

**AP - 055**

**STAGE 1  
REPORT**

**09/17/2008**



RECEIVED

2008 SEP 18 AM 11 48

APO55

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

September 17, 2008

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

**RE: Summary of Site Investigation and 2<sup>nd</sup> Quarter 2008 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. Price:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the Summary of Site Investigation and 2<sup>nd</sup> Quarter 2008 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

2008 SEP 18 AM 11 48

September 9, 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 Second Quarter Groundwater  
Monitoring Results for the 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 and second quarter monitoring event that were completed in June 2008 at the RR Ext Site (Figure 1). 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. Additional investigative activities were proposed in a American Environmental Consulting, LLC (AEC) May 23, 2008 Summary Site Investigation Report.

The next section summarizes the investigative activities completed. The following section discusses the groundwater monitoring results. The final section provides recommendations.

#### **SUMMARY OF JUNE 2008 FIELD INVESTIGATIVE ACTIVITIES**

The June 2008 field investigative activities included the installation, development and sampling of groundwater monitoring wells MW-6, MW-7 and MW-8. These wells were installed on June 30, 2008 to better delineate the dissolved phase hydrocarbon plume associated with the original release. The well locations are shown on Figure 2.

The wells were installed with a hollow-stem auger drilling rig using the protocols included in the May 26, 2006 Stage 1 Abatement Plan Proposal. The wells were installed to a depth of 37.5 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). Boring logs from the March 2008 and the June 2008 wells are included in Attachment 1. Photoionization (PID) measurements were taken from the near-surface samples and the top of the vadose zone. The measurements are included on the boring logs.

The wells were completed so that the bottom of the slotted intervals penetrated approximately 10 feet of saturated materials. Well construction information is summarized in Table 1. All cuttings generated during the drilling process were placed on and then covered with visqueen pending appropriate disposal.

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 three new wells were developed by removing a minimum of 10 gallons using a submersible pump. The wells were then purged and sampled as part of the quarterly groundwater monitoring event described below.

## **QUARTERLY GROUNDWATER MONITORING**

All eight wells were purged and sampled using dedicated bailers for the quarterly groundwater monitoring event. The wells were first purged to equilibration based the field parameters of temperature, pH and conductivity. They were then sampled for laboratory analysis for benzene, toluene, ethylbenzene and xylenes (BTEX). A field duplicate from MW-2, a matrix spike, matrix spike duplicate (MS/MSD) from MW-4 and a trip blank were also collected to evaluated quality control. All affected development and purge water was disposed of at the DEFS Linam Ranch facility.

Well hydrographs are plotted on Figure 3. Figure 3 demonstrates that the water table declined in a similar fashion across the site indicating that uniform groundwater conditions are present. The measured water table elevations from June 2008 were used to generate a groundwater contour map using the Surfer program with a kriging option. This map is included as Figure 4. Incorporation of the three new wells confirms that the groundwater flow direction is toward the south.

The PID readings are summarized in Table 2. The PID results indicate that substantial ionizable hydrocarbon constituents are present in the vadose zone at the MW-1, MW-2 and MW-3 locations. A slightly elevated reading was also measured in MW-2 from 4-6 feet. There were no other elevated readings. These results indicate that the near-surface effects are restricted to the actual release area.

A review of the laboratory report, included in Attachment 2, indicates that the majority of individual surrogates were measured within their 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 geotechnical data is also included in Attachment 2.

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, MW-3 MW-4 and MW-8 all exceeded the benzene standards. MW-1, MW-2 and MW-3 exceeded the toluene standard. MW-2 and MW-3 exceeded the xylenes standard. The constituents in the other wells were all below the standards.

Benzene isopleths for the June 2008 data that were generated by the program Surfer using the kriging algorithm are shown on Figure 5. The isopleths demonstrate that natural attenuation substantially reduces the constituent concentrations as they migrate away from the source area.

All of the sampling results are summarized in Table 5. The benzene concentrations from March 2008 and June 2008 were plotted in Figure 6. These graphs show that the concentration changes in all wells except MW-3 increased in a similar fashion. AEC believes that these increases resulted directly from ponding that resulted from heavy precipitation before the sampling event. The ponding extended through the release area in the approximate configuration shown in Figure 7, preventing the advancement of the additional source sampling borings. The pond was over 1-foot deep in the center. The infiltrating surface water probably mobilized and drove dissolved-phase hydrocarbons down the groundwater flow gradient. The ponded surface water could have also affected the upgradient concentration in MW-1. The impacted soils in this area need to be removed and the area backfilled and regraded to prevent this from reoccurring.

## RECOMMENDATIONS

AEC recommends the following based upon the data discussed above:

1. The third quarter groundwater monitoring event should be completed.
2. The source removal activities proposed by DCP Midstream be approved and completed to stabilize the groundwater plume.
3. AEC recommends postponing any additional investigative activities, including the slug testing, until the third quarter monitoring is completed to verify the June 2008 concentrations in MW-6, MW-7 and MW-8 and the source removal activities are completed.

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
MW-1	3/08	2.06	37.5	17.5-37.5	16-37.5
MW-2	3/08	2.41	37.5	17.5-37.5	16-37.5
MW-3	3/08	2.53	37.5	17.5-37.5	16-37.5
MW-4	3/08	3.16	37.5	17.5-37.5	16-37.5
MW-5	3/08	2.15	37.5	17.5-37.5	16-37.5
MW-6	6/08	2.18	37.5	17.5-37.5	16-37.5
MW-7	6/08	2.36	37.5	17.5-37.5	16-37.5
MW-8	6/08	2.76	37.5	17.5-37.5	16-37.5

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
- Borings were backfilled with sand to well installation depth as necessary

Table 2 - Photoionization Detector Measurements

Feet Below Ground Surface	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8				
0-2	2.2	2.2	0.4	2.3	2.3	4.2	1.4	0.4				
2-4	NM	2.6	NM	NM	NM	NM	NM	0.7				
4-6		21.2										
6-8		6.2										
8-10		1.9	1.4	4.8	6.1	0.6	0.7	NM				
10-15		NM	NM	NM	NM	NM	3.4		6.8			
15-16	4.2						NM	NM	NM	NM	NM	NM
16-18												
18-20												
20-22	64.5										3.2	NM
22-23		NM	NM	NM	NM							
23-25		1917	NM	5.8		1.1	4.2					
25-27	>2000	117.2		NM	1.1							
27-29	NM	NM		NM	5.3	NM	1.1					

All readings are parts per million

NM: No measurement



Table 3 - Groundwater Sampling QC Evaluation

- Cooler temperature 1.6 degrees C upon login at laboratory
- Blank spikes all within control limits
- No BTEX detections in the trip blank

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 (percent)

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
WQCC Standards	.010	0.75	0.75	0.62
MW-1	<b>2.75</b>	<b>2.17</b>	0.054	0.232
MW-2	<b>24.3</b>	<b>18.5</b>	0.319	<b>2.58</b>
DUP	<b>23.5</b>	<b>19.2</b>	0.309	<b>2.36</b>
MW-3	<b>6.18</b>	<b>9.46</b>	0.287	<b>1.23</b>
MW-4	<b>0.0439</b>	0.0256	0.0068	0.0147
MW-5	0.0037	0.0037	<0.002	<0.006
MW-6	<0.002	<0.002	<0.002	<0.006
MW-7	<0.002	<0.002	<0.002	<0.006
MW-8	<b>0.0384</b>	0.0255	0.00049J	0.0016J

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

Table 5 - Groundwater Sampling Summary

Sampling Results

Well		Benzene	Toluene	Ethylbenzene	Total Xylenes
WQCC 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>	2.17	0.054	0.232
MW-2	3/08	<b>8.98</b>	<b>6.58</b>	0.135J	<b>0.765</b>
MW-2 Dup	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>
	6/08	<b>23.5</b>	<b>19.2</b>	0.309	<b>2.36</b>
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>
MW-4	3/08	<b>0.0102</b>	0.0093	<0.002	0.0023J
	6/08	<b>0.0439</b>	0.0256	0.0068	0.0147
MW-5	3/08	0.0019J	0.0012J	<0.002	<0.006
	6/08	0.0037	0.0037	<0.002	<0.006
MW-6	6/08	<0.002	<0.002	<0.002	<0.006
MW-7	6/08	<0.002	<0.002	<0.002	<0.006
MW-8	6/08	<b>0.0384</b>	0.0255	0.00049J	0.0016J

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

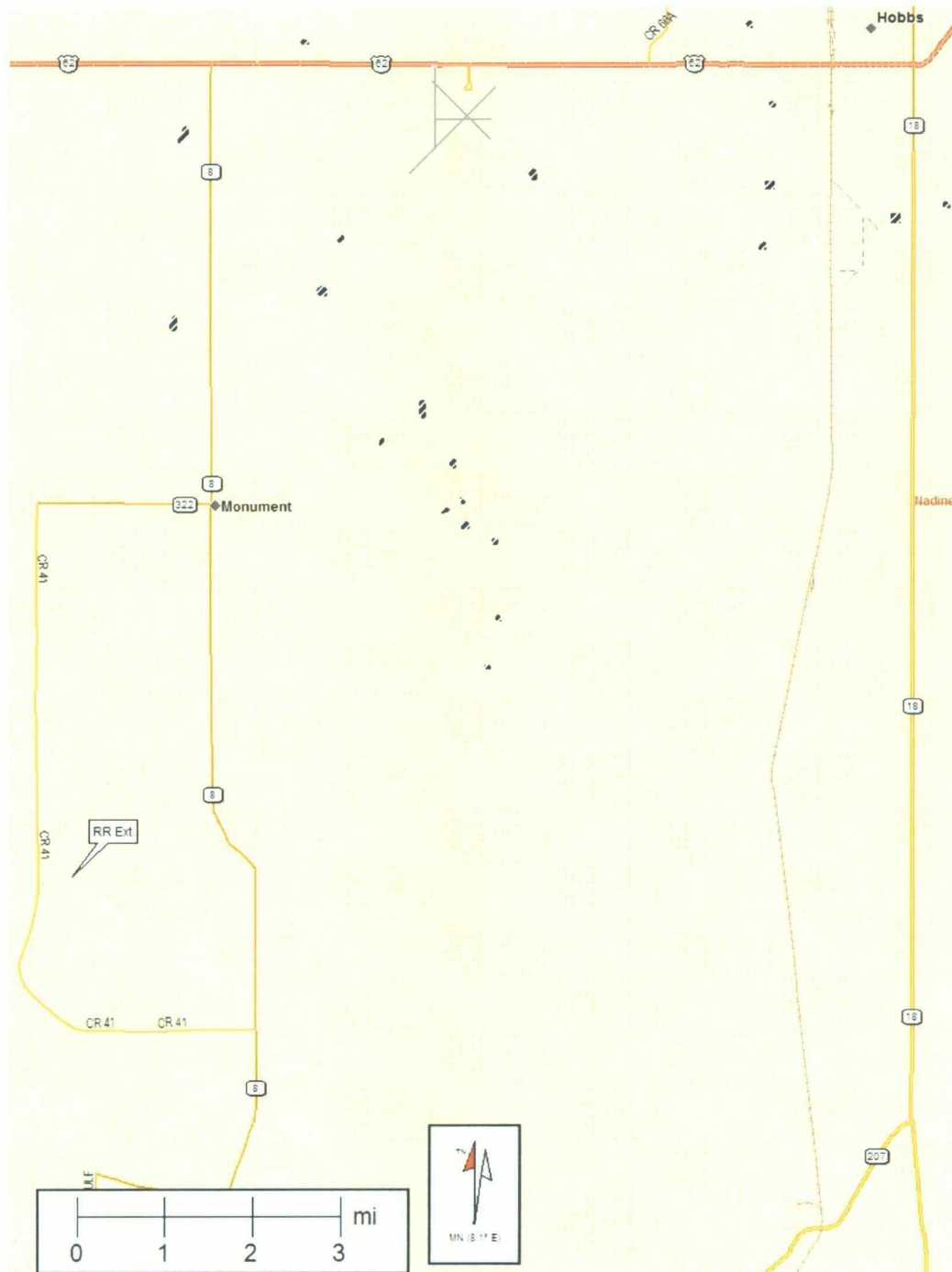


Figure 1 – Site Location  
RR Ext. AP #55



DRAWN BY: MHS

REVISED:

DATE: 5/06

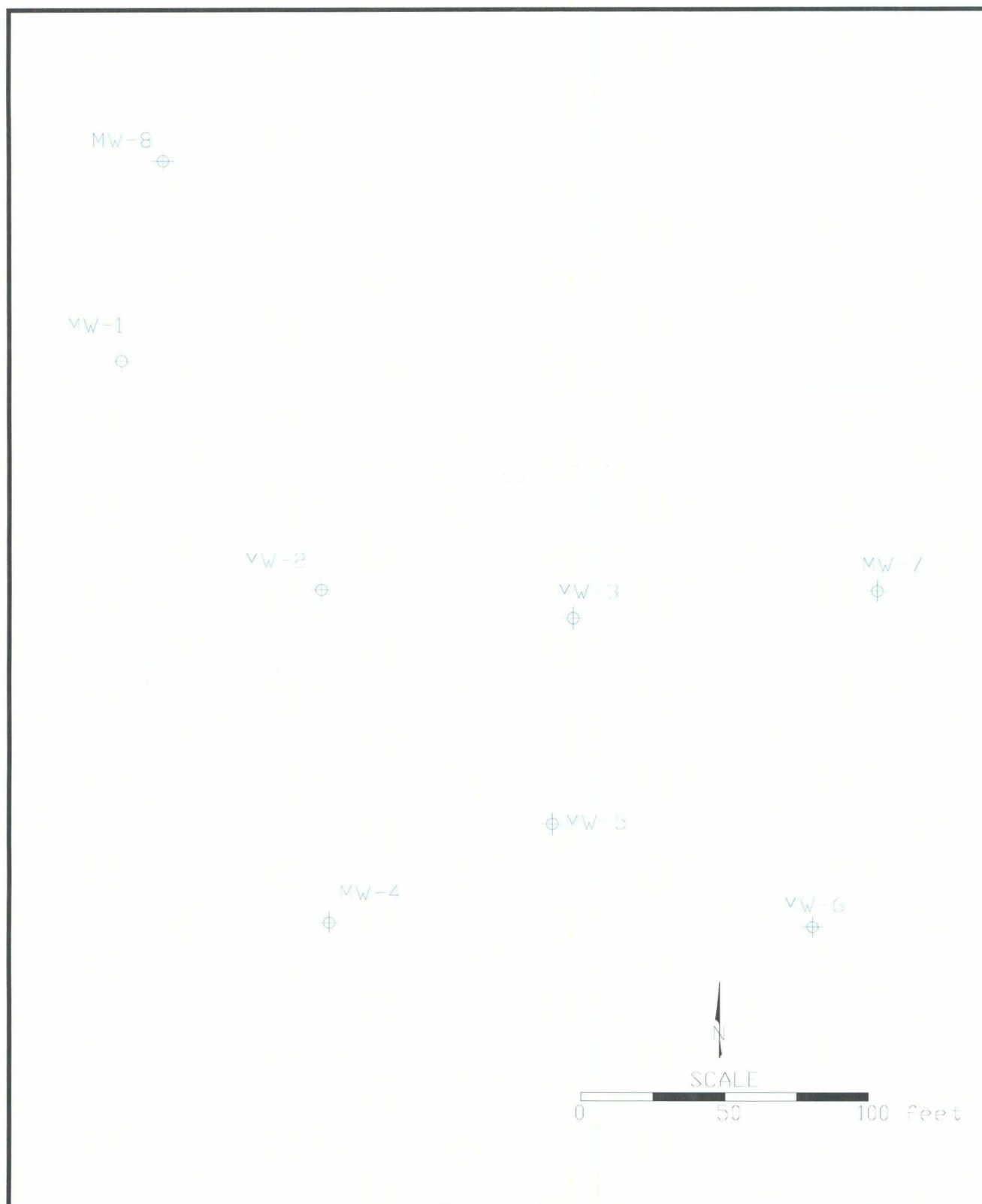


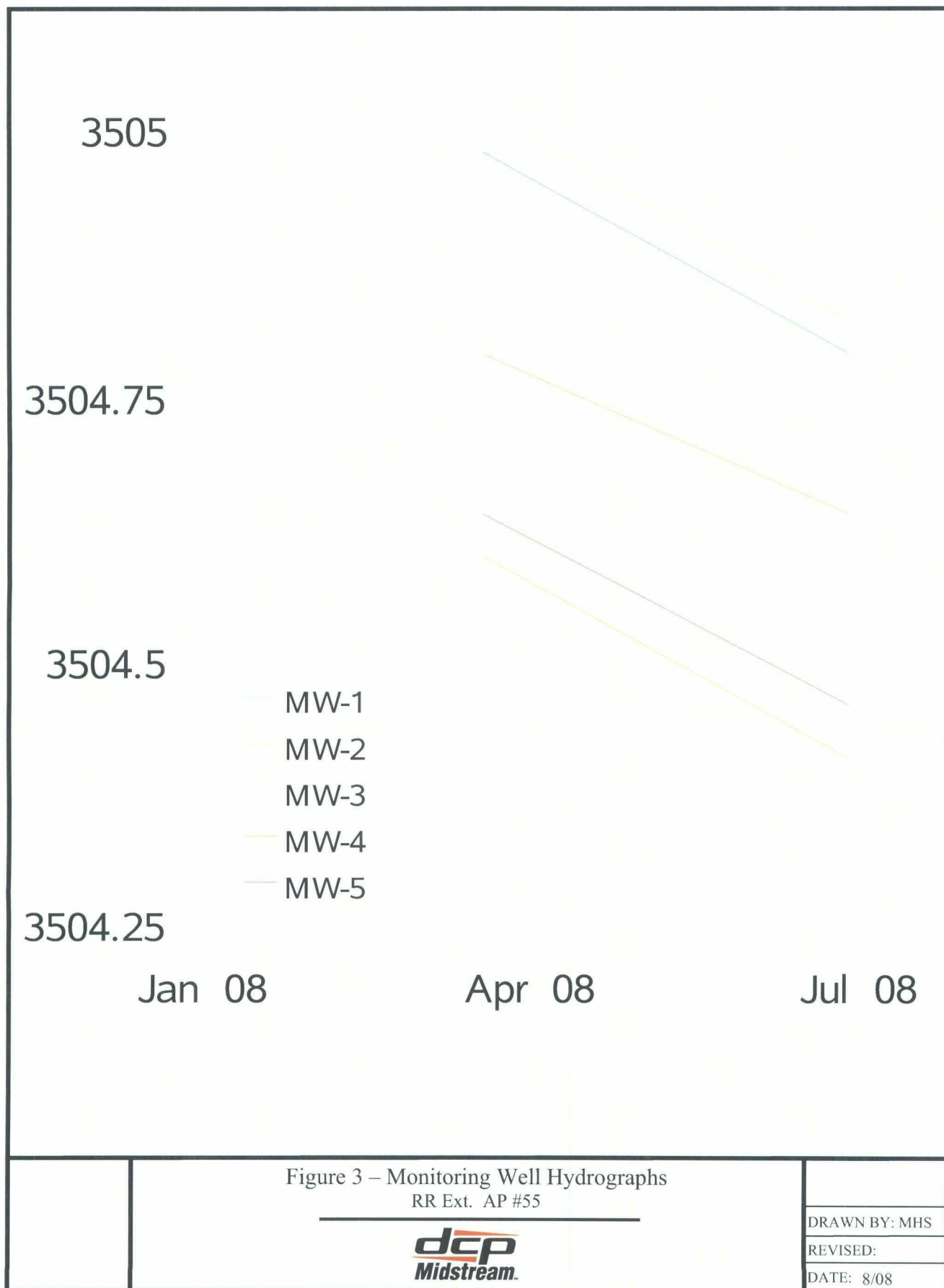
Figure 2 – Monitoring Well Locations  
RR Ext. AP #55



DRAWN BY: MHS

REVISED:

DATE: 5/08



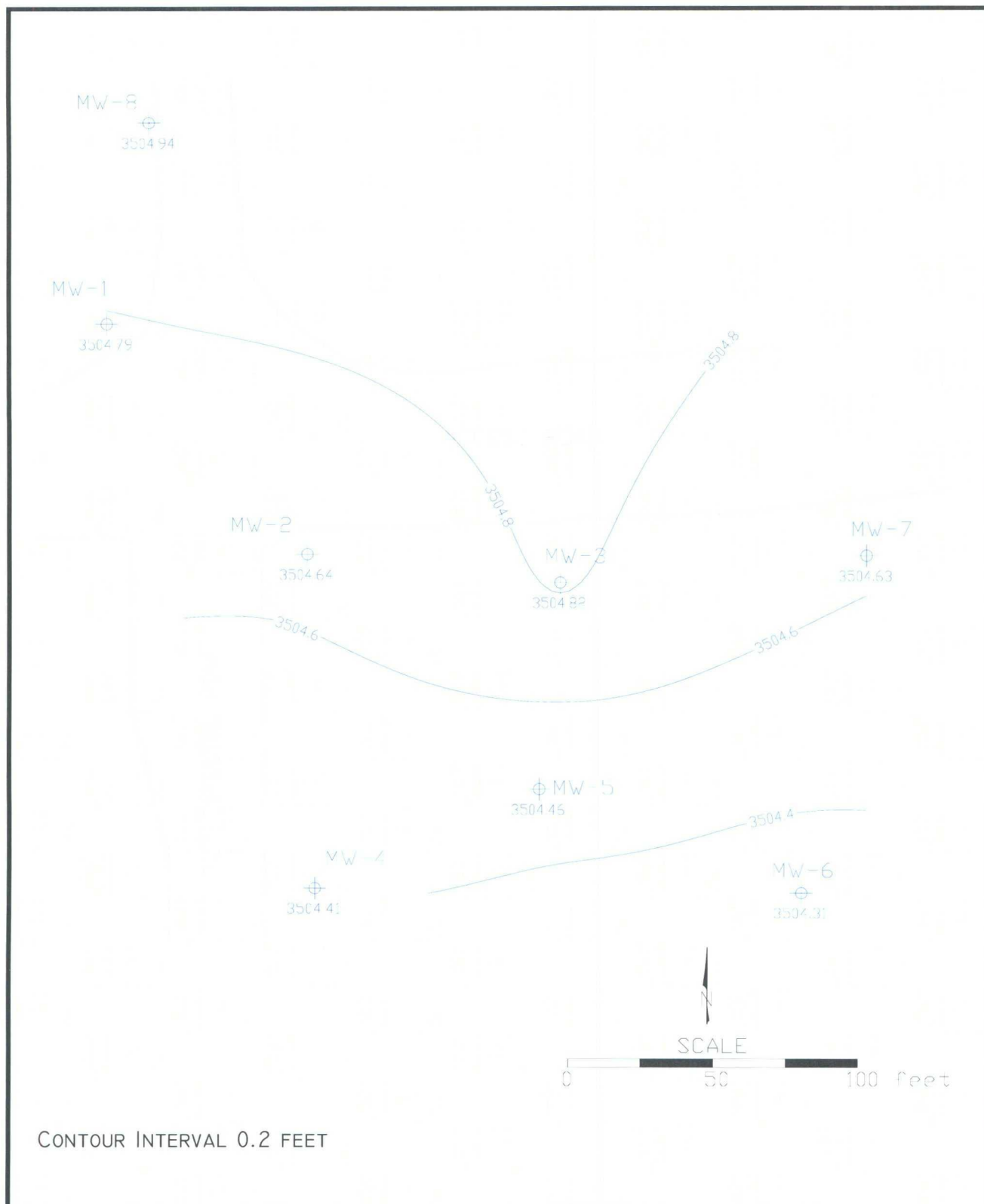


Figure 4 – June 2008 Water Table Contours  
RR Ext. AP #55



DRAWN BY: MHS

REVISED:

DATE: 8/08



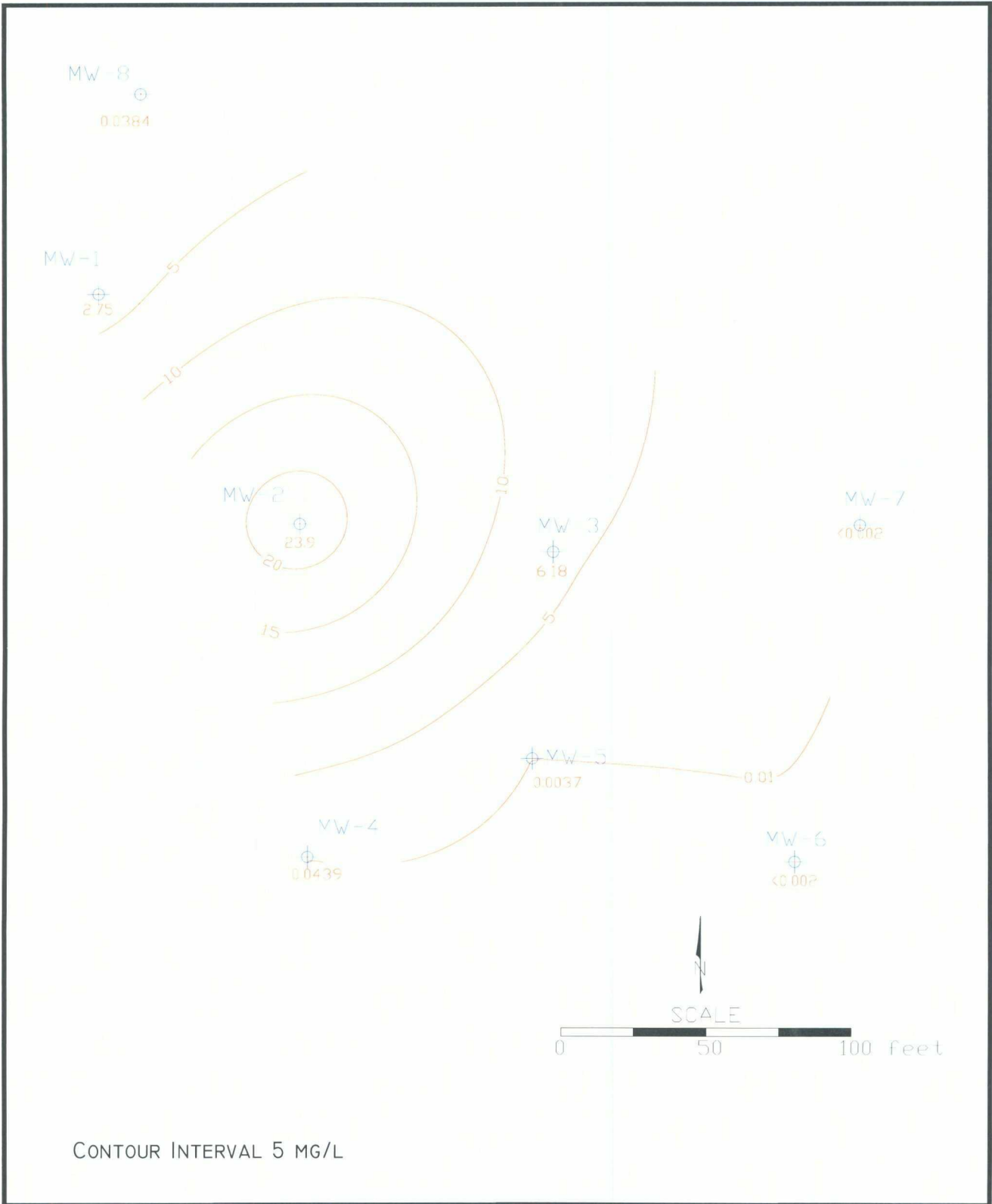


Figure 5 – June 2008 Benzene Isopleths  
RR Ext. AP #55



DRAWN BY: MHS
REVISED:
DATE: 8/08

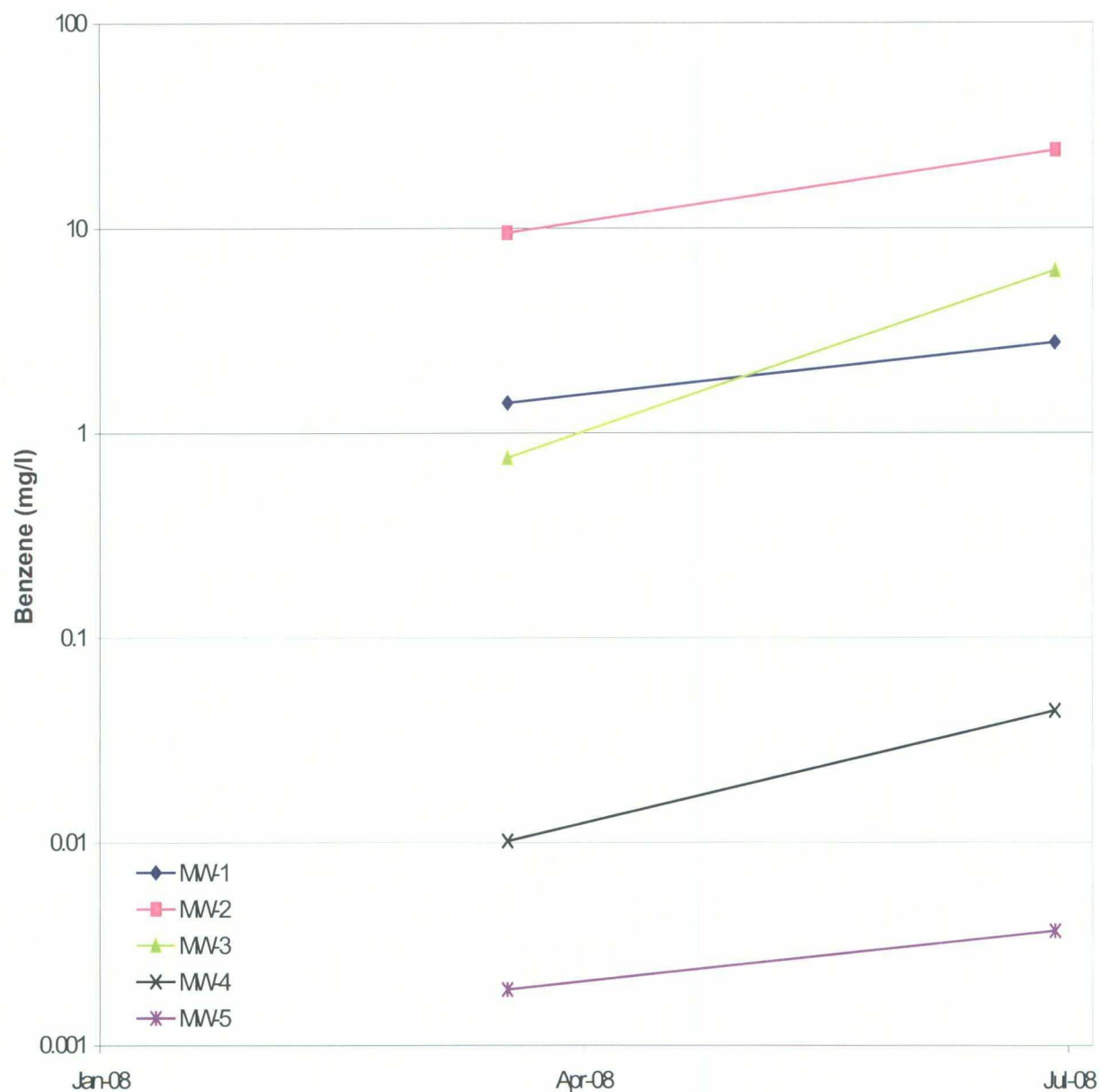


Figure 6 – Benzene Concentrations in Selected Wells  
RR Ext. AP #55



DRAWN BY: MHS

REVISED:

DATE: 8/08

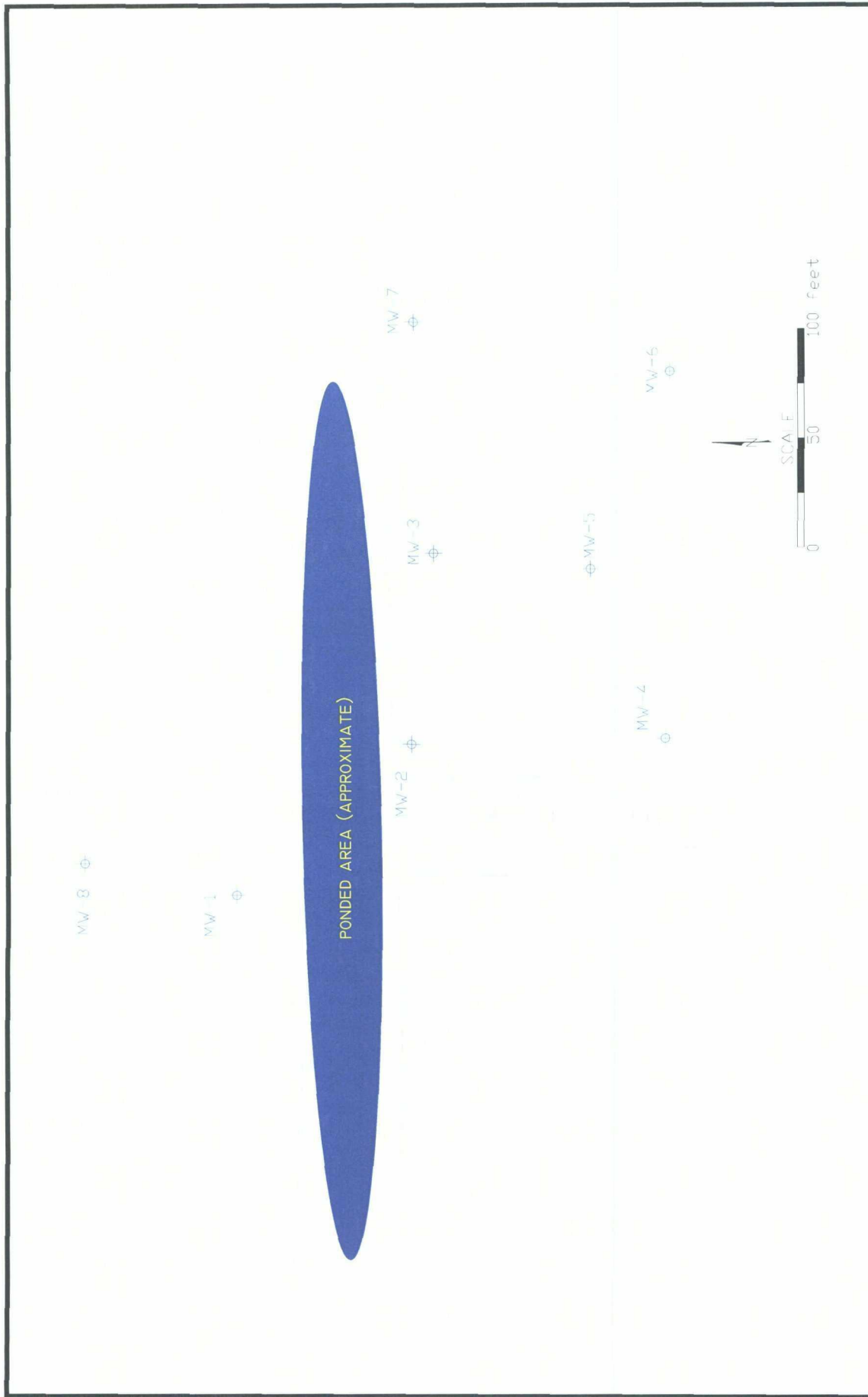


Figure 7 – Extent of Surface Ponding in June  
2008

RR EXT AP #55

**dcp**  
Midstream

DRAWN BY: MHS

DATE: 8/08

ATTACHMENT 1  
BORING LOGS

DCP Midstream LLP  
RR EXT Boring Log

Soil Boring: MW-1  
Drilled March 2008  
Drilling Method: Air Rotary

4		
2		
0	PID (ppm)	
2	2.2	Clayey SAND (SC) brown, slightly moist, no odor
4		
6		
8		
10		Silty SAND (SM) very-fine grained, light brown/white, dry grading to slightly moist by 6 feet, no odor
12		
14		
16		
18	2.6	Silty SAND (SM) very-fine grained, light green/white, dry grading to slightly moist by 6 feet, no odor
20		
22	64.5	Silty SAND (SM) very-fine grained, white, dry grading to slightly moist by 6 feet, slight odor
24	1917	Silty SAND (SM) very-fine grained, green, dry grading to slightly moist by 6 feet, moderate odor
26		
28		
30		
32		SAND saturated, limited cuttings, saturation at 28 feet
34		
36		
38		

American Environmental Consulting, LLC

DCP Midstream LLP  
RR EXT Boring Log

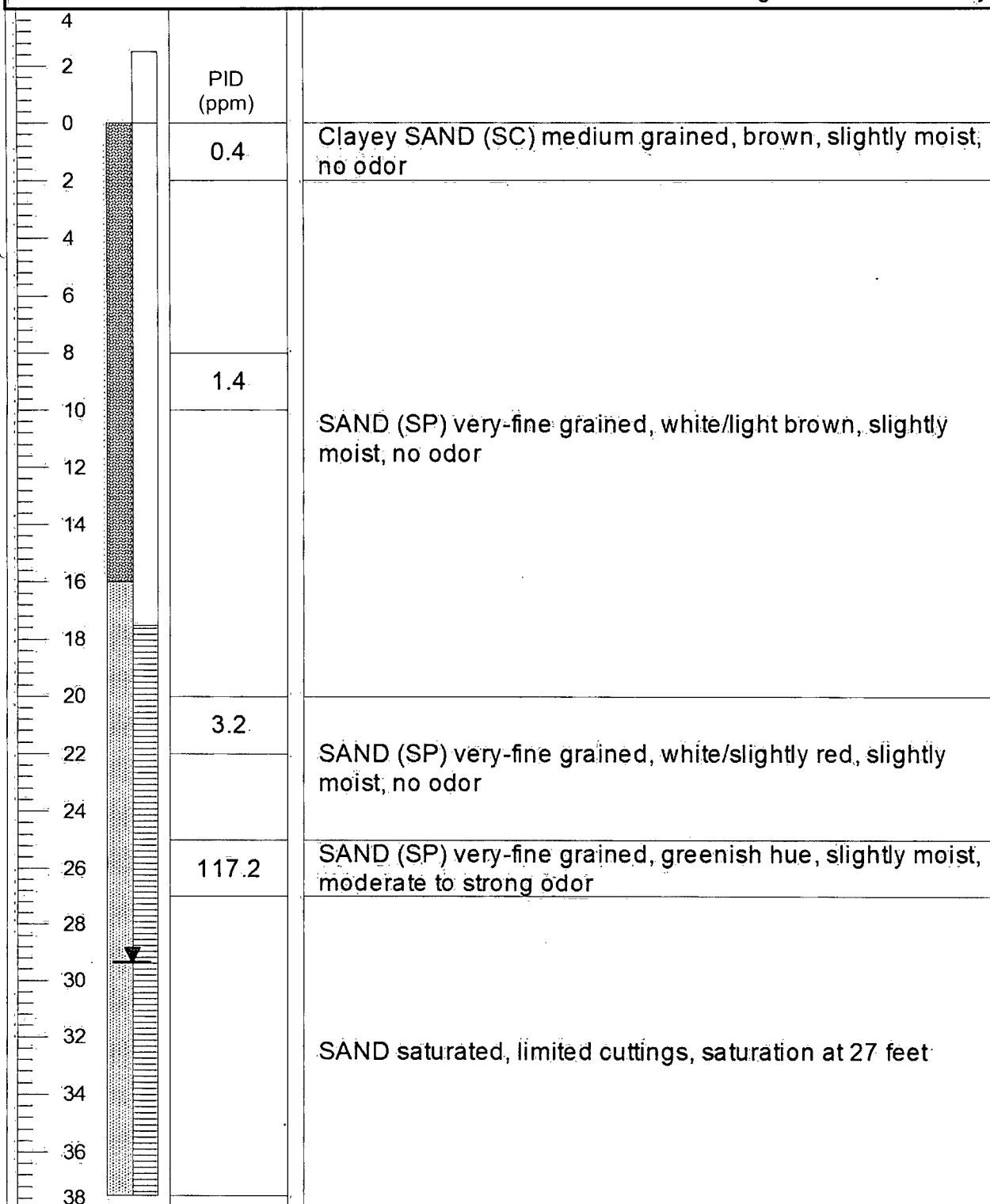
Soil Boring: MW-2  
Drilled March 2008  
Drilling Method: Air Rotary

4		
2		
0	PID (ppm)	
2	2.2	Clayey SAND (SC) fine grained, brown, slightly moist, no odor
4	2.6	SAND (SP) fine grained, white, dry, no odor
6	21.2	
8	6.2	
10	1.9	
12		Silty SAND (SM) fine grained, light brown/white, dry grading to slightly moist by 6 feet, no odor
14		
16		
18		
20		
22		
24		
26	>2000	
28		
30		
32		SAND saturated, limited cuttings, saturation at 25 feet
34		
36		
38		

American Environmental Consulting, LLC

DCP Midstream LLP  
RR EXT Boring Log

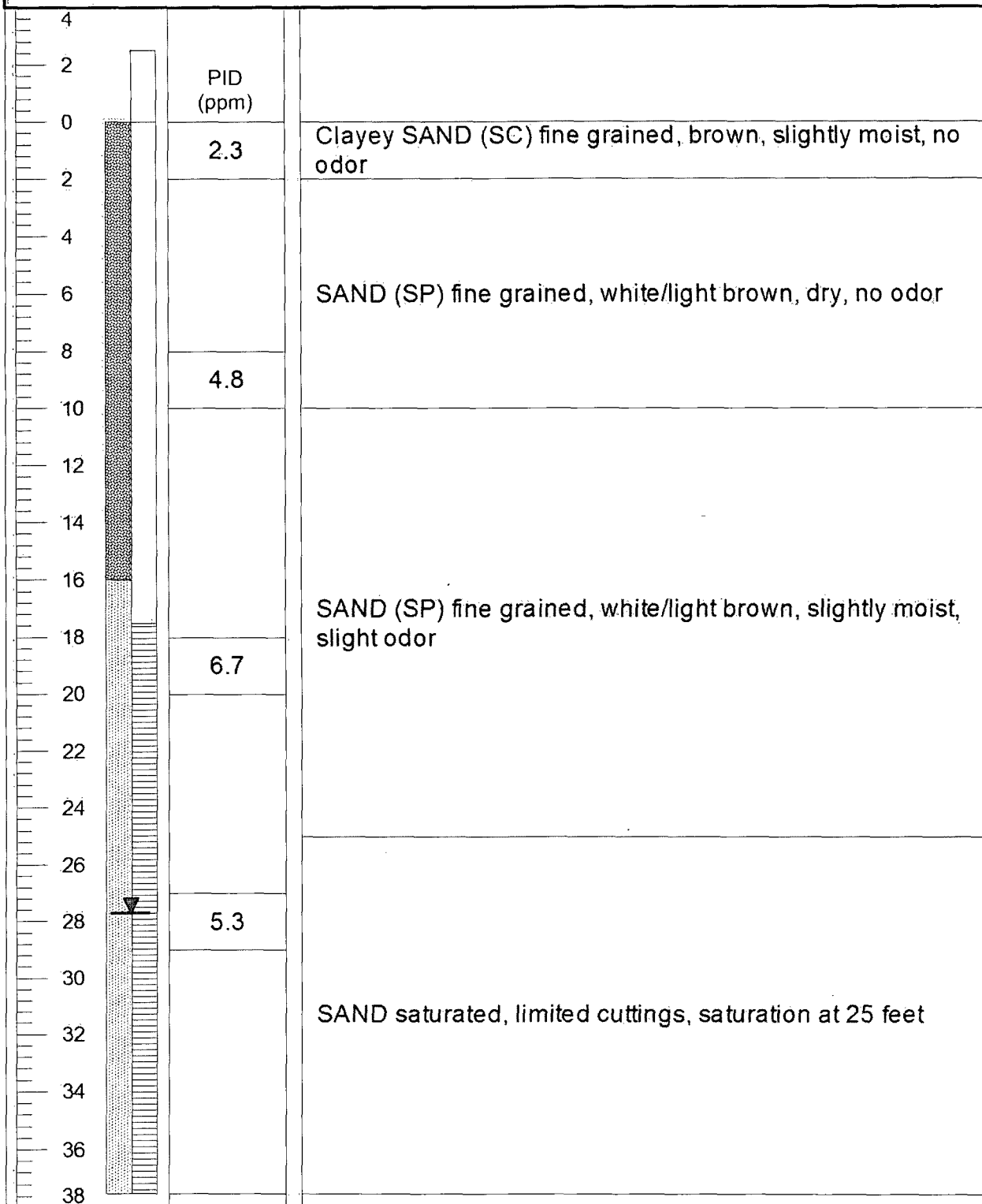
Soil Boring: MW-3  
Drilled March 2008  
Drilling Method: Air Rotary



American Environmental Consulting, LLC

DCP Midstream LLP  
RR EXT Boring Log

Soil Boring: MW-4  
Drilled March 2008  
Drilling Method: Air Rotary

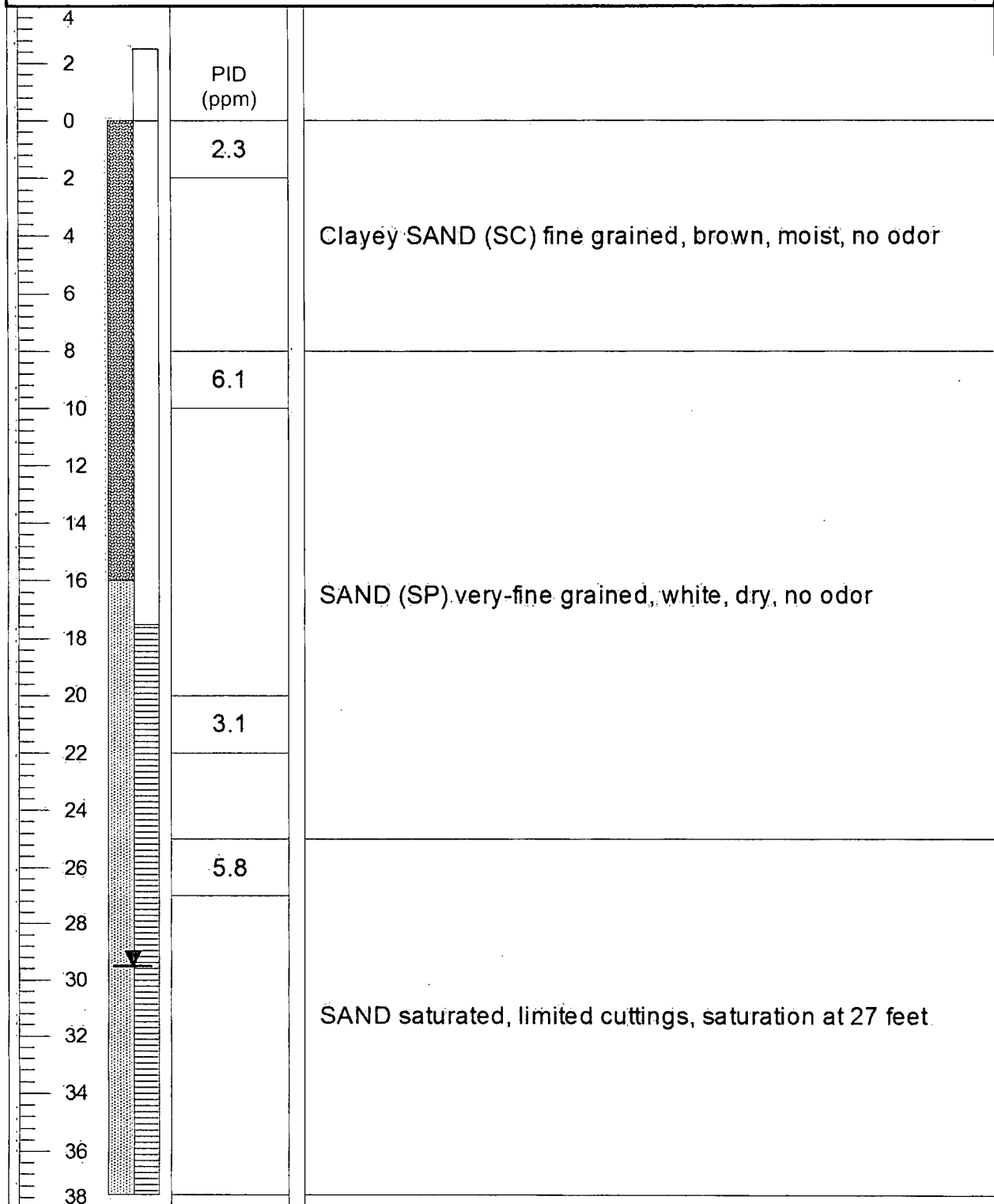


American Environmental Consulting, LLC



DCP Midstream LLP  
RR EXT Boring Log

Soil Boring: MW-5  
Drilled March 2008  
Drilling Method: Air Rotary



American Environmental Consulting, LLC

DCP Midstream LLP  
RR EXT Boring Log

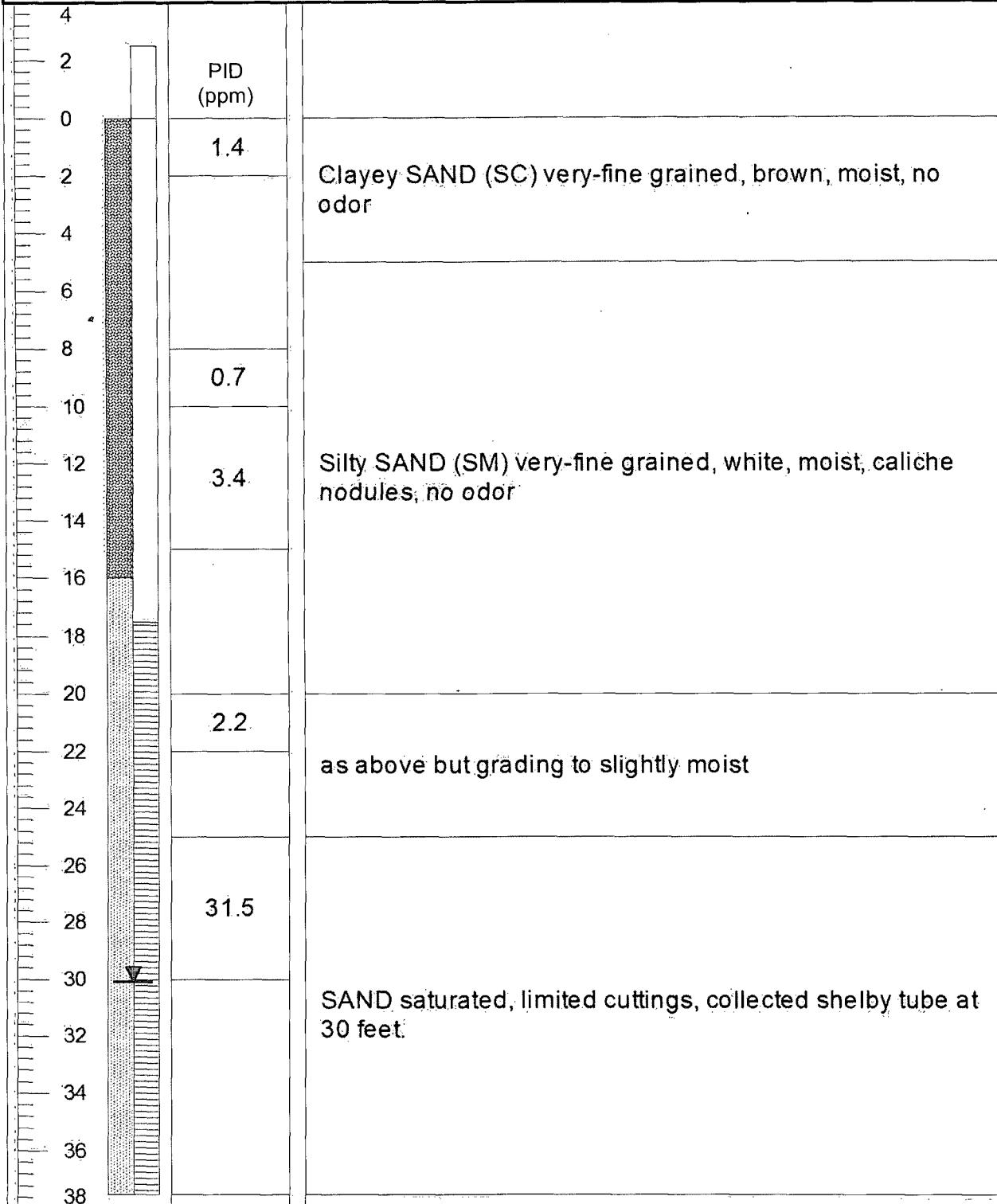
Soil Boring: MW-6  
Drilled June 2008  
Drilling Method: Auger

4		
2		
0	PID (ppm)	
2	4.2	
4		Clayey SAND (SC) light brown/white, moist grading to dry at 2', caliche below 2', no odor
6		
8	0.6	
10		Clayey SAND (SC) very-fine grained, white, slightly moist, no odor
12		
14		As above with caliche nodules
16		
18	0.4	
20		Clayey SAND (SC) light brown, moist, no odor
22		
24		
26		
28	1.1	
30		SAND saturated, limited cuttings, saturation at 27 feet
32		
34		
36		
38		

American Environmental Consulting, LLC

DCP Midstream LLP  
RR EXT Boring Log

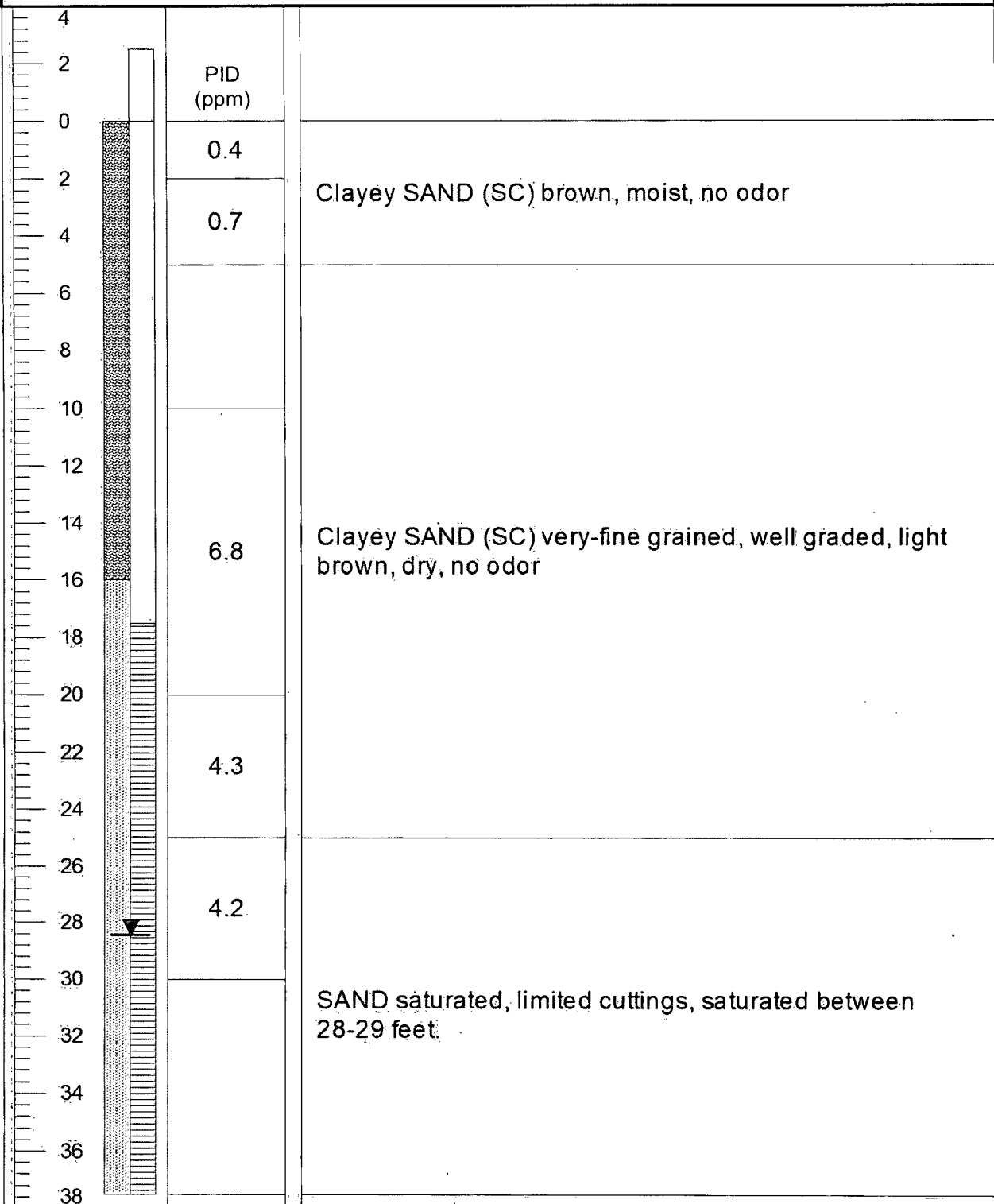
Soil Boring: MW-7  
Drilled June 2008  
Drilling Method: Auger



American Environmental Consulting, LLC

DCP Midstream LLP  
RR EXT Boring Log

Soil Boring: MW-8  
Drilled June 2008  
Drilling Method: Auger



**American Environmental Consulting, LLC**

ATTACHMENT 2

FIELD FORMS GEOTECH REPORT AND  
ANALYTICAL LABORATORY REPORT

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-1  
 SITE NAME: RR-EXT DATE: 6/29/2008  
 PROJECT NO. \_\_\_\_\_ SAMPLER: M. Stewart/A. Taylor

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: 39.56 Feet

DEPTH TO WATER: 29.78 Feet

HEIGHT OF WATER COLUMN: 9.78 Feet

WELL DIAMETER: 4.0 Inch

1.6 Minimum Gallons to  
purge 3 well volumes  
(Water Column Height x 1.96)

TIME	VOLUME PURGED	TEMP. °F	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	19.4	2.5	7.07			
	3.4	19.2	2.51	7.07			
	5.1	19	2.52	7.13			
0:00 :Total Time (hr:min)			:Total Vol (gal)			:Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: MW-1

ANALYSES: BTEX (8260)

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

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream  
 SITE NAME: RR-EXT  
 PROJECT NO. \_\_\_\_\_

WELL ID: MW-2  
 DATE: 6/29/2008  
 SAMPLER: M. Stewart/A. Taylor

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: 30.54 Feet

HEIGHT OF WATER COLUMN: 9.37 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °F	COND. m S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	19.4	1.09	7.27			
	3.4	19.3	1.08	7.27			
	5.1	19.3	1.08	7.28			
0:00 :Total Time (hr:min)			:Total Vol (gal)			:Flow Rate (gal/min)	

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

ANALYSES: BTEX (8260)

COMMENTS: Collected duplicate sample "DUP"

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream  
 SITE NAME: RR-EXT  
 PROJECT NO. \_\_\_\_\_

WELL ID: MW-3  
DATE: 6/29/2008  
SAMPLER: M. Stewart/A. Taylor

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: 40.03 Feet

DEPTH TO WATER: 31.75 Feet

HEIGHT OF WATER COLUMN: 8.28 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °F	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	19.4	1.95	7.09			
	3.4	19.5	1.95	7.12			
	5.1	19.5	1.95	7.14			
<b>0:00</b>	:Total Time (hr:min)		:Total Vol (gal)			:Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: MW-3

ANALYSES: BTEX (8260)

COMMENTS:



# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-4  
 SITE NAME: RR-EXT DATE: 6/29/2008  
 PROJECT NO. \_\_\_\_\_ SAMPLER: M. Stewart/A. Taylor

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: 30.79 Feet

HEIGHT OF WATER COLUMN: 9.87 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °F	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	19.9	1.76	7.24	-	-	Begin Hand Bailing
	3.4	19.8	1.13	7.27	-	-	
	5.1	19.3	1.78	7.28	-	-	
0:00 :Total Time (hr:min)			:Total Vol (gal)			:Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: MW-4

ANALYSES: BTEX (8260)

COMMENTS: Collected a MS/MSD sample

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream  
 SITE NAME: RR-EXT  
 PROJECT NO. \_\_\_\_\_

WELL ID: MW-5  
 DATE: 6/29/2008  
 SAMPLER: M. Stewart/A. Taylor

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: 31.46 Feet  
 HEIGHT OF WATER COLUMN: 10.69 Feet  
 WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °F	COND. m S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	19.5	1.9	7.26	-	-	Begin Hand Bailing
	3.4	19.4	1.90	7.28	-	-	
	5.1	19.5	1.91	7.28	-	-	
					-	-	
0:00 :Total Time (hr:min)		:Total Vol (gal)			:Flow Rate (gal/min)		

SAMPLE NO.: Collected Sample No.: MW-5

ANALYSES: BTEX (8260)

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

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-6  
 SITE NAME: RR-EXT DATE: 7/1/2008  
 PROJECT NO. \_\_\_\_\_ SAMPLER: M. Stewart/A. Taylor

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: 31.85 Feet

HEIGHT OF WATER COLUMN: 7.83 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °F	COND. m S/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	22.4	1.85	7.42	-	-	Begin Hand Bailing
	3.4	21.3	1.83	7.40	-	-	
	5.1	20.6	1.83	7.35	-	-	
<b>0:00</b> :Total Time (hr:min)			:Total Vol (gal)			:Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: MW-6

ANALYSES: BTEX (8260)

COMMENTS: Collected MS/MSD sample

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream WELL ID: MW-7  
 SITE NAME: RR-EXT DATE: 7/1/2008  
 PROJECT NO. \_\_\_\_\_ SAMPLER: M. Stewart/A. Taylor

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: 39.86 Feet

DEPTH TO WATER: 32.46 Feet

HEIGHT OF WATER COLUMN: 7.40 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °F	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.3	20.6	1.94	7.37	-	-	Begin Hand Bailing
	2.6	20.6	1.97	7.32	-	-	
	3.9	20.1	1.95	7.37	-	-	
0:00 :Total Time (hr:min)			:Total Vol (gal)			:Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: MW-7

ANALYSES: BTEX (8260)

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

# WELL SAMPLING DATA FORM

CLIENT: DCP Midstream  
 SITE NAME: RR-EXT  
 PROJECT NO. \_\_\_\_\_

WELL ID: MW-8  
 DATE: 7/1/2008  
 SAMPLER: M. Stewart/A. Taylor

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: 31.47 Feet

HEIGHT OF WATER COLUMN: 8.79 Feet

WELL DIAMETER: 2.0 Inch

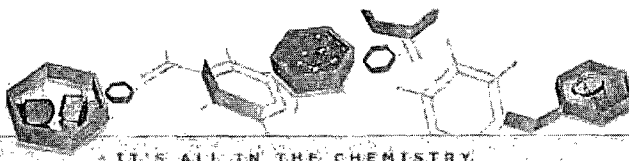
1.5 Minimum Gallons to  
 purge 3 well volumes  
 (Water Column Height x 0.49)

TIME	VOLUME PURGED	TEMP. °F	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.7	21.6	2.5	7.37	-	-	Began Hand Bailing
	3.4	20.4	2.50	7.37	-	-	
	5.1	20.9	2.40	7.38	-	-	
0:00 :Total Time (hr:min)			:Total Vol (gal)			:Flow Rate (gal/min)	

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

ANALYSES: BTEX (8260)

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



08/28/08

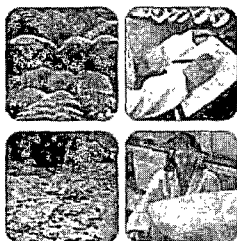
## Technical Report for

American Environmental Consulting

DCP Midstream- RR Ext

Accutest Job Number: T22828

Sampling Date: 06/29/08



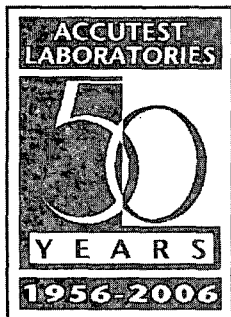
### Report to:

American Environmental Consulting

mstewart@aecdenvr.com

ATTN: Mike Stewart

Total number of pages in report: 31



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.

*Paul K Canevaro*

Paul Canevaro  
Laboratory Director

Client Service contact: Agnes Vicknair 713-271-4700

Certifications: TX (T104704220-06-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004)  
OK (9103) UT(7132714700)

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Test results relate only to samples analyzed.

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**Sample Summary**

American Environmental Consulting

Job No: T22828

DCP Midstream- RR Ext

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T22828-1	06/29/08	16:45	07/02/08	AQ	Ground Water	MW-1
T22828-2	06/29/08	16:45	07/02/08	AQ	Ground Water	MW-2
T22828-3	06/29/08	16:20	07/02/08	AQ	Ground Water	MW-3
T22828-4	06/29/08	16:00	07/02/08	AQ	Ground Water	MW-4
T22828-4D	06/29/08	16:00	07/02/08	AQ	Water Dup/MSD	MW-4 MSD
T22828-4S	06/29/08	16:00	07/02/08	AQ	Water Matrix Spike	MW-4 MS
T22828-5	06/29/08	16:05	07/02/08	AQ	Ground Water	MW-5
T22828-6	06/29/08	00:00	07/02/08	AQ	Ground Water	DUP
T22828-7	06/29/08	00:00	07/02/08	AQ	Trip Blank Water	TRIP BLANK
T22828-8	06/29/08	10:55	07/02/08	AQ	Ground Water	MW-6
T22828-9	06/29/08	11:20	07/02/08	AQ	Ground Water	MW-7
T22828-10	06/29/08	12:30	07/02/08	AQ	Ground Water	MW-8





## Sample Results

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## Report of Analysis

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## Report of Analysis

Page 1 of 1

Client Sample ID:	MW-1	Date Sampled:	06/29/08
Lab Sample ID:	T22828-1	Date Received:	07/02/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream- RR Ext		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092476.D	1	07/10/08	LJ	n/a	n/a	VF3003
Run #2	F0092511.D	20	07/10/08	LJ	n/a	n/a	VF3005

	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	2.75 <sup>a</sup>	0.040	0.0092	mg/l	
108-88-3	Toluene	2.17 <sup>a</sup>	0.040	0.0097	mg/l	
100-41-4	Ethylbenzene	0.0540	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	0.232	0.0060	0.0014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	93%	73-126%
17060-07-0	1,2-Dichloroethane-D4	102%	78%	61-136%
2037-26-5	Toluene-D8	99%	115%	80-125%
460-00-4	4-Bromofluorobenzene	116%	166% <sup>b</sup>	65-147%

(a) Result is from Run# 2

(b) Outside of control limits biased high. There were no target compounds associated with this surrogate

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	Date Sampled:	06/29/08
Lab Sample ID:	T22828-2	Date Received:	07/02/08
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	F0092520.D	100	07/11/08	LJ	n/a	n/a	VF3006
Run #2	F0092549.D	200	07/11/08	LJ	n/a	n/a	VF3007

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	24.3 <sup>a</sup>	0.40	0.092	mg/l	
108-88-3	Toluene	18.5 <sup>a</sup>	0.40	0.097	mg/l	
100-41-4	Ethylbenzene	0.319	0.20	0.045	mg/l	
1330-20-7	Xylene (total)	2.58	0.60	0.14	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	101%	73-126%
17060-07-0	1,2-Dichloroethane-D4	81%	100%	61-136%
2037-26-5	Toluene-D8	110%	102%	80-125%
460-00-4	4-Bromofluorobenzene	172% <sup>b</sup>	138%	65-147%

(a) Result is from Run# 2

(b) Outside of control limits biased high. There were no target compounds associated with this surrogate

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-3  
 Lab Sample ID: T22828-3  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08  
 Date Received: 07/02/08  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092521.D	50	07/11/08	LJ	n/a	n/a	VF3006
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	6.18	0.10	0.023	mg/l	
108-88-3	Toluene	9.46	0.10	0.024	mg/l	
100-41-4	Ethylbenzene	0.287	0.10	0.023	mg/l	
1330-20-7	Xylene (total)	1.23	0.30	0.068	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		73-126%
17060-07-0	1,2-Dichloroethane-D4	83%		61-136%
2037-26-5	Toluene-D8	110%		80-125%
460-00-4	4-Bromofluorobenzene	165% <sup>a</sup>		65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

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-4  
 Lab Sample ID: T22828-4  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08  
 Date Received: 07/02/08  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092501.D	1	07/10/08	LJ	n/a	n/a	VF3005
Run #2	F0092479.D	1	07/10/08	LJ	n/a	n/a	VF3003

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	0.0439	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0256	0.0020	0.00048	mg/l	
100-41-4	Ethylbenzene	0.0068	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	0.0147	0.0060	0.0014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	99%	73-126%
17060-07-0	1,2-Dichloroethane-D4	82%	93%	61-136%
2037-26-5	Toluene-D8	111%	107%	80-125%
460-00-4	4-Bromofluorobenzene	132%	139%	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

Page 1 of 1

Client Sample ID: MW-5  
 Lab Sample ID: T22828-5  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08  
 Date Received: 07/02/08  
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092502.D	1	07/10/08	LJ	n/a	n/a	VF3005
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	0.0037	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0037	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	94%		73-126%
17060-07-0	1,2-Dichloroethane-D4	83%		61-136%
2037-26-5	Toluene-D8	111%		80-125%
460-00-4	4-Bromofluorobenzene	147%		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

Page 1 of 1

Client Sample ID:	DUP	Date Sampled:	06/29/08
Lab Sample ID:	T22828-6	Date Received:	07/02/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DCP Midstream- RR Ext		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092522.D	100	07/11/08	LJ	n/a	n/a	VF3006
Run #2	F0092550.D	200	07/11/08	LJ	n/a	n/a	VF3007

	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	23.5 <sup>a</sup>	0.40	0.092	mg/l	
108-88-3	Toluene	19.2	0.20	0.048	mg/l	
100-41-4	Ethylbenzene	0.309	0.20	0.045	mg/l	
1330-20-7	Xylene (total)	2.36	0.60	0.14	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	102%	73-126%
17060-07-0	1,2-Dichloroethane-D4	83%	102%	61-136%
2037-26-5	Toluene-D8	110%	102%	80-125%
460-00-4	4-Bromofluorobenzene	170% <sup>b</sup>	141%	65-147%

(a) Result is from Run# 2

(b) Outside of control limits biased high. There were no target compounds associated with this surrogate

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: TRIP BLANK  
 Lab Sample ID: T22828-7  
 Matrix: AQ - Trip Blank Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08  
 Date Received: 07/02/08  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092503.D	1	07/10/08	LJ	n/a	n/a	VF3005
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	95%		73-126%
17060-07-0	1,2-Dichloroethane-D4	83%		61-136%
2037-26-5	Toluene-D8	112%		80-125%
460-00-4	4-Bromofluorobenzene	157% <sup>a</sup>		65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

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  
 Lab Sample ID: T22828-8  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08  
 Date Received: 07/02/08  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092504.D	1	07/10/08	LJ	n/a	n/a	VF3005
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	93%		73-126%
17060-07-0	1,2-Dichloroethane-D4	82%		61-136%
2037-26-5	Toluene-D8	114%		80-125%
460-00-4	4-Bromofluorobenzene	161% <sup>a</sup>		65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

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-7  
 Lab Sample ID: T22828-9  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08  
 Date Received: 07/02/08  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092505.D	1	07/10/08	LJ	n/a	n/a	VF3005
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	94%		73-126%
17060-07-0	1,2-Dichloroethane-D4	83%		61-136%
2037-26-5	Toluene-D8	114%		80-125%
460-00-4	4-Bromofluorobenzene	159% <sup>a</sup>		65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

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: T22828-10  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: DCP Midstream- RR Ext

Date Sampled: 06/29/08

Date Received: 07/02/08

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F0092485.D	1	07/10/08	LJ	n/a	n/a	VF3003
Run #2							

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

## Purgeable Aromatics

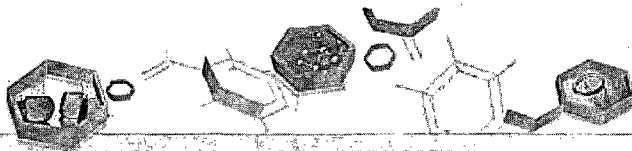
CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.0384	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0255	0.0020	0.00048	mg/l	
100-41-4	Ethylbenzene	0.00049	0.0020	0.00045	mg/l	J
1330-20-7	Xylene (total)	0.0016	0.0060	0.0014	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		73-126%
17060-07-0	1,2-Dichloroethane-D4	100%		61-136%
2037-26-5	Toluene-D8	105%		80-125%
460-00-4	4-Bromofluorobenzene	148% <sup>a</sup>		65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

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



IT'S ALL IN THE CHEMISTRY



### Misc. Forms

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### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody

## CHAIN OF CUSTODY

Fresh Ponds Corporate Village, Building B  
2235 Route 130, Dayton, NJ 08810  
732-329-0200 FAX: 732-329-3499/3480

Accutest Job #: T22828

Accutest Quote #:

Client Information				Facility Information				Analytical Information															
<b>DCP Midstream</b>				<b>American Environmental Consulting, LP</b>																			
Name 370 Seventeenth Street, Suite 2500				Project Name																			
Address Denver CO 80202				Location																			
City State Zip Stephen Weathers				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	MSMSD FOR BTEX 8260B									
		Date	Time	Sampled By			HCL	NaOH	HN03	15204	None												
MW-1		6/29	445	MS	GW	3	X																
MW-2		6/29	445	MS	GW	3	X																
MW-3		6/29	420	MS	GW	3	X																
MW-4		6/29	400	MS	GW	3	X																
MW-5		6/29	405	MS	GW	3	X																
Dup		6/29	000	MS	GW	3	X																
Trip Blank					GW	3	X																
MW-6		7/1	1055	MS	GW	3	X																
MW-7		7/1	1220	MS	GW	3	X																
MW-8		7/1	1230	MS	GW	6	X																
MW-8		7/1	1230	MS	GW	3	X																
Turnaround Information				Data Deliverable Information				Comments / Remarks															
<input type="checkbox"/> 21 Day Standard <input type="checkbox"/> 14 Day <input checked="" type="checkbox"/> 7 Days EMERGENCY <input type="checkbox"/> Other _____ (Days) RUSH TAT is for FAX data unless previously approved.				Approved By: _____ <input type="checkbox"/> NJ Reduced <input type="checkbox"/> NJ Full <input type="checkbox"/> FULL CLP <input type="checkbox"/> Disk Deliverable <input checked="" type="checkbox"/> Other (Specify) _____				<input type="checkbox"/> Commercial "A" <input type="checkbox"/> Commercial "B" <input type="checkbox"/> ASP Category B <input type="checkbox"/> State Forms #REF!				MW-4 is the MS/MSD NOT MWS Please include "Hold for Steve Weathers" on the shipping label. Accutest to Invoice DCP Midstream, Attn: Steve Weathers											
Sample Custody must be documented below each time samples change possession, including courier delivery.																							
Relinquished by Sampler		Date Time		Received By:		Relinquished By:		Date Time		Received By:		Relinquished By:		Date Time		Received By:							
1		7/1 1330		1 PEO BX		2		7/2/08 10:01		2 Ivanford		3		3		3							
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
3		3		3		4		4		4		4		4		4							
Relinquished by Sampler:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:		Relinquished By:		Date Time:		Received By:							
5		5		5		5		5		5		5		5		5							

T22828: Chain of Custody

Page 1 of 3

## 10:04

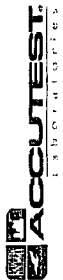
**INITIALS:**

[illegible]

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other

RESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2SO4 5: NaOH 6: Other  
LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewp



**SAMPLE VERIFICATION**

Accutest Job Number: T22828 Client: DCP Mid Stream Project: DCP Midstream Project  
Date/Time Received: 7/2/08 # of Coolers Received: 1  
Cooler Temps: #1: 1.6 #2: 10.04 #3:    #4:    #5:    #6:     
Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other  
Airbill Numbers: 8665-6049-7605

**COOLER INFORMATION**

<input type="checkbox"/>	Cooler seal missing or not intact
<input type="checkbox"/>	Chain of Custody not received
<input type="checkbox"/>	Temperature criteria not met
<input type="checkbox"/>	Wet Ice received in cooler

**CHAIN OF CUSTODY**

<input type="checkbox"/>	Sample D/T unclear or missing
<input type="checkbox"/>	Analyses unclear or missing
<input type="checkbox"/>	COC not properly executed

**SAMPLE INFORMATION**

<input type="checkbox"/>	Sample containers revd broken
<input type="checkbox"/>	VOC vials have headspace
<input type="checkbox"/>	Sample labels missing or illegible
<input type="checkbox"/>	ID on COC does not match label(s)
<input type="checkbox"/>	D/T on COC does not match label(s)
<input type="checkbox"/>	Bottles revd but no analysis on COC
<input type="checkbox"/>	Bottles missing for requested analysis
<input type="checkbox"/>	Insufficient volume for analysis
<input type="checkbox"/>	Sample revd improperly preserved

**TRIP BLANK INFORMATION**

<input type="checkbox"/>	Trip Blank on COC but not received
<input type="checkbox"/>	Trip Blank received but not on COC
<input type="checkbox"/>	Trip Blank not intact
<input checked="" type="checkbox"/>	Received Water Trip Blank
<input type="checkbox"/>	Received Soil TB

Number of Encores?     
Number of 5035 kits?     
Number of lab-filtered metals?   

Summary of Discrepancies:   

TECHNICIAN SIGNATURE/DATE: Joan final

VERIFIED BY: JB

**• • • • • CORRECTIVE ACTIONS • • • • •**

Client Representative Notified:    Date:   

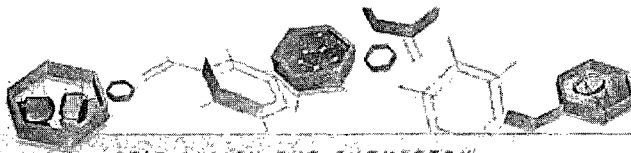
By Accutest Representative:   

Client Instructions:   

Via:    Phone    Email   

i:\mwalker\form\samplemanagement

T22828: Chain of Custody  
Page 3 of 3



## 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

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3003-MB	F0092471.D	1	07/10/08	LJ	n/a	n/a	VF3003

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-1, T22828-4, T22828-10

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	Limits
1868-53-7	Dibromofluoromethane	101% 73-126%
17060-07-0	1,2-Dichloroethane-D4	99% 61-136%
2037-26-5	Toluene-D8	106% 80-125%
460-00-4	4-Bromofluorobenzene	141% 65-147%

## Method Blank Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3005-MB	F0092499.D	1	07/10/08	LJ	n/a	n/a	VF3005

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-1, T22828-4, T22828-5, T22828-7, T22828-8, T22828-9

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	Limits
1868-53-7	Dibromofluoromethane	93% 73-126%
17060-07-0	1,2-Dichloroethane-D4	79% 61-136%
2037-26-5	Toluene-D8	108% 80-125%
460-00-4	4-Bromofluorobenzene	104% 65-147%

## Method Blank Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3006-MB	F0092519.D	1	07/11/08	LJ	n/a	n/a	VF3006

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-2, T22828-3, T22828-6

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	Limits
1868-53-7	Dibromofluoromethane	94% 73-126%
17060-07-0	1,2-Dichloroethane-D4	81% 61-136%
2037-26-5	Toluene-D8	116% 80-125%
460-00-4	4-Bromofluorobenzene	168%* a 65-147%

(a) Outside control limits biased high. There are no target compounds associated with this surrogate.

## Method Blank Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3007-MB	F0092544.D	1	07/11/08	LJ	n/a	n/a	VF3007

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-2, T22828-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.46	ug/l	
108-88-3	Toluene	ND	2.0	0.48	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	73-126%
17060-07-0	1,2-Dichloroethane-D4	98%	61-136%
2037-26-5	Toluene-D8	103%	80-125%
460-00-4	4-Bromofluorobenzene	134%	65-147%

# Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3003-BS	F0092468.D	1	07/09/08	LJ	n/a	n/a	VF3003
VF3003-BSD	F0092469.D	1	07/10/08	LJ	n/a	n/a	VF3003

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-1, T22828-4, T22828-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	28.0	112	27.4	110	2	41-145/30
100-41-4	Ethylbenzene	25	27.7	111	27.7	111	0	49-135/30
108-88-3	Toluene	25	27.6	110	27.6	110	0	66-128/30
1330-20-7	Xylene (total)	75	82.1	109	81.9	109	0	67-122/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	100%	73-126%
17060-07-0	1,2-Dichloroethane-D4	103%	102%	61-136%
2037-26-5	Toluene-D8	102%	103%	80-125%
460-00-4	4-Bromofluorobenzene	98%	101%	65-147%

## Blank Spike Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3005-BS	F0092492.D	1	07/10/08	LJ	n/a	n/a	VF3005

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-1, T22828-4, T22828-5, T22828-7, T22828-8, T22828-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.1	108	41-145
100-41-4	Ethylbenzene	25	26.4	106	49-135
108-88-3	Toluene	25	27.0	108	66-128
1330-20-7	Xylene (total)	75	77.9	104	67-122

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	73-126%
17060-07-0	1,2-Dichloroethane-D4	101%	61-136%
2037-26-5	Toluene-D8	100%	80-125%
460-00-4	4-Bromofluorobenzene	98%	65-147%

## Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: T22828

Account: AECCOLI American Environmental Consulting

Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3006-BS	F0092516.D	1	07/10/08	LJ	n/a	n/a	VF3006
VF3006-BSD	F0092517.D	1	07/11/08	LJ	n/a	n/a	VF3006

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-2, T22828-3, T22828-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	27.2	109	27.8	111	2	41-145/30
100-41-4	Ethylbenzene	25	28.3	113	29.0	116	2	49-135/30
108-88-3	Toluene	25	28.6	114	29.4	118	3	66-128/30
1330-20-7	Xylene (total)	75	82.6	110	83.1	111	1	67-122/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	93%	93%	73-126%
17060-07-0	1,2-Dichloroethane-D4	81%	83%	61-136%
2037-26-5	Toluene-D8	107%	109%	80-125%
460-00-4	4-Bromofluorobenzene	112%	112%	65-147%

# Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VF3007-BS	F0092542.D	1	07/11/08	LJ	n/a	n/a	VF3007
VF3007-BSD	F0092543.D	1	07/11/08	LJ	n/a	n/a	VF3007

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-2, T22828-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25	26.2	105	25.5	102	3	41-145/30
108-88-3	Toluene	25	25.9	104	25.7	103	1	66-128/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	100%	73-126%
17060-07-0	1,2-Dichloroethane-D4	102%	102%	61-136%
2037-26-5	Toluene-D8	100%	100%	80-125%
460-00-4	4-Bromofluorobenzene	98%	100%	65-147%



# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T22828

Account: AECCOLI American Environmental Consulting

Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T22828-4MS	F0092488.D	1	07/10/08	LJ	n/a	n/a	VF3003
T22828-4MSD	F0092489.D	1	07/10/08	LJ	n/a	n/a	VF3003
T22828-4	F0092479.D	1	07/10/08	LJ	n/a	n/a	VF3003

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-1, T22828-4, T22828-10

CAS No.	Compound	T22828-4 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	54.2		25	77.5	93	79.0	99	2	60-131/12
100-41-4	Ethylbenzene	1.2	J	25	26.4	101	26.5	101	0	58-127/13
108-88-3	Toluene	39.0		25	54.9	64*	55.2	65*	1	67-123/11
1330-20-7	Xylene (total)	20.4		75	96.5	101	97.0	102	1	62-125/14

CAS No.	Surrogate Recoveries	MS	MSD	T22828-4	Limits
1868-53-7	Dibromofluoromethane	101%	102%	99%	73-126%
17060-07-0	1,2-Dichloroethane-D4	102%	100%	93%	61-136%
2037-26-5	Toluene-D8	102%	102%	107%	80-125%
460-00-4	4-Bromofluorobenzene	101%	101%	139%	65-147%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T22828-1MS	F0092512.D	20	07/10/08	LJ	n/a	n/a	VF3005
T22828-1MSD	F0092513.D	20	07/10/08	LJ	n/a	n/a	VF3005
T22828-1	F0092511.D	20	07/10/08	LJ	n/a	n/a	VF3005

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-1, T22828-4, T22828-5, T22828-7, T22828-8, T22828-9

CAS No.	Compound	T22828-1 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2750	500	3400	130	3350	120	1	60-131/12
100-41-4	Ethylbenzene	62.7	500	641	116	630	113	2	58-127/13
108-88-3	Toluene	2170	500	2720	110	2740	114	1	67-123/11
1330-20-7	Xylene (total)	259	1500	1950	113	1960	113	1	62-125/14

CAS No.	Surrogate Recoveries	MS	MSD	T22828-1	Limits
1868-53-7	Dibromofluoromethane	92%	93%	93%	73-126%
17060-07-0	1,2-Dichloroethane-D4	86%	82%	78%	61-136%
2037-26-5	Toluene-D8	105%	108%	115%	80-125%
460-00-4	4-Bromofluorobenzene	110%	114%	166%* a	65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T22860-4MS	F0092529.D	1	07/11/08	LJ	n/a	n/a	VF3006
T22860-4MSD	F0092530.D	1	07/11/08	LJ	n/a	n/a	VF3006
T22860-4	F0092526.D	1	07/11/08	LJ	n/a	n/a	VF3006

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-2, T22828-3, T22828-6

CAS No.	Compound	T22860-4 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	29.8	119	27.5	110	8	60-131/12
100-41-4	Ethylbenzene	ND	25	30.3	121	28.6	114	6	58-127/13
108-88-3	Toluene	ND	25	30.8	123	29.9	120	3	67-123/11
1330-20-7	Xylene (total)	ND	75	86.2	115	83.2	111	4	62-125/14

CAS No.	Surrogate Recoveries	MS	MSD	T22860-4	Limits
1868-53-7	Dibromofluoromethane	91%	94%	93%	73-126%
17060-07-0	1,2-Dichloroethane-D4	77%	81%	85%	61-136%
2037-26-5	Toluene-D8	116%	115%	112%	80-125%
460-00-4	4-Bromofluorobenzene	114%	114%	183%* a	65-147%

(a) Outside of control limits biased high. There were no target compounds associated with this surrogate

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T22828  
Account: AECCOLI American Environmental Consulting  
Project: DCP Midstream- RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T22884-1MS	F0092554.D	5	07/11/08	LJ	n/a	n/a	VF3007
T22884-1MSD	F0092555.D	5	07/12/08	LJ	n/a	n/a	VF3007
T22884-1	F0092553.D	5	07/11/08	LJ	n/a	n/a	VF3007

The QC reported here applies to the following samples:

Method: SW846 8260B

T22828-2, T22828-6

CAS No.	Compound	T22884-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	6240	E	125	6070	-136* <sup>a</sup>	5900	-272* <sup>a</sup>	3	60-131/12
108-88-3	Toluene	39.7		125	170	104	171	105	1	67-123/11

CAS No.	Surrogate Recoveries	MS	MSD	T22884-1	Limits
1868-53-7	Dibromofluoromethane	101%	100%	98%	73-126%
17060-07-0	1,2-Dichloroethane-D4	101%	95%	100%	61-136%
2037-26-5	Toluene-D8	100%	101%	99%	80-125%
460-00-4	4-Bromofluorobenzene	99%	97%	102%	65-147%

(a) Outside control limits due to high level in sample relative to spike amount.

July 24, 2008

American Environmental Consulting  
6885 South Marshall Street, Suite 3  
Littleton, Colorado 80128

Attention: Mr. Mike Stewart

Subject: Laboratory Test Results  
RR-EXT (DCP)  
Project No. DN43,777-300

This letter transmits the results of laboratory tests performed on a sample delivered to our office on July 7, 2008. The test results transmitted at this time are those requested by Mr. Mike Stewart when the sample was submitted.

The sample was tested in accordance with applicable American Society of Testing and Materials (ASTM) standards. Test results are presented in Fig. 1 and in the table below.

Sieve Size	Percent Passing (by weight)
½ inch	100
¾ inch	99.7
No. 4	99
No. 8	97
No. 16	94
No. 30	91
No. 50	79
No. 100	38
No. 200	28
0.037mm	16
0.019mm	15
0.009mm	13
0.005mm	12
0.002mm	8
0.001mm	7

Liquid Limit (%)	NL
Plasticity Index (%)	NP

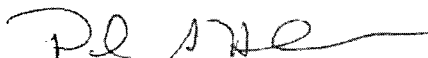
Dry Density (pcf)	93
Moisture Content (%)	25.5

Organic Content (%)	1.8
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Should you have any questions regarding these test results, please call.

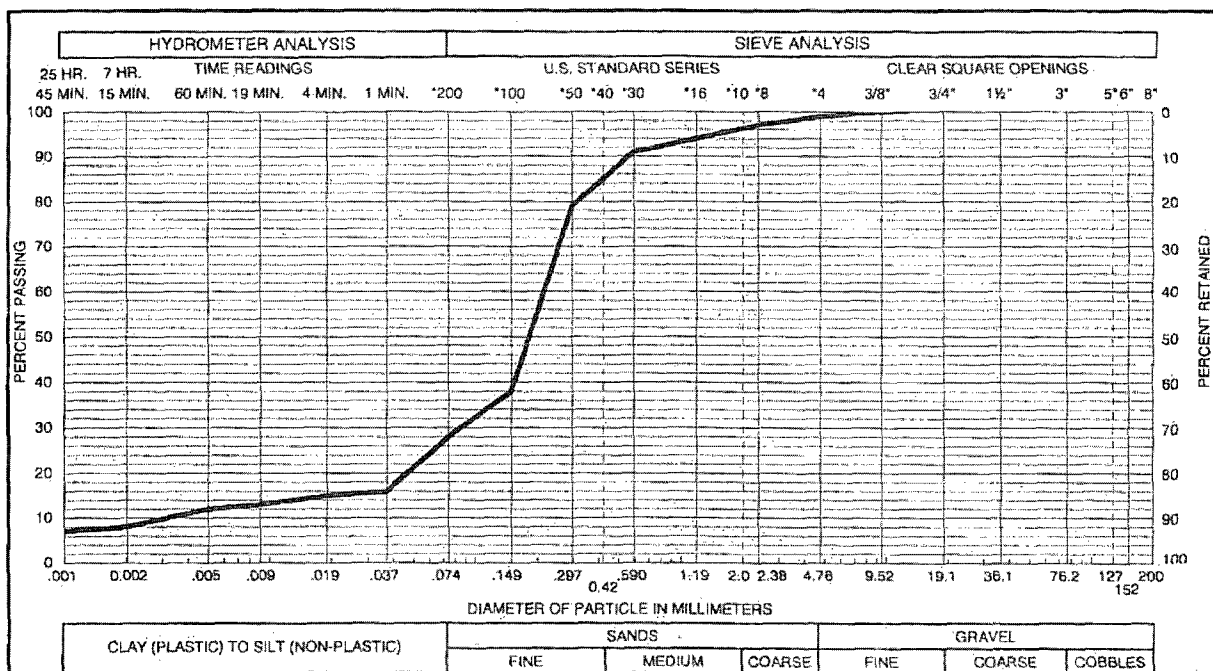
Very truly yours,

CTL | THOMPSON, INC.



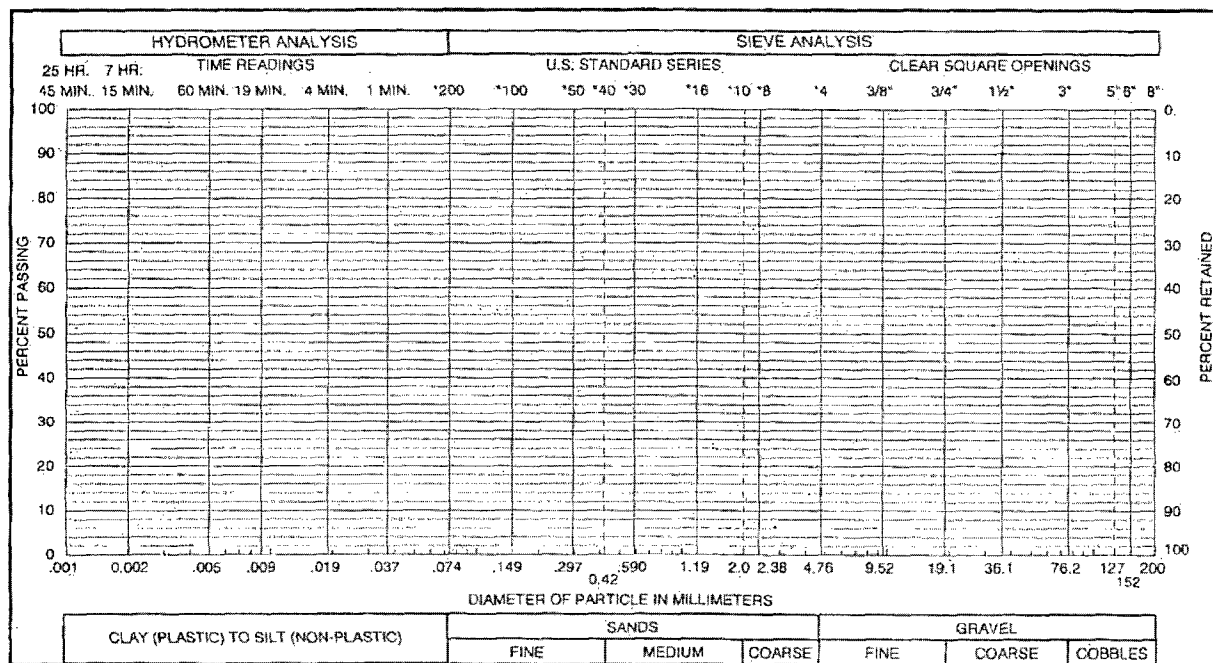
Paul S. Hunsader  
Laboratory Manager

PSH/bg  
(3 copies)



Sample of Sand, Silty (SM)  
 From RR-EXT (DCP), ST-1, MW-7 at 30 feet

GRAVEL	1 %	SAND	71 %
SILT & CLAY	28 %	LIQUID LIMIT	NL %
PLASTICITY INDEX		NP %	



Sample of \_\_\_\_\_  
 From \_\_\_\_\_

GRAVEL	%	SAND	%
SILT & CLAY	%	LIQUID LIMIT	%
PLASTICITY INDEX			

## Gradation Test Results

FIG. 1

Date: 7-18-08 Fax: 303-948-7739 Phone: 303-948-7733

Name: Mike Stewart

Company: American Environmental Consulting

Project: RR-EXT (DCP)

Re: Laboratory Testing

No. of pages transmitted (including cover sheet): 1

If you do not receive all of the described material, please telephone:

Sender's Name: Paul Hunsader

Business Phone: (303) 825-0777 Ext.          Fax: (303) 825-0113

Sieve Size Percent Passing (by weight)

$\frac{1}{2}$ "	100
$\frac{3}{8}$ "	99.7
No. 4	99
No. 8	97
No. 16	94
No. 30	91
No. 50	79
No. 100	38
No. 200	28
0.075 mm	16
0.075 mm	15
0.075 mm	13
0.075 mm	12
0.075 mm	8
0.075 mm	7
Dry Density (pcf)	93
Moisture Content (%)	25.5
Liquid Limit (%)	NL
Plasticity Index (%)	NP

Classification - SM

Organic Content (%) 1.8

Mike, final report will follow upon completion

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CTL | THOMPSON, INC.

1971 W. 12th Ave. Denver, CO 80204