

**AP - \_\_\_\_\_ 55 \_\_\_\_\_**

**STAGE 1  
REPORTS**

**DATE:**

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**Chavez, Carl J, EMNRD**

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**From:** Chavez, Carl J, EMNRD  
**Sent:** Wednesday, September 10, 2008 11:18 AM  
**To:** 'Weathers, Stephen W'  
**Cc:** Price, Wayne, EMNRD  
**Subject:** DCP Midstream, LP RR Ext. Pipeline Release (AP-55)

Mr. Weathers:

I am in receipt of the American Environmental Consulting, LLC Site Investigation Report (report) & Proposed Additional Activities dated May 28, 2008 at the above location. I notice you were planning to be on site to complete proposed activities in June or July of 2008. You may have already completed the work. In general, I notice that proposed down gradient well locations (MWs 6 & 7) do not correspond to the piezometric surface map (Figure 3) in the report and laboratory testing does not consist of sampling at the water table, BTEX analysis, etc.

OCD comments based on Page 3 "Proposed Additional Activities" of the report are as follows:

- 1) There are 3 additional wells (MWs 6, 7 and 8) but only MWs 6 and 7 are discussed. In Figure 5, MW-8 is installed north of MW-1 instead of MW-7 as you describe in the report. You indicated that MW-7 will be installed upgradient of MW-1, but MW-8 is depicted in Figure 5 of the report. Based on the ground water flow direction map (Figure 3), MWs 6 and 7 are not located downgradient of the hot spot locations (MWs 1 and 2). MW-8 appears to be an upgradient well to define the upgradient or northern boundary of the plume. There is no mention of collecting a ground water sample at the water table.
- 2) All drilling to the water table shall include a ground water sample with the appropriate environmental analyses.
- 3) Analytes to tested in water media shall include at a minimum BTEX, TPH, and Chlorides.
- 4) Recommended locations downgradient from hot spot wells (ex., MW1 and MW-2) would appear to be toward the south based on the piezometric surface map in the report. Locations should provide additional piezometric surface data to assist with the downgradient determination over time.

Please contact me if you have questions. Thanks.

Carl J. Chavez, CHMM  
New Mexico Energy, Minerals & Natural Resources Dept.  
Oil Conservation Division, Environmental Bureau  
1220 South St. Francis Dr., Santa Fe, New Mexico 87505  
Office: (505) 476-3491  
Fax: (505) 476-3462  
E-mail: [CarlJ.Chavez@state.nm.us](mailto:CarlJ.Chavez@state.nm.us)  
Website: <http://www.emnrd.state.nm.us/ocd/index.htm>  
(Pollution Prevention Guidance is under "Publications")

9/10/2008



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2008 MAY 30 PM 1 38

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

May 28, 2008

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

**RE: Site Investigation Report and Proposed Additional Activities  
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. Price:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the Site Investigation Report and Proposed Additional Activities for the DCP RR Ext. Pipeline Release located in Lea County, New Mexico (Unit C, Section 19, Township 20 South, Range 37 East).

Based on the results of the initial site investigation, the pipeline release was not fully characterized. DCP proposes additional field activities to complete the site characterization. The proposed field activities are discussed in the enclosed report and DCP anticipates completing the activities in June or July of 2008 based on drilling rig availability. As always, DCP will notify the OCD a minimum of 48 hours before field activities begin.

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  
Sr. Environmental Specialist

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

RECEIVED  
2008 MAY 30 PM 1 38

May 23, 2008

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

Re: Summary of Site Investigative Activities and Proposed Additional Activities: RR  
Ext Pipeline Release in Lea County New Mexico, Unit C, Section 19 Township  
20 South, Range 37 East (AP #55)

Dear Mr. Weathers:

This letter report summarizes the investigative activities completed in March 2008 at the RR Ext Site (Figure 1) and the proposed additional field activities. The original scope of work and field protocols were included in the May 26, 2006 Stage 1 Abatement Plan Proposal. These activities were approved by the New Mexico Oil Conservation Division (OCD) on February 8, 2008. The monitoring wells were installed the week of March 4, 2008. The wells were developed and sampled on March 19, 2008. The surveyor's report was received on May 19, 2008.

The results of the site investigation indicate that additional activities to characterize the site must be completed before a Stage 1 study area investigation report can be prepared. The next section of the report summarizes the activities completed and the data generated. The final section proposes additional investigative activities.

#### **SUMMARY OF MARCH 2008 FIELD ACTIVITIES**

The field activities completed included the installation, development and sampling of five groundwater monitoring wells. The well locations are shown on Figure 2. The original plan called for the installation of six wells; however, the large rotary-drilling rig could not access the last well location because of the sandy surficial deposits.

The wells were installed using the protocols included in the May 26, 2006 Work Plan. All five wells were installed to depths between 37.5 and 40 feet below ground surface (bgs). The materials were generally described as very-fine grained well-sorted sands (Unified Soil Classification SP) or silty sands (Unified Soil Classification SM).

The approximate top of the saturation was easily identified because of the sandy nature of the materials. Photoionization (PID) measurements were taken from the near-surface samples and the top of the vadose zone. The wells were completed so that approximately 10 feet of saturated materials were tapped. Well construction information, including the March 2008 saturated thickness values is summarized in Table 1.

The surface completion for each well included an above-ground well protector and a minimum 2 foot by 2 foot concrete pad. The coordinates and elevation of each well were measured by a licensed surveyor.

The wells were developed by removing a minimum of 10 gallons using a submersible pump. An additional three casing volumes were then removed, and the field parameters of temperature, pH and conductivity were measured to ensure equilibrium.

The wells were sampled using the dedicated bailer following stabilization. Unfiltered samples were collected from each well. The unfiltered samples were analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX). A field duplicate from MW-2, a matrix spike, matrix spike duplicate (MS/MSD) from MW-5 and a trip blank were also collected to evaluate quality control.

All development and purge water was disposed of at the DEFS Linam Ranch facility. All cuttings generated during the drilling process were placed on and then covered with visqueen for appropriate disposal.

## RESULTS

The measured water table elevations were used to generate the groundwater contour map included as Figure 3. The results indicate a southerly groundwater flow component.

The PID readings are summarized in Table 2. The PID results indicate that substantial ionizable hydrocarbon constituents are present in the vadose zone in MW-1, MW-2 and MW-3. A slightly elevated reading was also measured in MW-2 from 4-6 feet. These results indicate that the near-surface effects are restricted to the actual release area.

A review of the laboratory report, included as Attachment A, indicates that only one individual surrogate was measured outside of its control limits. The quality control evaluations are summarized in Table 3. The duplicate samples exhibited acceptable relative percentage difference (RPD) values. The matrix spike and matrix spike duplicate values were also acceptable. There were no BTEX detections in the trip blank. The above evaluations indicate that the data is suitable for the intended uses.

The sampling data is included in Table 4. The New Mexico Water Quality Control Commission Groundwater Standards are included at the top of the table. Wells MW-1, MW-2 and MW-3 all exceeded the benzene standard. Benzene was also measured at the standard in MW-4. The toluene standard was exceeded in wells MW-1, MW-2 and MW-3. The xylenes standard was exceeded in MW-2.

Benzene isopleths that are based upon the March 2008 sampling event are included in Figure 4. Additional control is needed north of MW-1 and southeast of MW-3 to define the dissolved phase hydrocarbon plume boundaries. An additional well may also be necessary south of MW-4 based upon the second set of sampling data.

## PROPOSED ADDITIONAL ACTIVITIES

Several additional activities are proposed to complete characterization of the site. The activities are described below.

1. Three additional wells will be installed at the locations shown on Figure 4. Wells MW-6 and MW-7 will be installed to bound the dissolved phase plume down-gradient from MW-3. Well MW-7 will be installed north of MW-1 to delineate the up-gradient boundary. The wells will be installed using the protocols in the approved work plan. The wells will be installed using auger-drilling techniques for access considerations and to collect representative soil samples for geotechnical testing.
2. One or two borings will be advanced in the surface stained area shown by EPI to the southeast of the release location as proposed in the approved Work Plan. Boring logs detailing, lithology, staining and odor will be prepared for each location. The borings will be advanced to refusal or to the water table. Soil samples will be collected as necessary to assist in the formulation of a remediation plan.
3. Laboratory testing will also be conducted on one to three samples collected using a Shelby tube from the saturated zones from separate wells depending upon the heterogeneity of the materials. The samples will be analyzed by a soils laboratory for:
  - Organic matter using ASTM D2974;
  - Unified Soil Classification using ASTM D2487;
  - Particle analysis using ASTM D422; and
  - Bulk density using ASTM D2937.
4. The final field activity will be to measure the physical properties of the saturated materials. Slug tests will be completed to estimate the saturated hydraulic conductivity.

Additional wells and/or soil borings will be installed as necessary to complete characterization without having to prepare more work plan addendums. A Stage 1 Study area investigation Report will be prepared as required in 19.15.1.19.E (3) NMAC once the area has been adequately characterized.

Do not hesitate to contact me if you have any questions or comments on this document.

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

*Michael H. Stewart*

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

TABLES

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

Well	Date Installed	Stickup	Total Depth (ground)	Screen Interval (ground)	Sand Interval	3/08 Saturated Thickness
MW-1	3/08	2.06	37.5	17.5-37.5	16-37.5	9.97
MW-2	3/08	2.41	37.5	17.5-37.5	16-37.5	9.52
MW-3	3/08	2.53	37.5	17.5-37.5	16-37.5	8.48
MW-4	3/08	3.16	37.5	17.5-37.5	16-37.5	10.06
MW-5	3/08	2.15	40	20-40	18-40	10.87

Notes

- Units are feet
- All casings are 2-inch diameter
- Wells were grouted to the surface with hydrated bentonite pellets and completed with above-ground well protectors

Table 2 - Photoionization Detector Measurements

	MW-1	MW-2	MW-3	MW-4	MW-5	
0-2	2.2	2.2	0.4	2.3	2.3	
2-4	NM	2.6	NM	NM	NM	
4-6		21.2				
6-8		6.2				
8-10		1.9				1.4
15-16	4.2	NM	NM	NM	NM	
16-18				6.7		
18-20				3.2		NS
20-22	64.5		NS	NM		
22-23	1917					
23-25						
25-27			>2000	117.2		5.8
27-29				5.3		

All readings are parts per million  
 NM: No measurement

Table 3 - Groundwater Sampling QC Evaluation

RPD Evaluation

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-2 (mg/l)	8.98	6.58	0.135J	0.765
MW-2 Dup (mg/l)	10	7	0.156J	0.930
RPD	10.7%	6.2%	14.4%	19.5%

J value: Concentration between method detection limit and method reporting limit

MW-5 Matrix Spike/Matrix Spike Duplicate (%)

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes
MS	115	98	103	104
MSD	111	97	100	99

MS: Matrix Spike

MSD: Matrix Spike Duplicate

Table 4 - Groundwater Sampling Results

Sampling Results

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes
	.010	0.75	0.75	0.62
MW-1	<b>1.4</b>	<b>0.948</b>	0.0395	0.128
MW-2	<b>8.98</b>	<b>6.58</b>	0.135J	<b>0.765</b>
MW-2 Dup	<b>10</b>	7	0.156J	<b>0.93</b>
MW-3	<b>0.759</b>	<b>0.849</b>	0.0355	0.0786
MW-4	<b>0.0102</b>	0.0093	<0.002	0.0023J
MW-5	0.0019J	0.0012J	<0.002	<0.006

Units mg/l

J value: Concentration between method detection limit and method reporting limit

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

FIGURES



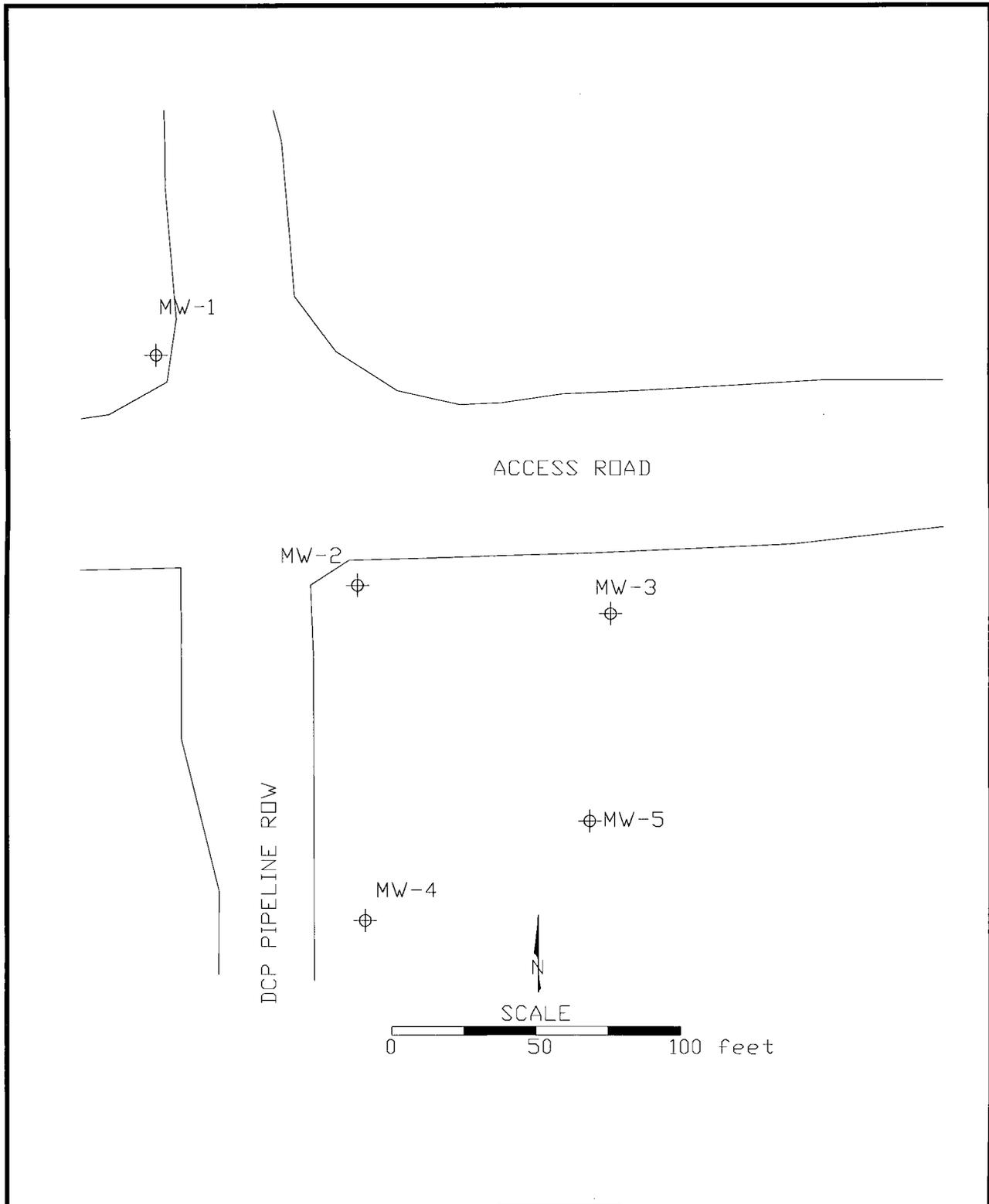


Figure 2 – Monitoring Well Locations  
RR Ext. AP #55



DRAWN BY: MHS

REVISED:

DATE: 5/08

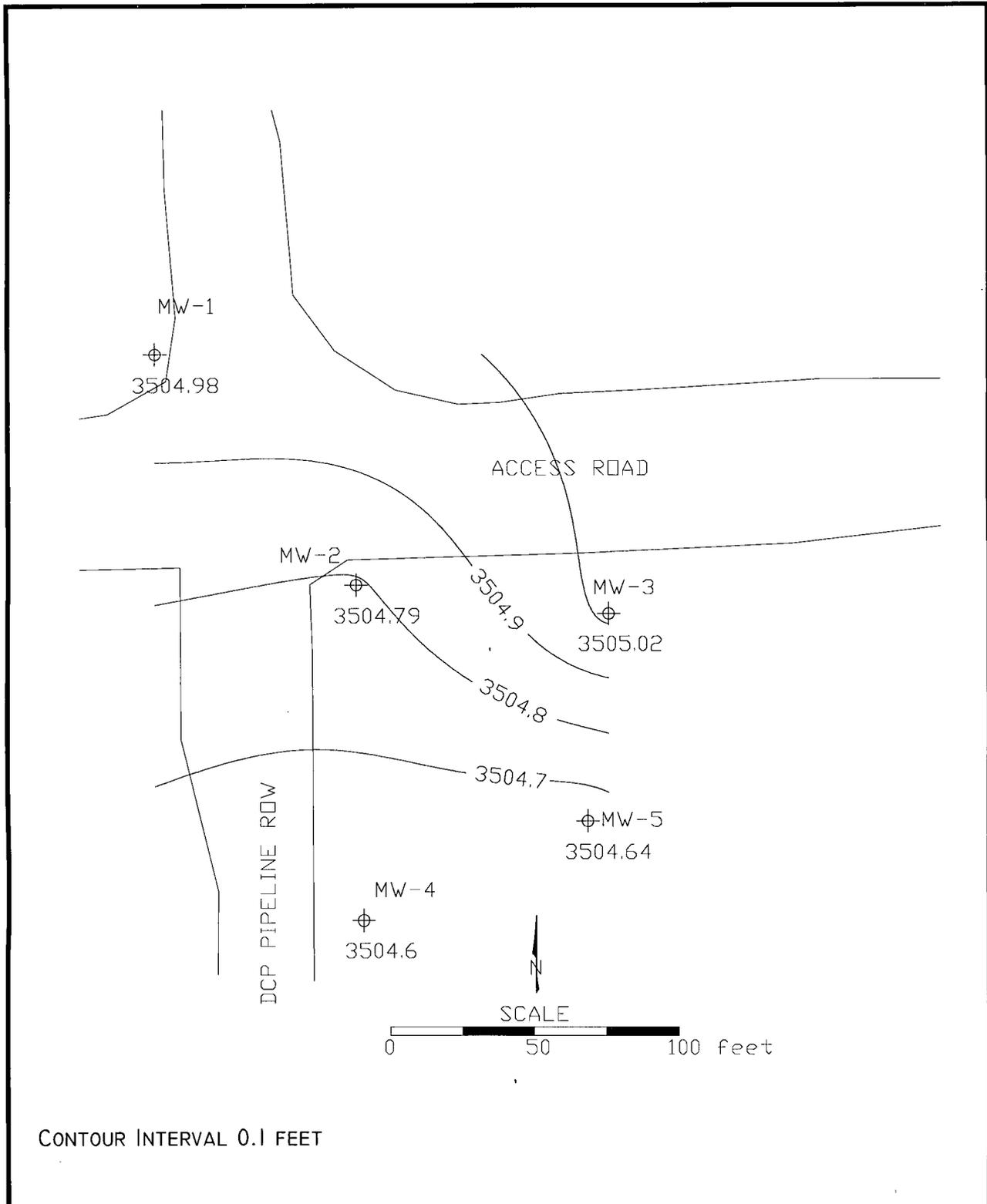


Figure 3 – March 2008 Water Table Contours  
RR Ext. AP #55



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DATE: 5/08

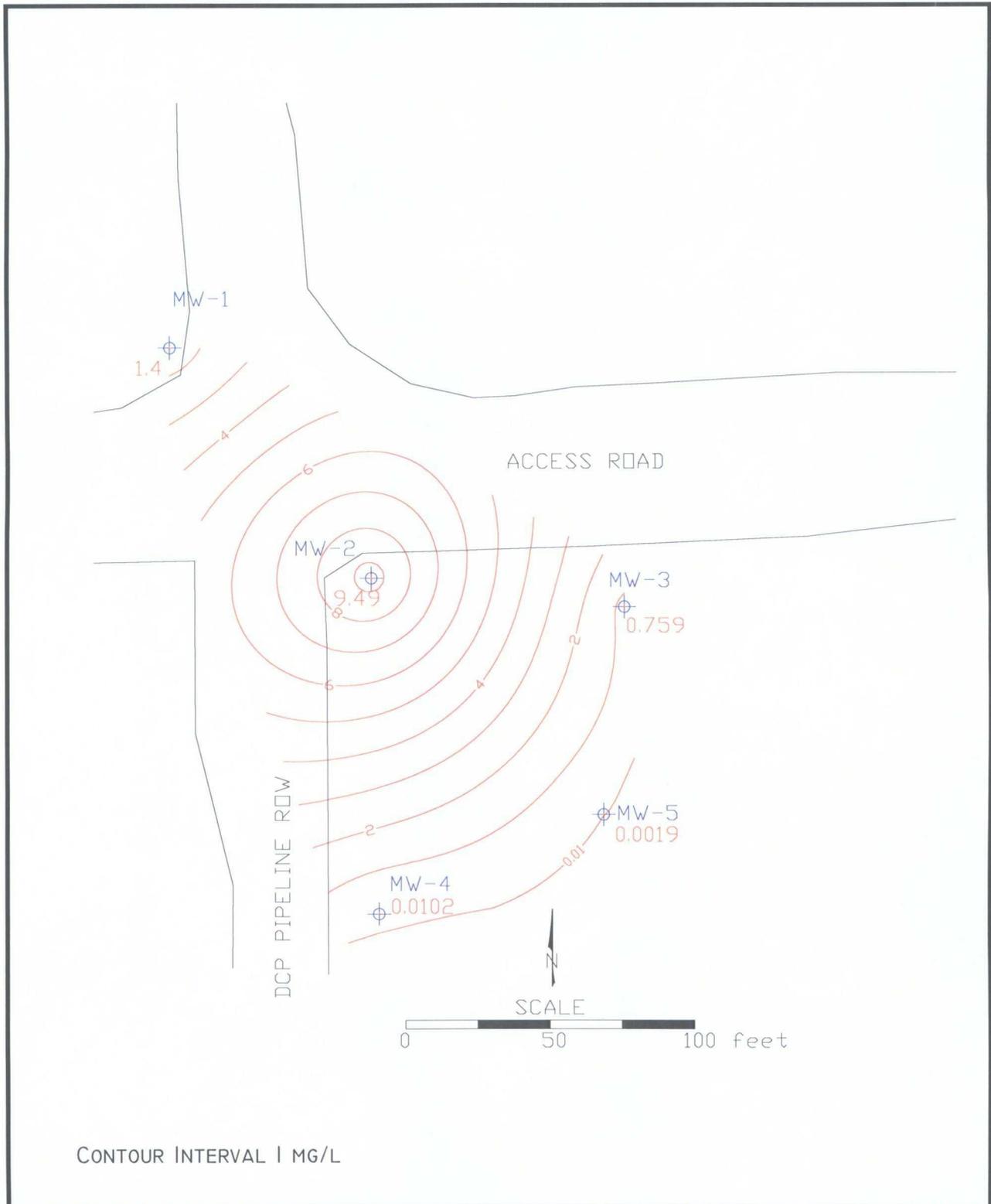


Figure 4 – March 2008 Benzene Isopleths  
RR Ext. AP #55



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DATE: 5/08

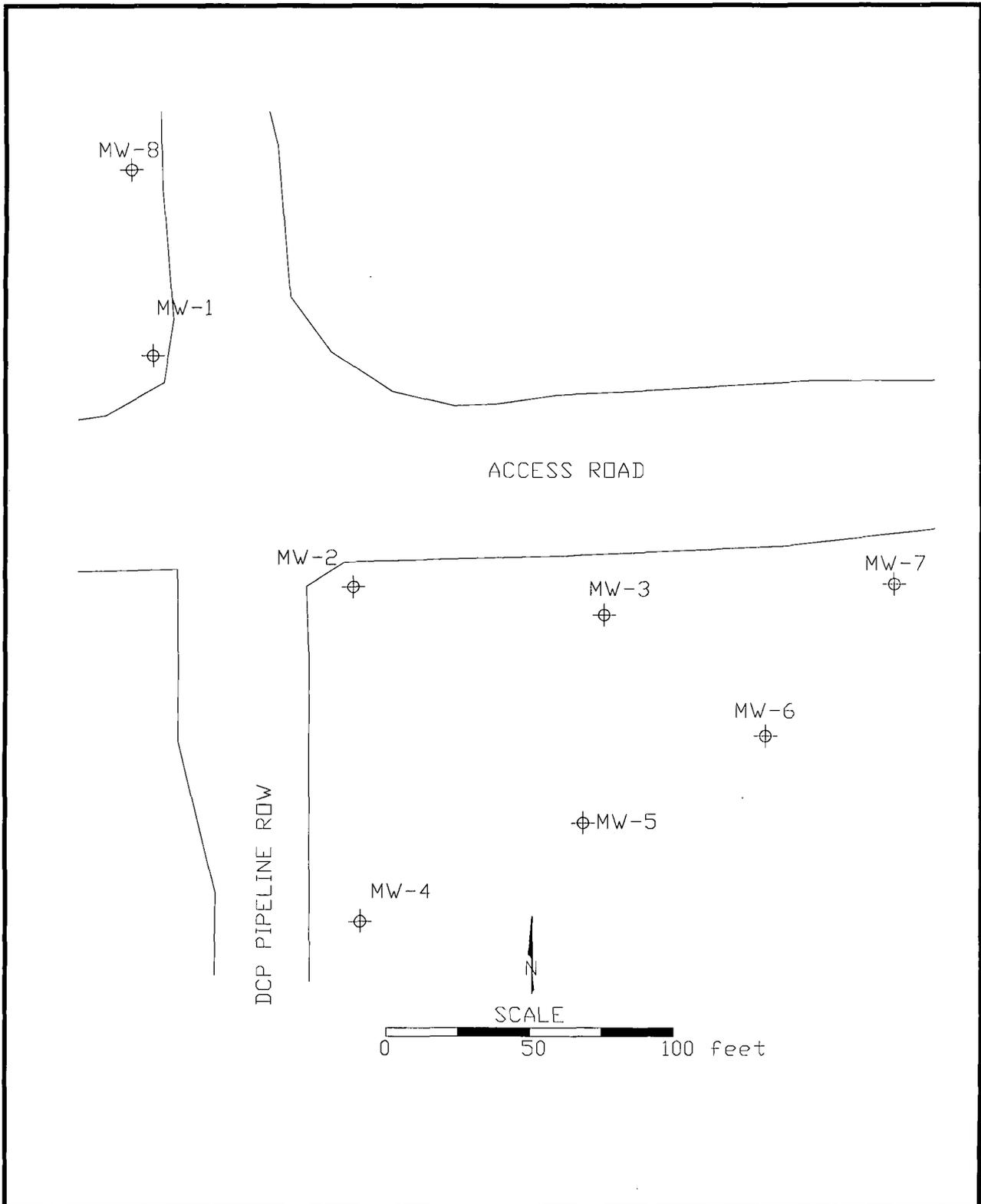


Figure 5 – Proposed Well Locations  
RR Ext. AP #55



DRAWN BY: MHS

REVISED:

DATE: 5/08

ATTACHMENT 1  
FIELD FORMS AND  
ANALYTICAL LABORATORY REPORT

**GROUNDWATER SAMPLING FIELD DATA FORM**

<b>CLIENT:</b> DCP Midstream, LLC		<b>LOCATION:</b> RR-EXT				
<b>WELL NAME:</b> MW-1						
<b>Sampled By:</b> M. Stewart / A. Taylor				<b>Date Purged:</b> 3/19/2008		
<b>Weather During Sampling:</b> Fair				<b>Date Sampled:</b> 3/19/2008		
<b>Well Diameter:</b> 2.0"				<b>Time Sampled:</b> 3:40 pm		
<b>EVACUATION DATA</b>						
<b>Description of Measuring Point:</b>		Top of PVC			<b>Analyses:</b> BTEX 8260	
<b>Total Depth of Well:</b>		37.50 ft.				
<b>Depth to Water from Measuring Point:</b>		29.59 ft.				
<b>Height of Water Column:</b>		7.91 ft.				
<b>Single Casing Volume of Water:</b>		1.55 gal/cv			<b>Method of Disposal:</b> Tank to disposal sump at the DCP gas plant in Hobbs.	
<b>Volume to Purge Prior to Sampling:</b>		4.65 gal				
<b>Volume Purged Prior to Sampling:</b>		~5.0 gal				
<b>Method of Purging/Equipment:</b> 9-Volt Submersible				<b>Flow Rate:</b> 1 gal/min		
<b>Method of Sampling/Equipment:</b> Bailer / New Rope				<b>Flow Rate:</b> n/a		
<b>FIELD PARAMETERS</b>	<b>Casing Volume</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
pH	pH	7.47	7.49	7.47	7.48	7.50
Temperature	°C	19.5	19.3	19.3	19.3	19.3
Conductance	mS/cm	2.52	2.53	2.53	2.53	2.53
Turbidity	NTU/FTU	--	--	--	--	--
PID / COD / DO / TOC		--	--	--	--	--
<b>Color of Groundwater</b>	Light Brown					
<b>Odor</b>	None					
<b>Appearance</b>	Moderately Turbid					
<b>NOTES:</b> MW-1 was developed by purging a minimum of 10 gallons and acquiring field parameters every 5 gallons. A total of ~ 15 gallons of water was removed prior to sampling.						

**GROUNDWATER SAMPLING FIELD DATA FORM**

<b>CLIENT:</b> DCP Midstream, LLC		<b>LOCATION:</b> RR-EXT				
<b>WELL NAME:</b> MW-2						
<b>Sampled By:</b> M. Stewart / A. Taylor				<b>Date Purged:</b> 3/19/2008		
<b>Weather During Sampling:</b> Fair				<b>Date Sampled:</b> 3/19/2008		
<b>Well Diameter:</b> 2.0"				<b>Time Sampled:</b> 3:05 pm		
<b>EVACUATION DATA</b>						
<b>Description of Measuring Point:</b> Top of PVC			<b>Analyses:</b> BTEX 8260			
<b>Depth of Well From Measuring Point:</b> 37.50 ft.						
<b>Depth to Water from Measuring Point:</b> 30.39 ft.						
<b>Height of Water Column:</b> 7.11 ft.						
<b>Single Casing Volume of Water:</b> 1.39 gal/cv			<b>Method of Disposal:</b> Tank to disposal sump at the DCP gas plant in Hobbs.			
<b>Volume to Purge Prior to Sampling:</b> 4.18 gal						
<b>Volume Purged Prior to Sampling:</b> ~5.0 gal						
<b>Method of Purging/Equipment:</b> 9-Volt Submersible				<b>Flow Rate:</b> 1 gal/min		
<b>Method of Sampling/Equipment:</b> Bailer / New Rope				<b>Flow Rate:</b> n/a		
<b>FIELD PARAMETERS</b>	<b>Casing Volume</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>pH</b>	<b>pH</b>	7.76	7.68	7.69	7.66	7.62
<b>Temperature</b>	<b>°C</b>	19.2	19.2	19.1	19.3	19.3
<b>Conductance</b>	<b>mS/cm</b>	1.00	0.98	0.98	0.98	0.98
<b>Turbidity</b>	<b>NTU/FTU</b>	--	--	--	--	--
<b>PID / COD / DO / TOC</b>		--	--	--	--	--
<b>Color of Groundwater</b>	Light Brown					
<b>Odor</b>	None					
<b>Appearance</b>	Moderately Turbid					
<b>NOTES:</b> MW-2 was developed by purging a minimum of 10 gallons and acquiring field parameters every 5 gallons. A total of ~ 15 gallons of water was removed prior to sampling.						

## GROUNDWATER SAMPLING FIELD DATA FORM

<b>CLIENT:</b> DCP Midstream, LLC		<b>LOCATION:</b> RR-EXT				
<b>WELL NAME:</b> MW-3						
<b>Sampled By:</b> M. Stewart / A. Taylor				<b>Date Purged:</b> 3/19/2008		
<b>Weather During Sampling:</b> Fair				<b>Date Sampled:</b> 3/19/2008		
<b>Well Diameter:</b> 2.0"				<b>Time Sampled:</b> 2:45 pm		
<b>EVACUATION DATA</b>						
<b>Description of Measuring Point:</b>		Top of PVC			<b>Analyses:</b> BTEX 8260	
<b>Depth of Well From Measuring Point:</b>		37.50 ft.				
<b>Depth to Water from Measuring Point:</b>		31.55 ft.				
<b>Height of Water Column:</b>		5.95 ft.				
<b>Single Casing Volume of Water:</b>		1.16 gal/cv			<b>Method of Disposal:</b> Tank to disposal sump at the DCP gas plant in Hobbs.	
<b>Volume to Purge Prior to Sampling:</b>		3.49 gal				
<b>Volume Purged Prior to Sampling:</b>		~5.0 gal				
<b>Method of Purging/Equipment:</b> 9-Volt Submersible				<b>Flow Rate:</b> 1 gal/min		
<b>Method of Sampling/Equipment:</b> Bailer / New Rope				<b>Flow Rate:</b> n/a		
<b>FIELD PARAMETERS</b>	<b>Casing Volume</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>pH</b>	<b>pH</b>	7.48	7.54	7.52	7.53	7.51
<b>Temperature</b>	<b>°C</b>	19.3	19.3	19.3	19.3	19.3
<b>Conductance</b>	<b>mS/cm</b>	1.88	1.87	1.87	1.87	1.87
<b>Turbidity</b>	<b>NTU/FTU</b>	--	--	--	--	--
<b>PID / COD / DO / TOC</b>		--	--	--	--	--
<b>Color of Groundwater</b>	Light Brown					
<b>Odor</b>	None					
<b>Appearance</b>	Moderately Turbid					
<b>NOTES:</b> MW-3 was developed by purging a minimum of 10 gallons and acquiring field parameters every 5 gallons. A total of ~ 15 gallons of water was removed prior to sampling.						

## GROUNDWATER SAMPLING FIELD DATA FORM

<b>CLIENT:</b> DCP Midstream, LLC		<b>LOCATION:</b> RR-EXT				
<b>WELL NAME:</b> MW-4						
<b>Sampled By:</b> M. Stewart / A. Taylor				<b>Date Purged:</b> 3/19/2008		
<b>Weather During Sampling:</b> Fair				<b>Date Sampled:</b> 3/19/2008		
<b>Well Diameter:</b> 2.0"				<b>Time Sampled:</b> 1:50 pm		
<b>EVACUATION DATA</b>						
<b>Description of Measuring Point:</b>		Top of PVC			<b>Analyses:</b> BTEX 8260	
<b>Depth of Well From Measuring Point:</b>		37.50 ft.				
<b>Depth to Water from Measuring Point:</b>		30.60 ft.				
<b>Height of Water Column:</b>		6.90 ft.				
<b>Single Casing Volume of Water:</b>		1.35 gal/cv			<b>Method of Disposal:</b> Tank to disposal sump at the DCP gas plant in Hobbs.	
<b>Volume to Purge Prior to Sampling:</b>		4.05 gal				
<b>Volume Purged Prior to Sampling:</b>		~5.0 gal				
<b>Method of Purging/Equipment:</b> 9-Volt Submersible				<b>Flow Rate:</b> 1 gal/min		
<b>Method of Sampling/Equipment:</b> Bailer / New Rope				<b>Flow Rate:</b> n/a		
<b>FIELD PARAMETERS</b>	<b>Casing Volume</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>pH</b>	<b>pH</b>	7.58	7.60	7.68	7.61	7.62
<b>Temperature</b>	<b>°C</b>	19.5	19.4	19.3	19.3	19.1
<b>Conductance</b>	<b>mS/cm</b>	1.850	1.850	1.850	1.856	1.841
<b>Turbidity</b>	<b>NTU/FTU</b>	--	--	--	--	--
<b>PID / COD / DO / TOC</b>		--	--	--	--	--
<b>Color of Groundwater</b>	Light Brown					
<b>Odor</b>	None					
<b>Appearance</b>	Moderately Turbid					
<b>NOTES:</b> MW-4 was developed by purging a minimum of 10 gallons and acquiring field parameters every 5 gallons. A total of ~ 15 gallons of water was removed prior to sampling.						

## GROUNDWATER SAMPLING FIELD DATA FORM

<b>CLIENT:</b> DCP Midstream, LLC		<b>LOCATION:</b> RR-EXT				
<b>WELL NAME:</b> MW-5						
<b>Sampled By:</b> M. Stewart / A. Taylor				<b>Date Purged:</b> 3/19/2008		
<b>Weather During Sampling:</b> Fair				<b>Date Sampled:</b> 3/19/2008		
<b>Well Diameter:</b> 2.0"				<b>Time Sampled:</b> 2:15 pm		
<b>EVACUATION DATA</b>						
<b>Description of Measuring Point:</b>		Top of PVC			<b>Analyses:</b> BTEX 8260	
<b>Depth of Well From Measuring Point:</b>		37.50 ft.				
<b>Depth to Water from Measuring Point:</b>		31.28 ft.				
<b>Height of Water Column:</b>		6.225 ft.				
<b>Single Casing Volume of Water:</b>		1.21 gal/cv			<b>Method of Disposal:</b> Tank to disposal sump at the DCP gas plant in Hobbs.	
<b>Volume to Purge Prior to Sampling:</b>		3.65 gal				
<b>Volume Purged Prior to Sampling:</b>		~5.0 gal				
<b>Method of Purging/Equipment:</b> 9-Volt Submersible				<b>Flow Rate:</b> 1 gal/min		
<b>Method of Sampling/Equipment:</b> Bailer / New Rope				<b>Flow Rate:</b> n/a		
<b>FIELD PARAMETERS</b>	<b>Casing Volume</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>pH</b>	<b>pH</b>	7.54	7.54	7.54	7.52	7.56
<b>Temperature</b>	<b>°C</b>	19.2	19.4	19.4	19.4	19.6
<b>Conductance</b>	<b>mS/cm</b>	1.880	1.860	1.860	1.860	1.858
<b>Turbidity</b>	<b>NTU/FTU</b>	--	--	--	--	--
<b>PID / COD / DO / TOC</b>		--	--	--	--	--
<b>Color of Groundwater</b>	Light Brown					
<b>Odor</b>	None					
<b>Appearance</b>	Moderately Turbid					
<b>NOTES:</b> MW-5 was developed by purging a minimum of 10 gallons and acquiring field parameters every 5 gallons. A total of ~ 15 gallons of water was removed prior to sampling.						



LET'S ALL IN THE CHEMISTRY

04/03/08

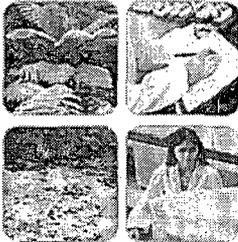
**Technical Report for**

DCP Midstream, LLC

DCP Midstream RR Ext

Accutest Job Number: T21484

Sampling Date: 03/19/08



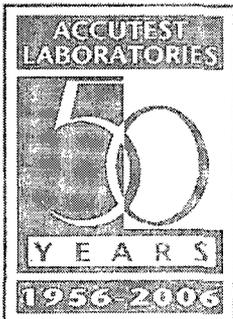
**Report to:**

American Environmental Consulting

mstewart@aecdenver.com

ATTN: Mike Stewart

Total number of pages in report: 21



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.

Ron Martino  
Laboratory Manager

Client Service contact: Agnes Vicknair 713-271-4700

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.  
Test results relate only to samples analyzed.

# Table of Contents

Sections:



-1-

<b>Section 1: Sample Summary .....</b>	<b>3</b>
<b>Section 2: Sample Results .....</b>	<b>4</b>
2.1: T21484-1: MW-1 .....	5
2.2: T21484-2: MW-2 .....	6
2.3: T21484-3: MW-3 .....	7
2.4: T21484-4: MW-4 .....	8
2.5: T21484-5: MW-5 .....	9
2.6: T21484-6: DUP .....	10
2.7: T21484-7: TRIP BLANK .....	11
<b>Section 3: Misc. Forms .....</b>	<b>12</b>
3.1: Chain of Custody .....	13
<b>Section 4: GC/MS Volatiles - QC Data Summaries .....</b>	<b>16</b>
4.1: Method Blank Summary .....	17
4.2: Blank Spike Summary .....	18
4.3: Blank Spike/Blank Spike Duplicate Summary .....	19
4.4: Matrix Spike/Matrix Spike Duplicate Summary .....	20



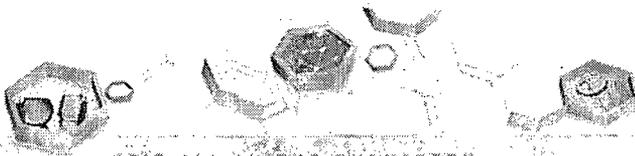
### Sample Summary

DCP Midstream, LLC

Job No: T21484

DCP Midstream RR Ext

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T21484-1	03/19/08	15:45 AT	03/25/08	AQ	Ground Water	MW-1
T21484-2	03/19/08	15:05 AT	03/25/08	AQ	Ground Water	MW-2
T21484-3	03/19/08	14:45 AT	03/25/08	AQ	Ground Water	MW-3
T21484-4	03/19/08	13:50 AT	03/25/08	AQ	Ground Water	MW-4
T21484-5	03/19/08	14:20 AT	03/25/08	AQ	Ground Water	MW-5
T21484-5D	03/19/08	14:20 AT	03/25/08	AQ	Water Dup/MSD	MW-5 MSD
T21484-5S	03/19/08	14:20 AT	03/25/08	AQ	Water Matrix Spike	MW-5 MS
T21484-6	03/19/08	00:00 AT	03/25/08	AQ	Ground Water	DUP
T21484-7	03/19/08	00:00 AT	03/25/08	AQ	Trip Blank Water	TRIP BLANK



IT'S ALL IN THE CHEMISTRY

**Sample Results**

---

**Report of Analysis**

---

### Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	03/19/08
Lab Sample ID:	T21484-1	Date Received:	03/25/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream RR Ext		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132850.D	1	03/28/08	NAZ	n/a	n/a	VB1660
Run #2	B0132959.D	10	04/02/08	NAZ	n/a	n/a	VB1663

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

**Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.40 <sup>a</sup>	0.020	0.0046	mg/l	
108-88-3	Toluene	0.948 <sup>a</sup>	0.020	0.0048	mg/l	
100-41-4	Ethylbenzene	0.0395	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	0.128	0.0060	0.0014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%	101%	73-126%
17060-07-0	1,2-Dichloroethane-D4	71%	101%	61-136%
2037-26-5	Toluene-D8	94%	97%	80-125%
460-00-4	4-Bromofluorobenzene	100%	101%	65-147%

(a) Result is from Run# 2

ND = Not detected      MDL - Method Detection Limit  
 RL = Reporting Limit

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-2	Date Sampled:	03/19/08
Lab Sample ID:	T21484-2	Date Received:	03/25/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream RR Ext		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132961.D	100	04/02/08	NAZ	n/a	n/a	VB1663
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	8.98	0.20	0.046	mg/l	
108-88-3	Toluene	6.58	0.20	0.048	mg/l	
100-41-4	Ethylbenzene	0.135	0.20	0.045	mg/l	J
1330-20-7	Xylene (total)	0.765	0.60	0.14	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		73-126%
17060-07-0	1,2-Dichloroethane-D4	104%		61-136%
2037-26-5	Toluene-D8	101%		80-125%
460-00-4	4-Bromofluorobenzene	98%		65-147%

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-3	Date Sampled:	03/19/08
Lab Sample ID:	T21484-3	Date Received:	03/25/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream RR Ext		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132852.D	1	03/28/08	NAZ	n/a	n/a	VB1660
Run #2	B0132960.D	10	04/02/08	NAZ	n/a	n/a	VB1663

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

**Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.759 <sup>a</sup>	0.020	0.0046	mg/l	
108-88-3	Toluene	0.849 <sup>a</sup>	0.020	0.0048	mg/l	
100-41-4	Ethylbenzene	0.0355	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	0.0786	0.0060	0.0014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	85%	101%	73-126%
17060-07-0	1,2-Dichloroethane-D4	71%	101%	61-136%
2037-26-5	Toluene-D8	97%	100%	80-125%
460-00-4	4-Bromofluorobenzene	102%	103%	65-147%

(a) Result is from Run# 2

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-4	Date Sampled:	03/19/08
Lab Sample ID:	T21484-4	Date Received:	03/25/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream RR Ext		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132847.D	1	03/28/08	NAZ	n/a	n/a	VB1660
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	0:0102	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0093	0.0020	0.00048	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	0:0023	0.0060	0.0014	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		73-126%
17060-07-0	1,2-Dichloroethane-D4	96%		61-136%
2037-26-5	Toluene-D8	98%		80-125%
460-00-4	4-Bromofluorobenzene	104%		65-147%

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-5	Date Sampled: 03/19/08
Lab Sample ID: T21484-5	Date Received: 03/25/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: DCP Midstream RR Ext	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132958.D	1	04/02/08	NAZ	n/a	n/a	VB1663
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	0.0019	0.0020	0.00046	mg/l	J
108-88-3	Toluene	0.0012	0.0020	0.00048	mg/l	J
100-41-4	Ethylbenzene	ND	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		73-126%
17060-07-0	1,2-Dichloroethane-D4	106%		61-136%
2037-26-5	Toluene-D8	98%		80-125%
460-00-4	4-Bromofluorobenzene	99%		65-147%

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:	DUP	Date Sampled:	03/19/08
Lab Sample ID:	T21484-6	Date Received:	03/25/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream RR Ext		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132848.D	1	03/28/08	NAZ	n/a	n/a	VB1660
Run #2	B0132962.D	100	04/02/08	NAZ	n/a	n/a	VB1663

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

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10.0 <sup>a</sup>	0.20	0.046	mg/l	
108-88-3	Toluene	7.00 <sup>a</sup>	0.20	0.048	mg/l	
100-41-4	Ethylbenzene	0.156 <sup>a</sup>	0.20	0.045	mg/l	J
1330-20-7	Xylene (total)	0.930 <sup>a</sup>	0.60	0.14	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%	105%	73-126%
17060-07-0	1,2-Dichloroethane-D4	43%	106%	61-136%
2037-26-5	Toluene-D8	89%	97%	80-125%
460-00-4	4-Bromofluorobenzene	98%	100%	65-147%

(a) Result is from Run# 2

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:	TRIP BLANK	Date Sampled:	03/19/08
Lab Sample ID:	T21484-7	Date Received:	03/25/08
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream RR Ext		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B0132957.D	1	04/02/08	NAZ	n/a	n/a	VB1663
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	0.0020	0.00046	mg/l	
108-88-3	Toluene	ND	0.0020	0.00048	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		73-126%
17060-07-0	1,2-Dichloroethane-D4	112%		61-136%
2037-26-5	Toluene-D8	103%		80-125%
460-00-4	4-Bromofluorobenzene	97%		65-147%

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



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## Misc. Forms

### Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody





# ACCUTEST.

## SAMPLE RECEIPT LOG

JOB #: T21484 DATE/TIME RECEIVED: 3/19/08 930

CLIENT: DCP Midstream INITIALS: RV

- Condition/Variance (Circle "Y" for yes and "N" for no or NA, if "N" is circled, see variance for explanation):
- Y  N Sample received in undamaged condition.
  - Y  N Samples received within temp. range.
  - Y  N Sample received with proper pH.
  - Y  N Sample volume sufficient for analysis.
  - Y  N Chain of Custody matches sample IDs and analysis on containers.
  - Y  N Samples Headspace acceptable
  - Y  N Custody seal received intact and tamper not evident on cooler.
  - Y  N Custody seal received intact and tamper not evident on bottles.

SAMPLE ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	pH
1-U	1-3	3/19/08	RQ	40 MU	VRcf	1,2,3,4,5,6	U, <2, >12, NA
5	4-9	J	J	J	J	1,2,3,4,5,6	U, <2, >12, NA
7	1-2	NA	J	J	J	1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA

LOCATION: W1: Walk-in VR: Volatile Refrig. SUB: Subcontract EF: Encore Fraezer  
 PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NaOH 6: Other

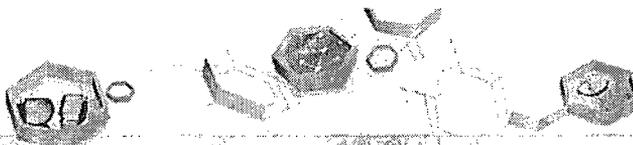
ph of waters checked excluding volatiles  
 ph of soils N/A

Delivery method: Courier: FedEx

COOLER TEMP: 1.4  
 COOLER TEMP:

Form: SM012, Rev.07/29/05, DAC





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## GC/MS Volatiles

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## 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

Job Number: T21484  
Account: DUKE DCP Midstream, LLC  
Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB1660-MB	B0132838.D	1	03/28/08	NAZ	n/a	n/a	VB1660

4.1  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T21484-1, T21484-3, T21484-4, T21484-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.46	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.45	ug/l	
108-88-3	Toluene	ND	2.0	0.48	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.4	ug/l	

CAS No.	Surrogate Recoveries	Results	Limits
1868-53-7	Dibromofluoromethane	101%	73-126%
17060-07-0	1,2-Dichloroethane-D4	99%	61-136%
2037-26-5	Toluene-D8	98%	80-125%
460-00-4	4-Bromofluorobenzene	98%	65-147%

# Blank Spike Summary

Job Number: T21484  
 Account: DUKE DCP Midstream, LLC  
 Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB1660-BS	B0132837.D	1	03/28/08	NAZ	n/a	n/a	VB1660

4.2  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T21484-1, T21484-3, T21484-4, T21484-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.6	114	41-145
100-41-4	Ethylbenzene	25	24.9	100	49-135
108-88-3	Toluene	25	25.7	103	66-128
1330-20-7	Xylene (total)	75	76.5	102	67-122

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	73-126%
17060-07-0	1,2-Dichloroethane-D4	93%	61-136%
2037-26-5	Toluene-D8	95%	80-125%
460-00-4	4-Bromofluorobenzene	99%	65-147%

# Blank Spike/Blank Spike Duplicate Summary

Job Number: T21484  
 Account: DUKE DCP Midstream, LLC  
 Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB1663-BS	B0132955.D	1	04/02/08	NAZ	n/a	n/a	VB1663
VB1663-BSD	B0132956.D	1	04/02/08	NAZ	n/a	n/a	VB1663

4.3  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T21484-1, T21484-2, T21484-3, T21484-5, T21484-6, T21484-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	28.3	113	27.0	108	5	41-145/30
100-41-4	Ethylbenzene	25	28.8	115	28.2	113	2	49-135/30
108-88-3	Toluene	25	27.6	110	27.1	108	2	66-128/30
1330-20-7	Xylene (total)	75	87.1	116	82.4	110	6	67-122/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	99%	73-126%
17060-07-0	1,2-Dichloroethane-D4	105%	101%	61-136%
2037-26-5	Toluene-D8	97%	100%	80-125%
460-00-4	4-Bromofluorobenzene	97%	101%	65-147%

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T21484  
 Account: DUKE DCP Midstream, LLC  
 Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T21483-5MS	B0132842.D	1	03/28/08	NAZ	n/a	n/a	VB1660
T21483-5MSD	B0132846.D	1	03/28/08	NAZ	n/a	n/a	VB1660
T21483-5	B0132844.D	1	03/28/08	NAZ	n/a	n/a	VB1660

4.4  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T21484-6

CAS No.	Compound	T21483-5 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
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CAS No.	Surrogate Recoveries	MS	MSD	T21483-5	Limits
1868-53-7	Dibromofluoromethane	101%	98%	95%	73-126%
17060-07-0	1,2-Dichloroethane-D4	91%	90%	91%	61-136%
2037-26-5	Toluene-D8	91%	96%	95%	80-125%
460-00-4	4-Bromofluorobenzene	99%	99%	96%	65-147%

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T21484  
 Account: DUKE DCP Midstream, LLC  
 Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T21484-5MS	B0132854.D	1	03/28/08	NAZ	n/a	n/a	VB1660
T21484-5MSD	B0132855.D	1	03/28/08	NAZ	n/a	n/a	VB1660

4.4  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T21484-1, T21484-3, T21484-4, T21484-6

CAS No.	Compound	ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene			25	33.2	115	32.2	111	3	60-131/12
100-41-4	Ethylbenzene			25	25.8	103	25.1	100	3	58-127/13
108-88-3	Toluene			25	29.1	98	28.8	97	1	67-123/11
1330-20-7	Xylene (total)			75	78.0	104	74.4	99	5	62-125/14

CAS No.	Surrogate Recoveries	MS	MSD	Limits
1868-53-7	Dibromofluoromethane	97%	94%	73-126%
17060-07-0	1,2-Dichloroethane-D4	88%	85%	61-136%
2037-26-5	Toluene-D8	94%	98%	80-125%
460-00-4	4-Bromofluorobenzene	97%	104%	65-147%