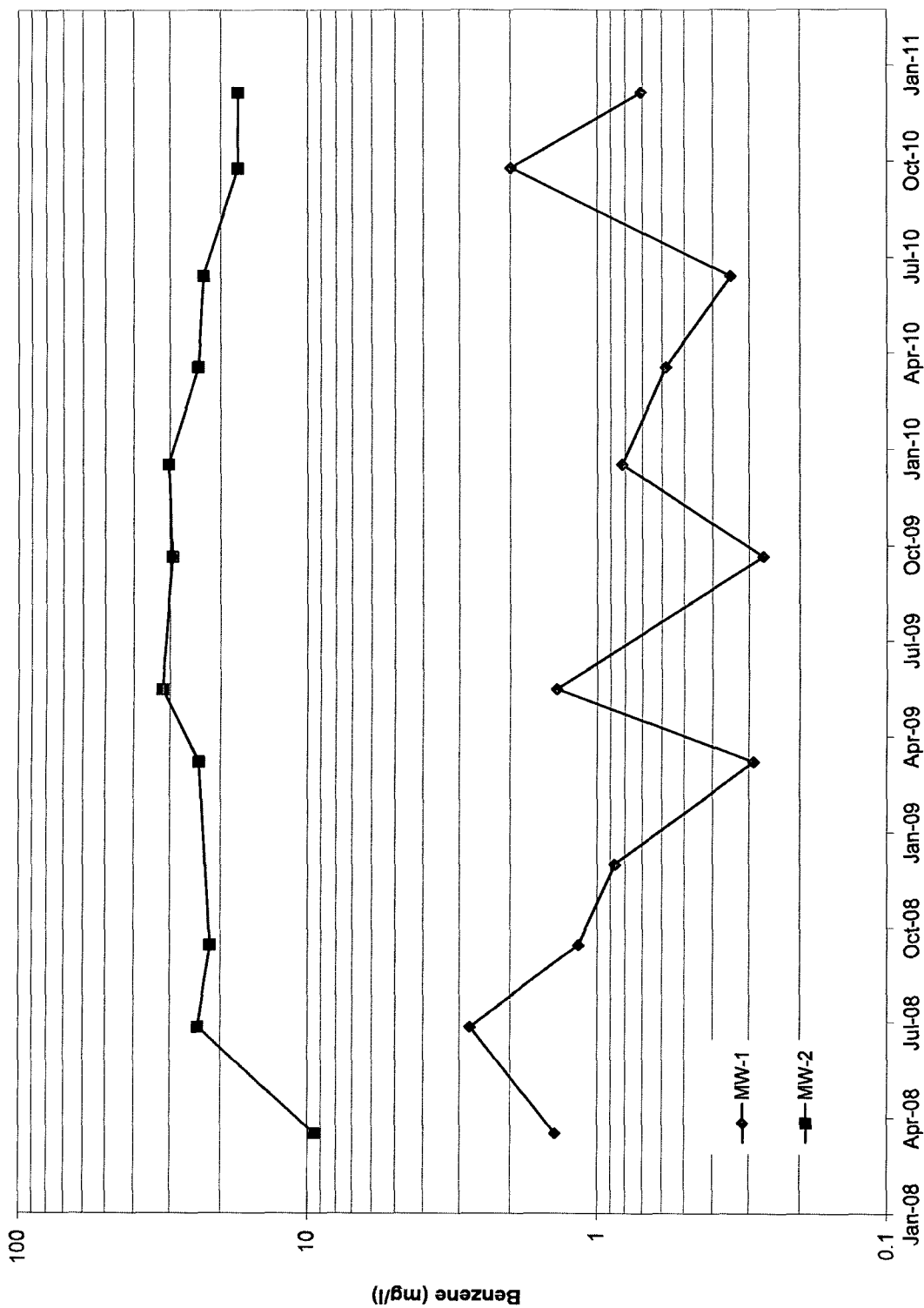


Figure 7 – Benzene Concentrations Verses Time

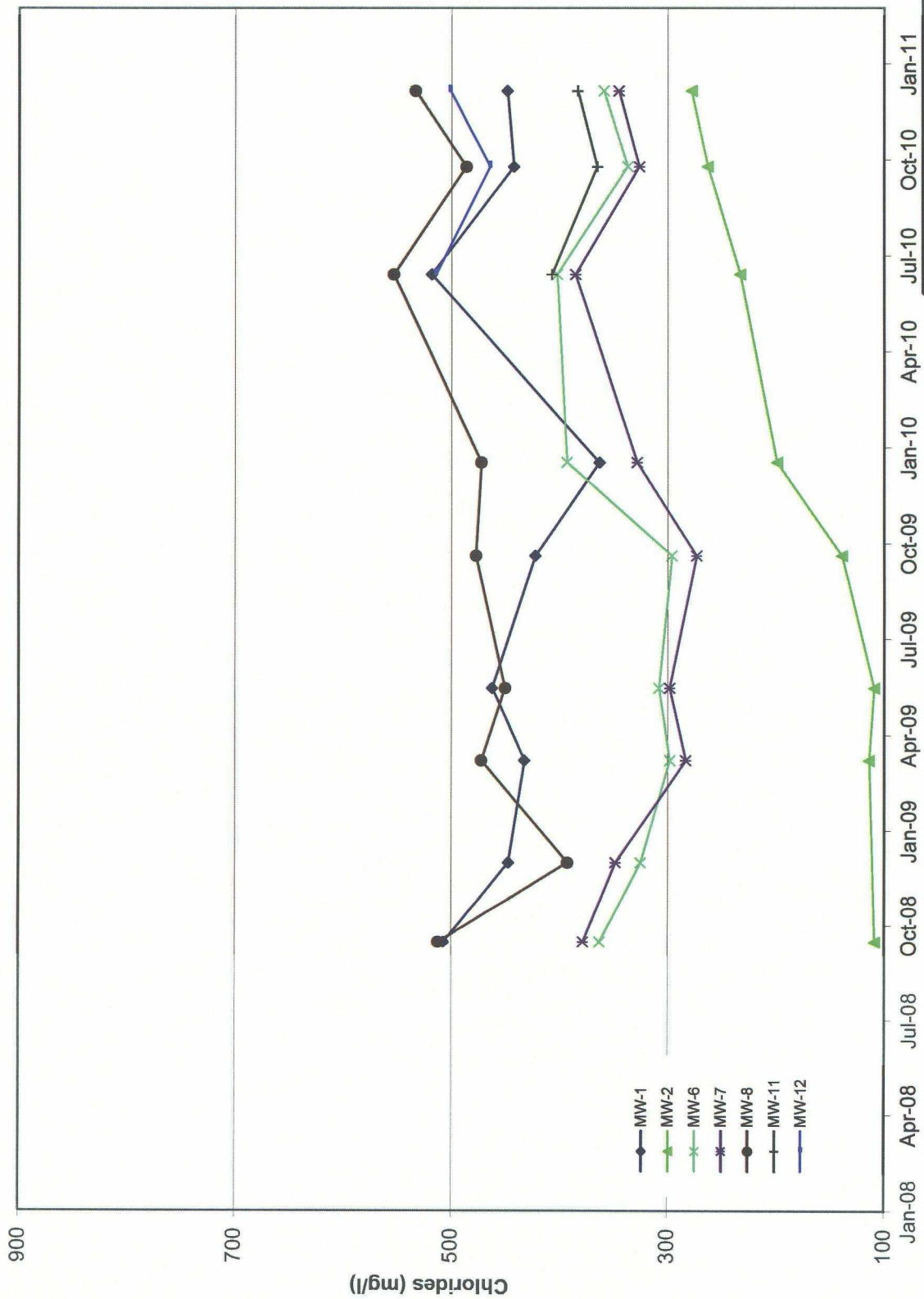
RR Ext - Groundwater Monitoring

**dap**  
Midstream.

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DATE: 1/11





Note: Anomalous values from the March 2010 sampling event not included

Figure 8 – Chloride Concentrations Verses Time

RR Ext - Groundwater Monitoring

**dcp**  
Midstream.

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DATE: 1/11



**SUMMARY OF CORRECTED WATER TABLE ELEVATIONS**



# DCP RREXT - SUMMARY OF CORRECTED WATER TABLE ELEVATIONS

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8
03/19/08	3504.98	3504.79	3505.02	3504.60	3504.64			
06/29/08	3504.79	3504.64	3504.82	3504.41	3504.46	3504.31	3504.63	3504.94
09/17/08	3504.62	3504.50	3504.64	3504.22	3504.27	3504.15	3504.37	3504.78
12/03/08	3504.92		3504.88	3504.49	3504.50	3504.37	3504.60	3505.02
03/11/09	3505.30	3504.92	3505.06	3504.69	3504.70	3504.58	3504.78	3505.22
05/19/09	3505.02	3504.87	3505.03	3504.63	3504.64	3504.51	3504.72	3505.14
09/23/09	3504.45	3504.30	3504.49		3504.14	3504.01	3504.25	3504.58
12/20/09	3504.32	3504.16	3504.35	3503.88	3503.99	3503.85	3504.11	3504.55
03/22/10	3504.60	3504.42	3504.52	3504.12	3504.14	3504.13	3504.33	3504.76
06/29/10	3504.67	3504.50	3504.66	3504.22	3504.27	3504.21	3504.43	3504.80
09/28/10	3505.07	3504.88	3505.04	3504.65	3504.68	3504.55	3504.74	3505.16
12/09/10	3505.31	3505.13	3505.25	3504.58	3504.62	3504.76	3504.98	3505.43

Units are feet

Blank cells wells either not installed or not not measured.





## SUMMARY OF GROUNDWATER MONITORING DATA



# RR EXT BTEX GROUNDWATER MONITORING DATA SUMMARY

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standards		.010	0.75	0.75	0.62
MW-1	3/08	<b>1.4</b>	<b>0.948</b>	0.0395	0.128
	6/08	<b>2.75</b>	<b>2.17</b>	0.054	0.232
	9/08	<b>1.1</b>	<b>0.845</b>	0.0375	0.131
Duplicate	9/08	<b>1.22</b>	<b>0.883</b>	0.0506	0.197
	12/08	<b>0.869</b>	0.581	0.0385	0.0709
	3/09	<b>0.288</b>	0.107	0.0149	0.0395
	5/09	<b>1.38</b>	0.175	0.0705	0.065
	9/09	<b>0.267</b>	0.0332	0.024	0.0078
	12/09	<b>0.819</b>	0.0267	0.088	0.012
	3/10	<b>0.726</b>	0.107	0.0879	0.0278J
Duplicate	3/10	<b>0.431</b>	0.714	0.64	0.201
	6/10	<b>0.339</b>	0.0329	0.0539	0.0079
Duplicate	6/10	<b>0.353</b>	0.0395	0.0632	0.0088
	9-10	<b>1.99</b>	0.084	0.0951	0.0219J
	12-10	<b>0.708</b>	0.0099J	0.0796	0.0047J
MW-2	3/08	<b>8.98</b>	<b>6.58</b>	0.135J	<b>0.765</b>
Duplicate	3/08	<b>10</b>	<b>7</b>	0.156J	<b>0.93</b>
	6/08	<b>24.3</b>	<b>18.5</b>	0.319	<b>2.58</b>
Duplicate	6/08	<b>23.5</b>	<b>19.2</b>	0.309	<b>2.36</b>
	9/08	<b>21.7</b>	<b>9.79</b>	0.443	<b>4.25</b>
	12/08	Not sampled: Remediation activities			
	3/09	<b>23.7</b>	<b>2.34</b>	0.583	<b>1.25</b>
Duplicate	3/09	<b>4.07</b>	<b>1.91</b>	0.268 J	0.49 J
	5/09	<b>32.7</b>	<b>1.31</b>	<b>0.791</b>	<b>1.69</b>
Duplicate	5/09	<b>30.7</b>	<b>1.43</b>	<b>0.907</b>	<b>2.14</b>
	9/09	<b>29.3</b>	<b>0.771</b>	0.491	0.371J
	12/09	<b>28.5</b>	0.347	0.57	0.177J
Duplicate	12/09	<b>31.8</b>	0.397J	<b>0.829</b>	0.193
	3/10	<b>23.8</b>	0.71	0.529	<1.2
	6/10	<b>22.9</b>	0.39J	0.485	0.128
	9-10	<b>17</b>	0.257J	0.329J	<0.8
	9-10	<b>17.7</b>	0.284J	0.353J	<0.8
	12-10	<b>16.9</b>	0.399	0.458	0.0926J
	12-10	<b>17.5</b>	0.556	0.452	0.127J

Notes: Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards

J qualifiers indicate an estimated concentration between the method detection and method reporting limits.

Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards



## RR EXT BTEX GROUNDWATER MONITORING DATA SUMMARY (continued)

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standards		.010	0.75	0.75	0.62
MW-3	3/08	<b>0.759</b>	<b>0.849</b>	0.0355	0.0786
	6/08	<b>6.18</b>	<b>9.46</b>	0.287	<b>1.23</b>
	9/08	<b>2.45</b>	<b>3.62</b>	0.145	<b>1.14</b>
	12/08	<b>0.761</b>	<b>0.938</b>	0.0492	0.158
	3/09	<b>4.03</b>	<b>2.83</b>	0.18 J	0.61
	5/09	<b>14.7</b>	<b>12.6</b>	<b>0.808</b>	<b>1.64</b>
	9/09	<b>5.5</b>	<b>1.09</b>	0.271	<0.006
	12/09	<b>13.1</b>	<b>9.08</b>	<b>1.2</b>	<b>2.87</b>
	3/10	<b>8.43</b>	<b>9.14</b>	<b>1.01</b>	<b>2.71</b>
	6/10	<b>Free Phase Hydrocarbons Since Second Quarter 2010</b>			
MW-4	3/08	0.0102	0.0093	<0.002	0.0023J
	6/08	0.0439	0.0256	0.0068	0.0147
	9/08	0.514	0.443	0.0203	0.125
	12/08	<b>1.32</b>	<b>1.35</b>	0.0812	0.239J
	3/09	<b>3.61</b>	<b>3.4</b>	0.164 J	0.831
	5/09	<b>4.7</b>	<b>2.94</b>	0.428	1.03
		<b>Free Phase Hydrocarbons Since Third Quarter 2009</b>			
MW-5	3/08	0.0019J	0.0012J	<0.002	<0.006
	6/08	0.0037	0.0037	<0.002	<0.006
	9/08	0.0038	0.0037	<0.002	<0.006
	12/08	0.0031	0.004	<0.002	<0.006
	3/09	0.0067	0.0074	<0.002	<0.006
	5/09	0.0064	0.0089	0.0025	0.0045 J
	9/09	0.0082	0.0132	0.00066J	<0.006
	12/09	0.0096	0.0155	0.0013J	0.0021J
		<b>Free Phase Hydrocarbons Since First Quarter 2010</b>			
MW-6	6/08	<0.002	<0.002	<0.002	<0.006
	9/08	<0.002	<0.002	<0.002	<0.006
	12/08	<0.002	<0.002	<0.002	<0.006
	3/09	<0.002	<0.002	<0.002	<0.006
	5/09	<0.002	<0.002	<0.002	<0.006
	9/09	<0.002	<0.002	<0.002	<0.006
	12/09	<0.002	<0.002	<0.002	<0.006
	3/10	<0.002	<0.002	<0.002	<0.006
	6/10	<0.001	<0.002	<0.002	<0.002
	9-10	<0.001	<0.002	<0.002	<0.004
	12-10	<0.001	<0.002	<0.002	<0.004

Notes: Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards

J qualifiers indicate an estimated concentration between the method detection and method reporting limits.

Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards



# RR EXT BTEX GROUNDWATER MONITORING DATA SUMMARY (continued)

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standards		.010	0.75	0.75	0.62
MW-7	6/08	<0.002	<0.002	<0.002	<0.006
	9/08	<0.002	<0.002	<0.002	<0.006
	12/08	<0.002	<0.002	<0.002	<0.006
	3/09	<0.002	<0.002	<0.002	<0.006
	5/09	<0.002	<0.002	<0.002	<0.006
	9/09	<0.002	<0.002	<0.002	<0.006
	12/09	<0.002	<0.002	<0.002	<0.006
	3/10	<0.002	<0.002	<0.002	<0.006
	6/10	0.0005J	<0.002	<0.002	<0.006
	9/10	0.00042J	<0.002	<0.002	<0.004
	12-10	<0.002	<0.002	<0.002	<0.006
MW-8	6/08	<b>0.0384</b>	0.0255	0.00049J	0.0016J
	9/08	<b>0.0301</b>	0.0161	<0.002	0.002 J
	12/08	<b>0.0233</b>	0.011	<0.002	<0.006
Dup	12/08	<b>0.0122</b>	0.006	<0.002	<0.006
	3/09	<b>0.0218</b>	0.0066	<0.002	<0.006
	5/09	0.0098	0.0049	<0.002	<0.006
	9/09	<0.002	<0.002	<0.002	<0.006
Dup	9/09	<0.4	<0.4	<0.4	<1.2
	12/09	<0.002	<0.002	<0.002	<0.006
	3/10	<0.002	<0.002	<0.002	<0.006
	6/10	<0.001	<0.002	<0.002	<0.002
	9/10	<0.001	<0.002	<0.002	<0.004
	12-10	<0.001	<0.002	<0.002	<0.004
MW-9	Free Phase Hydrocarbons since June 2010 Installation				
MW-10	Free Phase Hydrocarbons since June 2010 Installation				
MW-11	6/10	<0.001	<0.002	<0.002	<0.004
	9/10	<0.001	<0.002	<0.002	<0.004
	12-10	<0.001	<0.002	<0.002	<0.004
MW-12	6/10	<0.001	<0.002	<0.002	<0.004
	9/10	<0.001	<0.002	<0.002	<0.004
	12-10	<0.001	<0.002	<0.002	<0.004

Notes: Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards

J qualifiers indicate an estimated concentration between the method detection and method reporting limits.

Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards



**WELL SAMPLING DATA AND  
ANALYTICAL LABORATORY REPORT**



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WELL ID: MW-1

DATE: 12/9/2010

SAMPLER: N. Quevedo

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:

WELL DIAMETER: 2.0 Inch

**5.1** Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 0.49)

COMMENTS: \_\_\_\_\_



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-2

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL:	39.91	Feet
DEPTH TO WATER:	30.05	Feet
HEIGHT OF WATER COLUMN:	9.86	Feet
WELL DIAMETER:	2.0	Inch

**4.9** Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 0.49)

[illegible]

SAMPLE NO.: Collected Sample No.: MW-2

ANALYSES: BTEX (8260)

COMMENTS:

Duplicate sample collected



## A vertical strip of 18 small, rectangular, black and white images, likely film frames or microfilm segments, arranged in a single column. Each segment shows a different scene or frame, though the details are too small to discern clearly. The segments are separated by thin white lines.

**4.1** Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 0.49)

SAMPLE NO.:	Collected Sample No.: No sample because of FPH
ANALYSES:	BTEX (8260)
COMMENTS:	

COMMENTS:



## WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-4

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL:	40.66	Feet
DEPTH TO WATER:	31.42	Feet
HEIGHT OF WATER COLUMN:	9.24	Feet
WELL DIAMETER:	2.0	Inch

**4.6** Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 0.49)

[illegible]

SAMPLE NO.: Collected Sample No.: No sample because of FPH

ANALYSES:

COMMENTS:



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream

WELL ID: MW-5

SITE NAME: RR-EXT

DATE: 12/9/2010

PROJECT NO.

SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other:

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL: 42.15 Feet

DEPTH TO WATER: 31.03 Feet

HEIGHT OF WATER COLUMN: 11.12 Feet

WELL DIAMETER: 2.0 Inch

### 5.6 Minimum Gallons to purge 3 well volumes (Water Column Height x 0.49)

[illegible]

0,0 Volume; (gallons)

SAMPLE NO.: Collected Sample No.: No sample because of FPH

ANALYSES: BTEX (8260)

COMMENTS:



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-6

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL: 39.68 Feet

DEPTH TO WATER: 31.40 Feet

HEIGHT OF WATER COLUMN: 8.28 Feet

WELL DIAMETER: 2.0 Inch

4.1 Minimum Gallons to  
purge 3 well volumes

[illegible]

SAMPLE NO.:	Collected Sample No.: MW-6
ANALYSES:	BTEX (8260)
COMMENTS:	Collected samples for MS and MSD analyses







# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-8

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL: 40.26 Feet

DEPTH TO WATER: 30.98 Feet

HEIGHT OF WATER COLUMN: 9.28 Feet

WELL DIAMETER: 2.0 Inch

4.6 Minimum Gallons to  
purge 3 well volumes

[illegible]

SAMPLE NO.: Collected Sample No.: MW-8

ANALYSES: BTEX (8260)

COMMENTS: \_\_\_\_\_



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream

WELL ID: MW-9

SITE NAME: RR-EXT

DATE: 12/9/2010

PROJECT NO.

SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:

TOTAL DEPTH OF WELL: 40.00 Feet

DEPTH TO WATER: 30.10 Feet

HEIGHT OF WATER COLUMN: 9.90 Feet

WELL DIAMETER: 2.0 Inch

**5.0** Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 0.49)

[illegible]

SAMPLE NO.: Collected Sample No.: No sample because of FPH

ANALYSES: BTEX (8260)

COMMENTS:



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-10

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL: 40.00 Feet

DEPTH TO WATER: 30.48 Feet

HEIGHT OF WATER COLUMN: 9.52 Feet

WELL DIAMETER: 2.0 Inch

4.8 Minimum Gallons to  
purge 3 well volumes

[illegible]

SAMPLE NO.: Collected Sample No.: No sample because of FPH

ANALYSES: BTEX (8260)

COMMENTS: \_\_\_\_\_

\_\_\_\_\_



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-11

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL:	40.00	Feet
DEPTH TO WATER:	31.29	Feet
HEIGHT OF WATER COLUMN:	8.71	Feet
WELL DIAMETER:	2.0	Inch

**4.4** Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 0.49)

[illegible]

SAMPLE NO.: Collected Sample No.: MW-11

ANALYSES: BTEX (8260)

COMMENTS:



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-12

SITE NAME: RR-EXT DATE: 12/9/2010

PROJECT NO. \_\_\_\_\_ SAMPLER: N. Quevedo

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: \_\_\_\_\_

SAMPLING METHOD: ☒ Dedicated Bailer ☐ Direct from Discharge Hose ☐ Other: \_\_\_\_\_

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: \_\_\_\_\_

TOTAL DEPTH OF WELL: 40.00 Feet

DEPTH TO WATER: 27.68 Feet

HEIGHT OF WATER COLUMN: 12.32 Feet

WELL DIAMETER: 2.0 Inch 6.2 Minimum Gallons to  
purge 3 well volumes

[illegible]

SAMPLE NO.: Collected Sample No.: MW-12

ANALYSES: BTEX (8260)

COMMENTS: \_\_\_\_\_





12/27/10

Technical Report for

DCP Midstream, LP

AECCOL: DCP RR EXT

GN00

Accutest Job Number: D19657

Sampling Date: 12/09/10

Report to:

AECOM  
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Littleton, CO 80128  
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ATTN: Michael Stewart

Total number of pages in report: 36



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

John Hamilton  
Laboratory Director

Client Service contact: Amanda Kissell 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

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Test results relate only to samples analyzed.



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## Sample Summary

DCP Midstream, LP

Job No: D19657

AECCOL: DCP RR EXT  
Project No: GN00

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
D19657-1	12/09/10	09:50 NQT	12/10/10	AQ Ground Water	MW-1
D19657-2	12/09/10	09:30 NQT	12/10/10	AQ Ground Water	MW-2
D19657-3	12/09/10	08:05 NQT	12/10/10	AQ Ground Water	MW-6
D19657-3D	12/09/10	08:05 NQT	12/10/10	AQ Water Dup/MSD	MW-6
D19657-3M	12/09/10	08:05 NQT	12/10/10	AQ Water Matrix Spike	MW-6
D19657-4	12/09/10	07:40 NQT	12/10/10	AQ Ground Water	MW-7
D19657-5	12/09/10	10:10 NQT	12/10/10	AQ Ground Water	MW-8
D19657-6	12/09/10	08:25 NQT	12/10/10	AQ Ground Water	MW-11
D19657-7	12/09/10	08:50 NQT	12/10/10	AQ Ground Water	MW-12
D19657-8	12/09/10	00:00 NQT	12/10/10	AQ Ground Water	DUP
D19657-9	12/09/10	00:00 NQT	12/10/10	AQ Trip Blank Water	TRIP BLANK





## CASE NARRATIVE / CONFORMANCE SUMMARY

**Client:** DCP Midstream, LP

**Job No** D19657

**Site:** AECCOL: DCP RR EXT

**Report Dat** 12/27/2010 3:10:37 PM

On 12/10/2010, eight (8) samples, 1 Trip Blank, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 5.3°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D19657 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

### Volatiles by GCMS By Method SW846 8260B

<b>Matrix</b> AQ	<b>Batch ID:</b> V3V445
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D19657-3MS and D19657-3MSD were used as the QC samples indicated.

<b>Matrix</b> AQ	<b>Batch ID:</b> V5V687
------------------	-------------------------

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D19661-7MS and D19661-7MSD were used as the QC samples indicated.

### Wet Chemistry By Method EPA 300/SW846 9056

<b>Matrix</b> AQ	<b>Batch ID:</b> GP3500
------------------	-------------------------

- All samples were prepared and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D19657-3DUP, D19657-3MS, and D19657-3MSD were used as the QC samples for the Chloride analysis.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.





Mountain States

ACCUTEST

LABORATORIES

Sample Results

Report of Analysis

---



## Report of Analysis

Client Sample ID: MW-1  
 Lab Sample ID: D19657-1  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
 Date Received: 12/10/10  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08087.D	5	12/11/10	DC	n/a	n/a	V3V445
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.708	0.0050	0.0015	mg/l	
108-88-3	Toluene	0.0099	0.010	0.0050	mg/l	J
100-41-4	Ethylbenzene	0.0796	0.010	0.0015	mg/l	
	m,p-Xylene	0.0047	0.020	0.0030	mg/l	J
95-47-6	o-Xylene	ND	0.010	0.0030	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	90%		63-130%
2037-26-5	Toluene-D8	89%		68-130%
460-00-4	4-Bromofluorobenzene	82%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID: MW-1  
Lab Sample ID: D19657-1  
Matrix: AQ - Ground Water  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	448	25	mg/l	50	12/27/10 10:43	GH	EPA 300/SW846 9056

RL = Reporting Limit



## Report of Analysis

Client Sample ID: MW-2  
 Lab Sample ID: D19657-2  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
 Date Received: 12/10/10  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08088.D	100	12/11/10	DC	n/a	n/a	V3V445
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	16.9	0.10	0.030	mg/l	
108-88-3	Toluene	0.399	0.20	0.10	mg/l	
100-41-4	Ethylbenzene	0.458	0.20	0.030	mg/l	
	m,p-Xylene	0.0926	0.40	0.060	mg/l	J
95-47-6	o-Xylene	ND	0.20	0.060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		63-130%
2037-26-5	Toluene-D8	90%		68-130%
460-00-4	4-Bromofluorobenzene	84%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID: MW-2  
Lab Sample ID: D19657-2  
Matrix: AQ - Ground Water  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	273	25	mg/l	50	12/27/10 10:56	GH	EPA 300/SW846 9056

RL = Reporting Limit



## Report of Analysis

3

Client Sample ID: MW-6  
 Lab Sample ID: D19657-3  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
 Date Received: 12/10/10  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08084.D	1	12/11/10	DC	n/a	n/a	V3V445
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0020	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00030	mg/l	
	m,p-Xylene	ND	0.0040	0.00060	mg/l	
95-47-6	o-Xylene	ND	0.0020	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	91%		63-130%
2037-26-5	Toluene-D8	88%		68-130%
460-00-4	4-Bromofluorobenzene	82%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID:	MW-6	Date Sampled:	12/09/10
Lab Sample ID:	D19657-3	Date Received:	12/10/10
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	AECCOL: DCP RR EXT		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	359	25	mg/l	50	12/27/10 11:10	GH	EPA 300/SW846 9056

RL = Reporting Limit



## Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	12/09/10
Lab Sample ID:	D19657-4	Date Received:	12/10/10
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECCOL: DCP RR EXT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08089.D	1	12/11/10	DC	n/a	n/a	V3V445
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0020	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00030	mg/l	
	m,p-Xylene	ND	0.0040	0.00060	mg/l	
95-47-6	o-Xylene	ND	0.0020	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		63-130%
2037-26-5	Toluene-D8	88%		68-130%
460-00-4	4-Bromofluorobenzene	82%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



# Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	12/09/10
Lab Sample ID:	D19657-4	Date Received:	12/10/10
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	AECCOL: DCP RR EXT		

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	345	25	mg/l	50	12/27/10 11:23	GH	EPA 300/SW846 9056

RL = Reporting Limit



## Report of Analysis

Client Sample ID: MW-8  
 Lab Sample ID: D19657-5  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
 Date Received: 12/10/10  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08090.D	1	12/11/10	DC	n/a	n/a	V3V445
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0020	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00030	mg/l	
	m,p-Xylene	ND	0.0040	0.00060	mg/l	
95-47-6	o-Xylene	ND	0.0020	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		63-130%
2037-26-5	Toluene-D8	89%		68-130%
460-00-4	4-Bromofluorobenzene	85%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID: MW-8  
Lab Sample ID: D19657-5  
Matrix: AQ - Ground Water  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	533	25	mg/l	50	12/27/10 11:37	GH	EPA 300/SW846 9056

---

RL = Reporting Limit



## Report of Analysis

Client Sample ID: MW-11  
 Lab Sample ID: D19657-6  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
 Date Received: 12/10/10  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08097.D	1	12/11/10	DC	n/a	n/a	V3V445
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0020	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00030	mg/l	
	m,p-Xylene	ND	0.0040	0.00060	mg/l	
95-47-6	o-Xylene	ND	0.0020	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		63-130%
2037-26-5	Toluene-D8	89%		68-130%
460-00-4	4-Bromofluorobenzene	85%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID: MW-11  
Lab Sample ID: D19657-6  
Matrix: AQ - Ground Water  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	383	25	mg/l	50	12/27/10 11:51	GH	EPA 300/SW846 9056

RL = Reporting Limit



## Report of Analysis



Client Sample ID:	MW-12	Date Sampled:	12/09/10
Lab Sample ID:	D19657-7	Date Received:	12/10/10
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	AECCOL: DCP RR EXT		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08098.D	1	12/11/10	DC	n/a	n/a	V3V445
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0020	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00030	mg/l	
	m,p-Xylene	ND	0.0040	0.00060	mg/l	
95-47-6	o-Xylene	ND	0.0020	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		63-130%
2037-26-5	Toluene-D8	90%		68-130%
460-00-4	4-Bromofluorobenzene	85%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID: MW-12  
Lab Sample ID: D19657-7  
Matrix: AQ - Ground Water  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	501	25	mg/l	50	12/27/10 12:04	GH	EPA 300/SW846 9056

RL = Reporting Limit



## Report of Analysis



Client Sample ID: DUP  
 Lab Sample ID: D19657-8  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
 Date Received: 12/10/10  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3V08099.D	100	12/11/10	DC	n/a	n/a	V3V445
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	17.5	0.10	0.030	mg/l	
108-88-3	Toluene	0.556	0.20	0.10	mg/l	
100-41-4	Ethylbenzene	0.452	0.20	0.030	mg/l	
	m,p-Xylene	0.127	0.40	0.060	mg/l	J
95-47-6	o-Xylene	ND	0.20	0.060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		63-130%
2037-26-5	Toluene-D8	91%		68-130%
460-00-4	4-Bromofluorobenzene	84%		61-130%

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit  
 E = Indicates value exceeds calibration range

J = Indicates an estimated value  
 B = Indicates analyte found in associated method blank  
 N = Indicates presumptive evidence of a compound



## Report of Analysis

Page 1 of 1

Client Sample ID: DUP  
Lab Sample ID: D19657-8  
Matrix: AQ - Ground Water  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

## General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	284	25	mg/l	50	12/27/10 12:18	GH	EPA 300/SW846 9056

---

RL = Reporting Limit

ACCUTEST  
LABORATORIES

D19657

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## Report of Analysis

Client Sample ID: TRIP BLANK  
Lab Sample ID: D19657-9  
Matrix: AQ - Trip Blank Water  
Method: SW846 8260B  
Project: AECCOL: DCP RR EXT

Date Sampled: 12/09/10  
Date Received: 12/10/10  
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5V12008.D	1	12/13/10	DC	n/a	n/a	V5V687
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

## Purgeable Aromatics

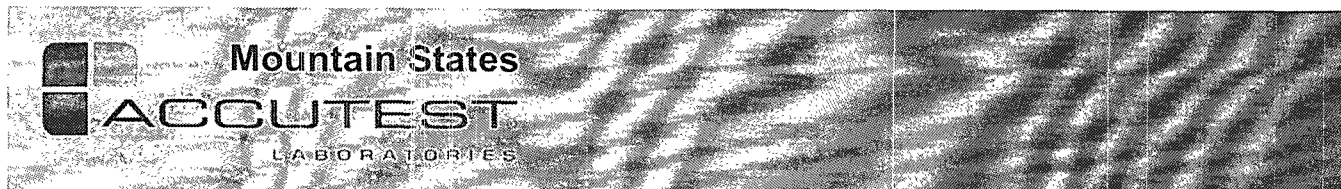
CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0010	0.00030	mg/l	
108-88-3	Toluene	ND	0.0020	0.0010	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00030	mg/l	
	m,p-Xylene	ND	0.0040	0.00060	mg/l	
95-47-6	o-Xylene	ND	0.0020	0.00060	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	119%		63-130%
2037-26-5	Toluene-D8	102%		68-130%
460-00-4	4-Bromofluorobenzene	91%		61-130%

ND = Not detected      MDL - Method Detection Limit  
RL = Reporting Limit  
E = Indicates value exceeds calibration range

J = Indicates an estimated value  
B = Indicates analyte found in associated method blank  
N = Indicates presumptive evidence of a compound





## Misc. Forms

### Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



019657

Accutest Quote #:

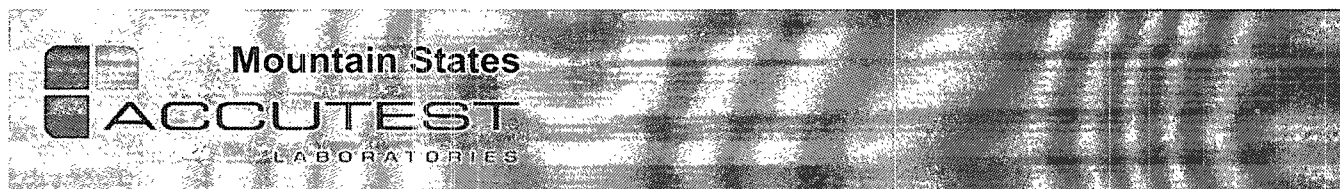
Client Information				Facility Information				Analytical Information																	
American Environmental Consulting				American Environmental Consulting, LP																					
Name 6885 S. Marshall, Suite 3				Project Name DCP RR EXT																					
Address Littleton Colorado 80128				Location GN00																					
City State Zip Michael Stewart				Project/PO #: DCP Midstream RR Ext																					
Send Report to: Phone #: 303.605.1718				FAX #:																					
Field ID / Point of Collection		Collection			Matrix	# of bottles	Preservation					BTEX 8260B	Chlorides	MS/MSD FOR BTEX 8260B											
		Date	Time	Sampled By			HCL	NaOH	HNO3	H2SO4	None														
MW-1	12/4	850	NBY	GW	4	X				X(1)	X	X													
MW-2	12/4	930		GW	4	X				X(1)	X	X													
MW-6	12/4	805		GW	4	X				X(1)	X	X													
MW-7	12/4	740		GW	4	X				X(1)	X	X													
MW-8	12/4	1010		GW	4	X				X(1)	X	X													
MW-11	12/4	825		GW	4	X				X(1)	X	X													
MW-12	12/4	850		GW	4	X				X(1)	X	X													
Dup	12/4	000		GW	4	X				X(1)	X	X													
MW- 6 MS/MSD	12/4	805		GW	6	X				X(1)			X												63
Trip Blank					1								X												0
Turnaround Information				Data Deliverable Information								Comments / Remarks													
<input type="checkbox"/> 21 Day Standard <input type="checkbox"/> 14 Day <input type="checkbox"/> 7 Days EMERGENCY <input type="checkbox"/> Other _____ (Days) Approved By: _____ RUSH TAT is for FAX data unless previously approved.				<input type="checkbox"/> NJ Reduced <input type="checkbox"/> NJ Full <input type="checkbox"/> FULL CLP <input type="checkbox"/> Disk Deliverable <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Commercial "A" <input checked="" type="checkbox"/> Commercial "B" <input type="checkbox"/> ASP Category B <input type="checkbox"/> State Forms								Accutest to invoice DCP Midstream, Attn: Steve Weathers and email the results to him upon completion.													
Sample Custody must be documented below each time samples change possession, including courier delivery.																									
Relinquished By Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:													
1 [Signature]		12/10 1030		1 [Signature]		12/10 1030						2													
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:													
3				3				4				4													
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Seal #		Preserved where at		On Ice:													
5				5				110		X		5.3													

#### 4.1

### D19657: Chain of Custody

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## GC/MS Volatiles

### QC Data Summaries

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Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



## Method Blank Summary

Page 1 of 1

Job Number: D19657  
Account: DCPMCDN DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V445-MB1	3V08082.D	1	12/11/10	DC	n/a	n/a	V3V445

The QC reported here applies to the following samples:

Method: SW846 8260B

D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
	m,p-Xylene	ND	4.0	0.60	ug/l	
95-47-6	o-Xylene	ND	2.0	0.60	ug/l	

CAS No.	Surrogate Recoveries	Limits
17060-07-0	1,2-Dichloroethane-D4	90% 63-130%
2037-26-5	Toluene-D8	88% 68-130%
460-00-4	4-Bromofluorobenzene	84% 61-130%



## Method Blank Summary

Page 1 of 1

Job Number: D19657

Account: DCPMCDN DCP Midstream, LP

Project: AECCOL: DCP RR EXT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V687-MB1	5V11990A.D1		12/13/10	DC	n/a	n/a	V5V687

The QC reported here applies to the following samples:

Method: SW846 8260B

D19657-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.30	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
	m,p-Xylene	ND	4.0	0.60	ug/l	
95-47-6	o-Xylene	ND	2.0	0.60	ug/l	

CAS No.	Surrogate Recoveries	Limits
17060-07-0	1,2-Dichloroethane-D4	112% 63-130%
2037-26-5	Toluene-D8	103% 68-130%
460-00-4	4-Bromofluorobenzene	94% 61-130%



## Blank Spike Summary

Page 1 of 1

Job Number: D19657

Account: DCPM CODN DCP Midstream, LP

Project: AECCOL: DCP RR EXT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V3V445-BS1	3V08083.D	1	12/11/10	DC	n/a	n/a	V3V445

The QC reported here applies to the following samples:

Method: SW846 8260B

D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	48.1	96	70-130
100-41-4	Ethylbenzene	50	51.4	103	70-130
108-88-3	Toluene	50	49.4	99	70-140
	m,p-Xylene	50	46.3	93	55-134
95-47-6	o-Xylene	50	46.7	93	55-134

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	89%	63-130%
2037-26-5	Toluene-D8	89%	68-130%
460-00-4	4-Bromofluorobenzene	86%	61-130%



## Blank Spike Summary

Page 1 of 1

Job Number: D19657

Account: DCPM CODN DCP Midstream, LP

Project: AECCOL: DCP RR EXT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5V687-BS1	5V11991A.D1		12/13/10	DC	n/a	n/a	V5V687

The QC reported here applies to the following samples:

Method: SW846 8260B

D19657-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	50.1	100	70-130
100-41-4	Ethylbenzene	50	49.8	100	70-130
108-88-3	Toluene	50	48.1	96	70-140
	m,p-Xylene	50	47.4	95	55-134
95-47-6	o-Xylene	50	47.9	96	55-134

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	63-130%
2037-26-5	Toluene-D8	101%	68-130%
460-00-4	4-Bromofluorobenzene	106%	61-130%



# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D19657  
Account: DCPM CODN DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D19657-3MS	3V08085.D	1	12/11/10	DC	n/a	n/a	V3V445
D19657-3MSD	3V08086.D	1	12/11/10	DC	n/a	n/a	V3V445
D19657-3	3V08084.D	1	12/11/10	DC	n/a	n/a	V3V445

The QC reported here applies to the following samples:

Method: SW846 8260B

D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

CAS No.	Compound	D19657-3 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	50	48.9	98	49.8	100	2	59-132/30
100-41-4	Ethylbenzene	ND	50	51.9	104	52.4	105	1	68-130/30
108-88-3	Toluene	ND	50	49.6	99	50.4	101	2	56-142/30
	m,p-Xylene	ND	50	47.4	95	46.6	93	2	36-146/30
95-47-6	o-Xylene	ND	50	46.2	92	46.2	92	0	36-146/30

CAS No.	Surrogate Recoveries	MS	MSD	D19657-3	Limits
17060-07-0	1,2-Dichloroethane-D4	92%	93%	91%	63-130%
2037-26-5	Toluene-D8	88%	88%	88%	68-130%
460-00-4	4-Bromofluorobenzene	87%	88%	82%	61-130%



# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: D19657  
Account: DCPMCDN DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D19661-7MS	5V11997.D	1	12/13/10	DC	n/a	n/a	V5V687
D19661-7MSD	5V11998.D	1	12/13/10	DC	n/a	n/a	V5V687
D19661-7	5V11996.D	1	12/13/10	DC	n/a	n/a	V5V687

The QC reported here applies to the following samples:

Method: SW846 8260B

D19657-9

CAS No.	Compound	D19661-7 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		50	51.8	104	52.5	105	1	59-132/30
100-41-4	Ethylbenzene	0.56	J	50	53.5	106	53.9	107	1	68-130/30
108-88-3	Toluene	ND		50	51.2	102	51.7	103	1	56-142/30
	m,p-Xylene	ND		50	51.1	102	51.4	103	1	36-146/30
95-47-6	o-Xylene	ND		50	51.3	103	52.7	105	3	36-146/30

CAS No.	Surrogate Recoveries	MS	MSD	D19661-7	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	105%	108%	63-130%
2037-26-5	Toluene-D8	106%	106%	105%	68-130%
460-00-4	4-Bromofluorobenzene	110%	109%	96%	61-130%





## General Chemistry

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### QC Data Summaries

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Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries



METHOD BLANK AND SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D19657  
Account: DCPMCDN - DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP3500/GN7716	0.50	0.11	mg/l	20	18.8	94.0%	90-110%

Associated Samples:

Batch GP3500: D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

(\*) Outside of QC limits



DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D19657  
Account: DCPMCDN - DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP3500/GN7716	D19657-3	mg/l	359	351	2.3	0-20%

Associated Samples:

Batch GP3500: D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

(\*) Outside of QC limits

6.2

6



MATRIX SPIKE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D19657  
Account: DCPMCDN - DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP3500/GN7716	D19657-3	mg/l	359	500	857	99.6	80-120%

Associated Samples:

Batch GP3500: D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits



MATRIX SPIKE DUPLICATE RESULTS SUMMARY  
GENERAL CHEMISTRY

Login Number: D19657  
Account: DCPMCDN - DCP Midstream, LP  
Project: AECCOL: DCP RR EXT

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP3500/GN7716	D19657-3	mg/l	359	500	853	0.5	20%

Associated Samples:

Batch GP3500: D19657-1, D19657-2, D19657-3, D19657-4, D19657-5, D19657-6, D19657-7, D19657-8

(\*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

6.4

