

AP-055

4th Quarter 2008 Groundwater Monitoring

Work Plan

DATE:

02.17.09



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

RECEIVED

2009 FEB 19 PM 12 03

February 17, 2009

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

**RE: 4th 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 4th 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.

Sincerely

DCP Midstream, LP

Stephen Weathers, PG
Principal Environmental Specialist

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

February 6, 2009

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

Re: Summary of Fourth Quarter 2008 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 fourth quarter 2008 groundwater monitoring event that was completed on December 3, 2008 at the DCP Midstream (DCP) RR Ext Site (Figure 1). The well locations are shown on Figure 2. Seven of the eight monitoring wells were purged and sampled. Another DCP contractor was excavating affected materials as part of the remediation program. MW-2 was within their work area so it could not be accessed.

SUMMARY OF GROUNDWATER MONITORING ACTIVITIES

The construction information for the wells is summarized in Table 1. The wells were first purged to equilibration using dedicated bailers based on the field parameters of temperature, pH and conductivity. They were then sampled for benzene, toluene, ethylbenzene, xylenes (BTEX) and chlorides. A field duplicate from MW-8 and a matrix spike/matrix spike duplicate (MS/MSD) from MW-5 were also collected to evaluate quality control. All affected purge water was disposed of at the DCP Linam Ranch facility.

Well hydrographs are plotted on Figure 3. Figure 3 demonstrates that the water table behaved in a similar fashion across the site indicating that uniform groundwater conditions are present. The measured water table elevations were also used to generate a groundwater contour map using the Surfer program with a kriging option. This map is included as Figure 4. Groundwater continues to flow toward the south.

The field duplicate and matrix spike/matrix spike duplicate results are summarized in Table 2. The quality control data can be summarized as follows:

- The method blanks were all within their control limits;
- The blank spikes were all within their control limits;
- All but two of the 44 individual sample surrogates results were within the method ranges;
- The duplicate samples demonstrated poor agreement for benzene and toluene. They could not be evaluated for ethylbenzene and xylenes because they were not detected;
- The matrix spike and matrix spike duplicate values were acceptable.

The above results indicate that the data are suitable to evaluate constituent distributions and trends as part of the groundwater monitoring program.

The sampling data is included in Table 3. A summary of the field parameters and a copy of the laboratory report are included in Attachment 1. The New Mexico Water Quality Control Commission (NMWQCC) groundwater standards are included at the top of the table. Wells MW-1, MW-3, MW-4 and MW-8 exceeded the benzene standards. Wells MW-3 and MW-4 exceeded the toluene standard. There were no exceedances in wells MW-5, MW-6 and MW-7.

Figure 5 shows the benzene concentrations at the wells that were sampled in the fourth quarter 2008. All of the BTEX data collected for this project is summarized in Table 4. Figure 6 graphs the benzene concentration verses time for MW-1, MW-3, MW-4 and MW-5. The concentrations decreased in MW-1 and MW-3 and continued to increase in MW-4.

The samples were submitted for chlorides analysis for the second time. Both sets of chloride data are summarized in Table 5. The data from both episodes fall within the same range with the exception of the 109 mg/l third quarter 2008 value for MW-2 that appears to be substantially lower.

The chloride concentrations verses time are shown on Figure 7. All of the concentrations generally declined including MW-4. The differing rising benzene trend and falling chlorides trend in MW-4 indicates that chlorides were not a constituent in the original DCP release.

RECOMMENDATIONS

AEC believes that the recently completed soils remediation activities should stabilize and eventually reduce the extent of the dissolved phase hydrocarbon plume but it will take time for the indications of these changes to appear. AEC therefore recommends postponing any additional investigative activities until after the first quarter 2009 data have been collected and assessed.

Mr. Stephen Weathers
February 6, 2009
Page 3

The next sampling event will be completed the first quarter (probably March) of 2009.
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

MHS/tbn
attachments

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

Table 2 - Fourth Quarter 2008 Quality Control Summary

RPD Evaluation

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-8 (mg/l)	0.0233	0.0107	<0.002	<0.006
MW-8 Dup (mg/l)	0.0122	0.0063	<0.002	<0.006
RPD	62.5%	51.8%		

RPD: relative percentage difference

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

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes	
MS	92	98	92	95	Run 1
MSD	93	97	90	93	Run 1
MS	92	100	93	93	Run 2
MSD	90	96	93	94	Run 2

MS: Matrix Spike

MSD: Matrix Spike Duplicate

Table 3 - RR Ext Fourth Quarter 2008 Groundwater Sampling Results

Sampling Results

Well	Benzene	Toluene	Ethylbenzene	Total Xylenes	Chlorides
NMWQCC Standards	.010	0.75	0.75	0.62	250*
MW-1	0.869	0.581	0.0385	0.0709	447
MW-3	0.761	0.938	0.0492	0.158	301
MW-4	1.32	1.35	0.0812	0.239J	281
MW-5	0.0031	0.004	<0.002	<0.006	318
MW-6	<0.002	<0.002	<0.002	<0.006	325
MW-7	<0.002	<0.002	<0.002	<0.006	348
MW-8	0.0233	0.011	<0.002	<0.006	328
MW-8 Dup	0.0122	0.006	<0.002	<0.006	457
TRIP BLANK	<0.002	<0.002	<0.002	<0.006	

Notes: Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards

J qualifier: Estimated value that falls between the method detection and method reporting limits

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

* The chloride is a secondary (non-health based) standard.

Table 4 - RR Ext BTEX Groundwater Monitoring Results Summary

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
WQCC Standards		.010	0.75	0.75	0.62
MW-1	3/08	1.4	0.948	0.0395	0.128
	6/08	2.75	2.17	0.054	0.232
	9/08	1.1	0.845	0.0375	0.131
Dup	9/08	1.22	0.883	0.0506	0.197
	12/08	0.869	0.581	0.0385	0.0709
MW-2	3/08	8.98	6.58	0.135J	0.765
Dup	3/08	10	7	0.156J	0.93
	6/08	24.3	18.5	0.319	2.58
Dup	6/08	23.5	19.2	0.309	2.36
	9/08	21.7	9.79	0.443	4.25
	12/08	Not sampled: Remediation activities			
MW-3	3/08	0.759	0.849	0.0355	0.0786
	6/08	6.18	9.46	0.287	1.23
	9/08	2.45	3.62	0.145	1.14
	12/08	0.761	0.938	0.0492	0.158
MW-4	3/08	0.0102	0.0093	<0.002	0.0023J
	6/08	0.0439	0.0256	0.0068	0.0147
	9/08	0.514	0.443	0.0203	0.125
	12/08	1.32	1.35	0.0812	0.239J

Notes: Units mg/l
 NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards
 J qualifiers are not included
 Bold values exceed the New Mexico Water Quality Control Commission Groundwater Standards

Table 4 - RR Ext BTEX Groundwater Monitoring Results Summary (continued)

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
WQCC Standards		.010	0.75	0.75	0.62
MW-5	3/08	0.0019J	0.0012J	<0.002	<0.006
	6/08	0.0037	0.0037	<0.002	<0.006
	9/08	0.0038	0.0037	<0.002	<0.006
	12/08	0.0031	0.004	<0.002	<0.006
MW-6	6/08	<0.002	<0.002	<0.002	<0.006
	9/08	<0.002	<0.002	<0.002	<0.006
	12/08	<0.002	<0.002	<0.002	<0.006
MW-7	6/08	<0.002	<0.002	<0.002	<0.006
	9/08	<0.002	<0.002	<0.002	<0.006
	12/08	<0.002	<0.002	<0.002	<0.006
MW-8	6/08	0.0384	0.0255	0.00049J	0.0016J
	9/08	0.0301	0.0161	<0.002	0.002 J
	12/08	0.0233	0.011	<0.002	<0.006
Dup	12/08	0.0122	0.006	<0.002	<0.006

Notes: Units mg/l

NMWQCC Standards New Mexico Water Quality Control Commission Groundwater Standards

J qualifiers are not included

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

Table 5 - RR Ext Chlorides Groundwater Monitoring Results Summary

Well	9/08	12/08
	Chlorides	Chlorides
MW-1	507	447
MW-2	109	NS
MW-3	363	301
MW-4	318	281
MW-5	373	318
MW-6	363	325
MW-7	378	348
MW-8	512	393

Notes: Units are mg/l

NS: Not sampled because of operational constraints

FIGURES

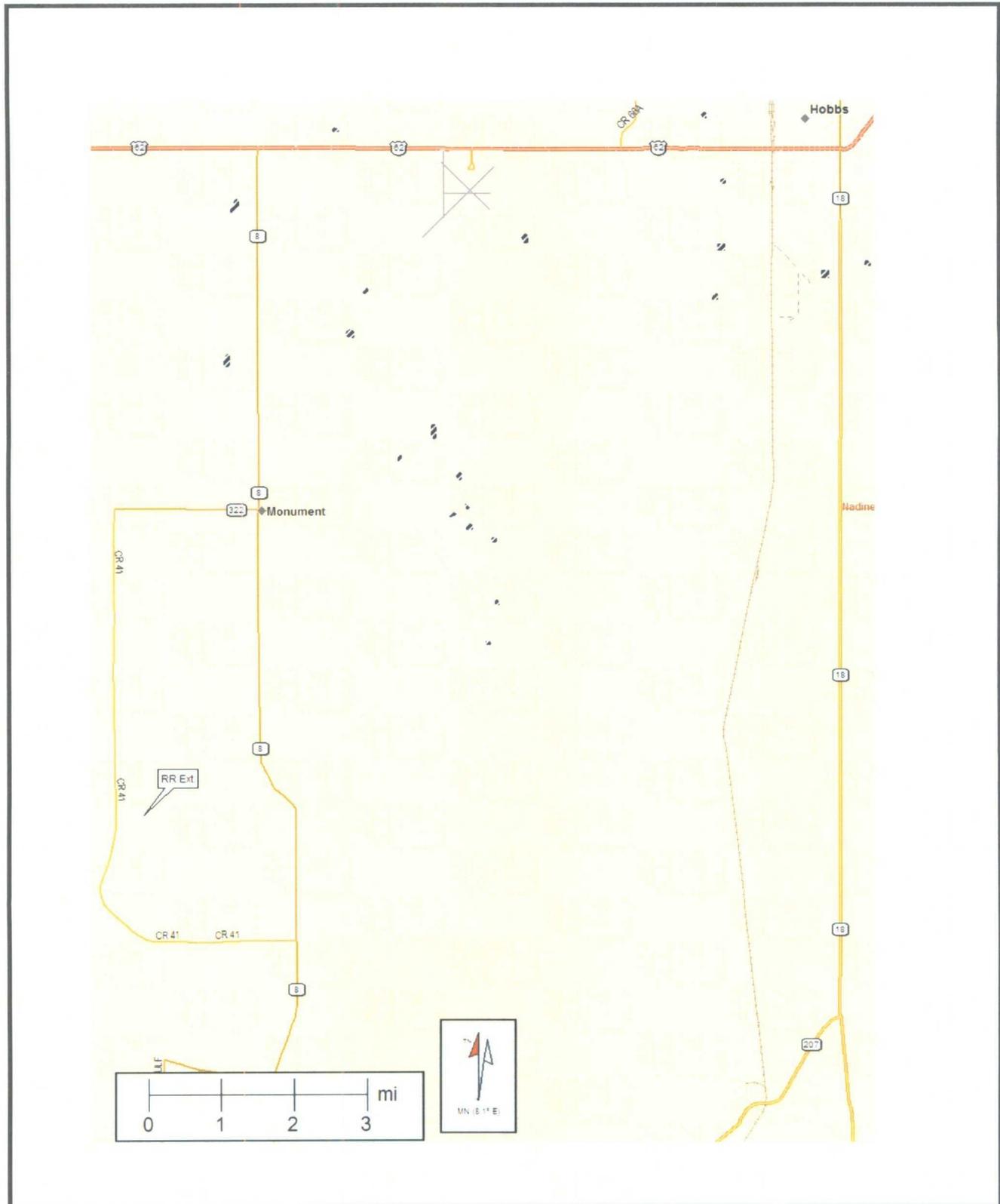


Figure 1 – Site Location
 RR Ext. AP #55



DRAWN BY: MHS
REVISED:
DATE: 5/06



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



DRAWN BY: MHS
REVISED:
DATE: 1/09

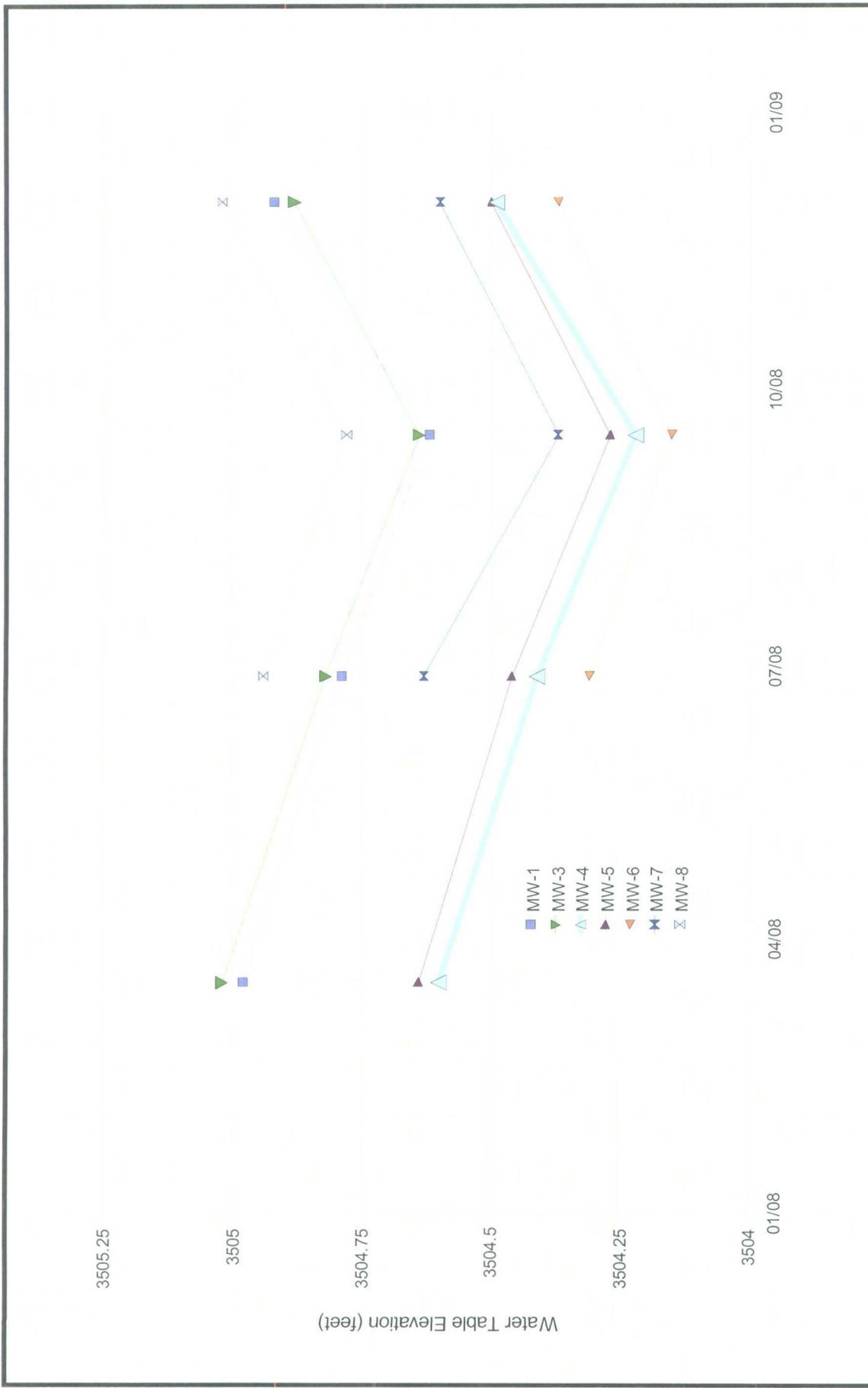


Figure 3 – Monitoring Well Hydrographs

RR EXT AP #55



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DATE: 1/09

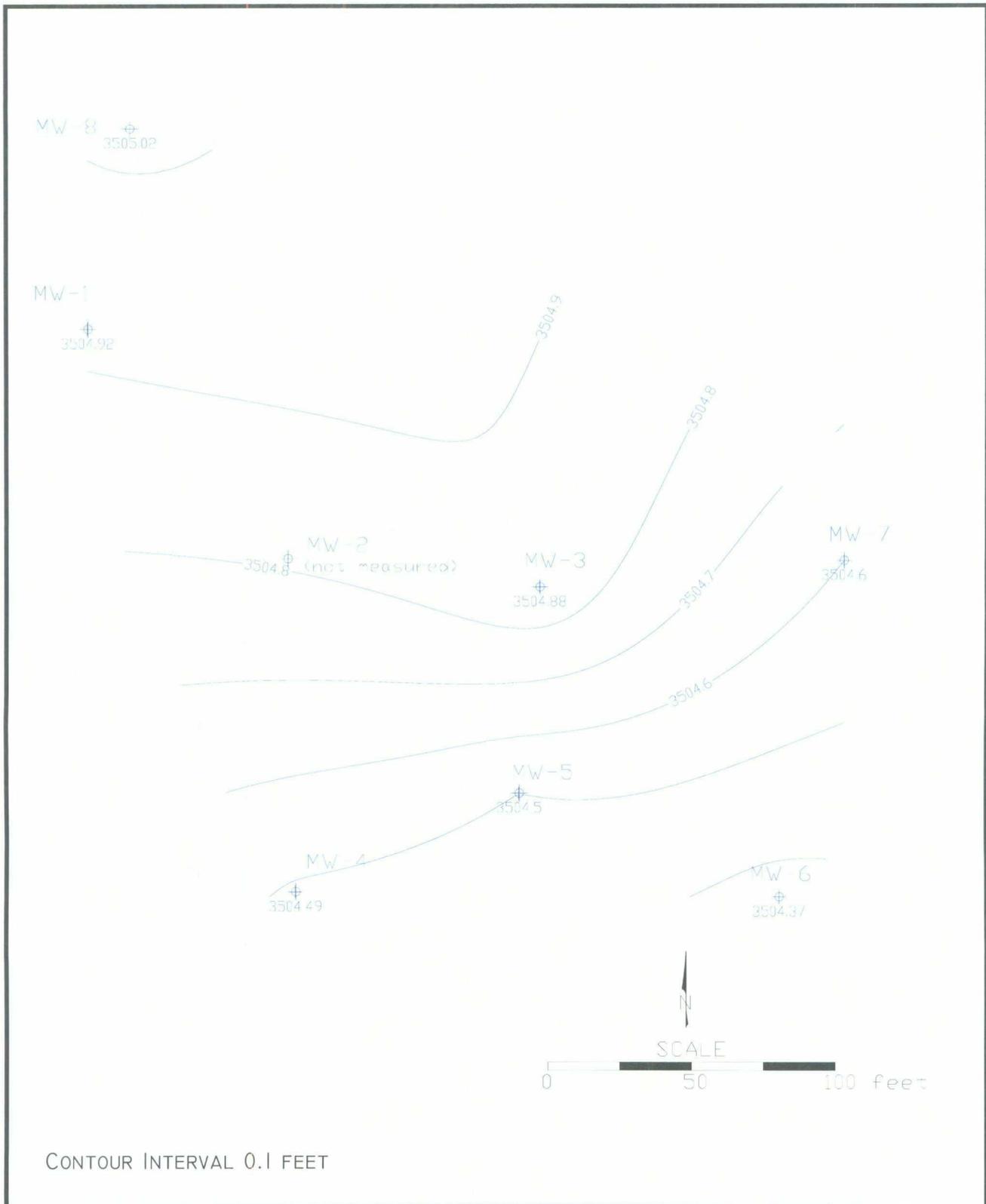


Figure 4 – Fourth Quarter 2008 Water Table Contours
RR Ext. AP #55



DRAWN BY: MHS
REVISED:
DATE: 1/09

MW-8 ⊕
0.018

MW-1 ⊕
0.869

MW-2 ⊕
(not measured)

MW-3 ⊕
0.761

MW-7 ⊕
<0.002

MW-5 ⊕
0.0031

MW-4 ⊕
1.32

MW-6 ⊕
<0.002



UNITS ARE MG/L
MW-8 DUPLICATE VALUES AVERAGED

Figure 5 – Fourth Quarter 2008 Benzene Concentrations
RR Ext. AP #55



DRAWN BY: MHS
REVISED:
DATE: 2/09

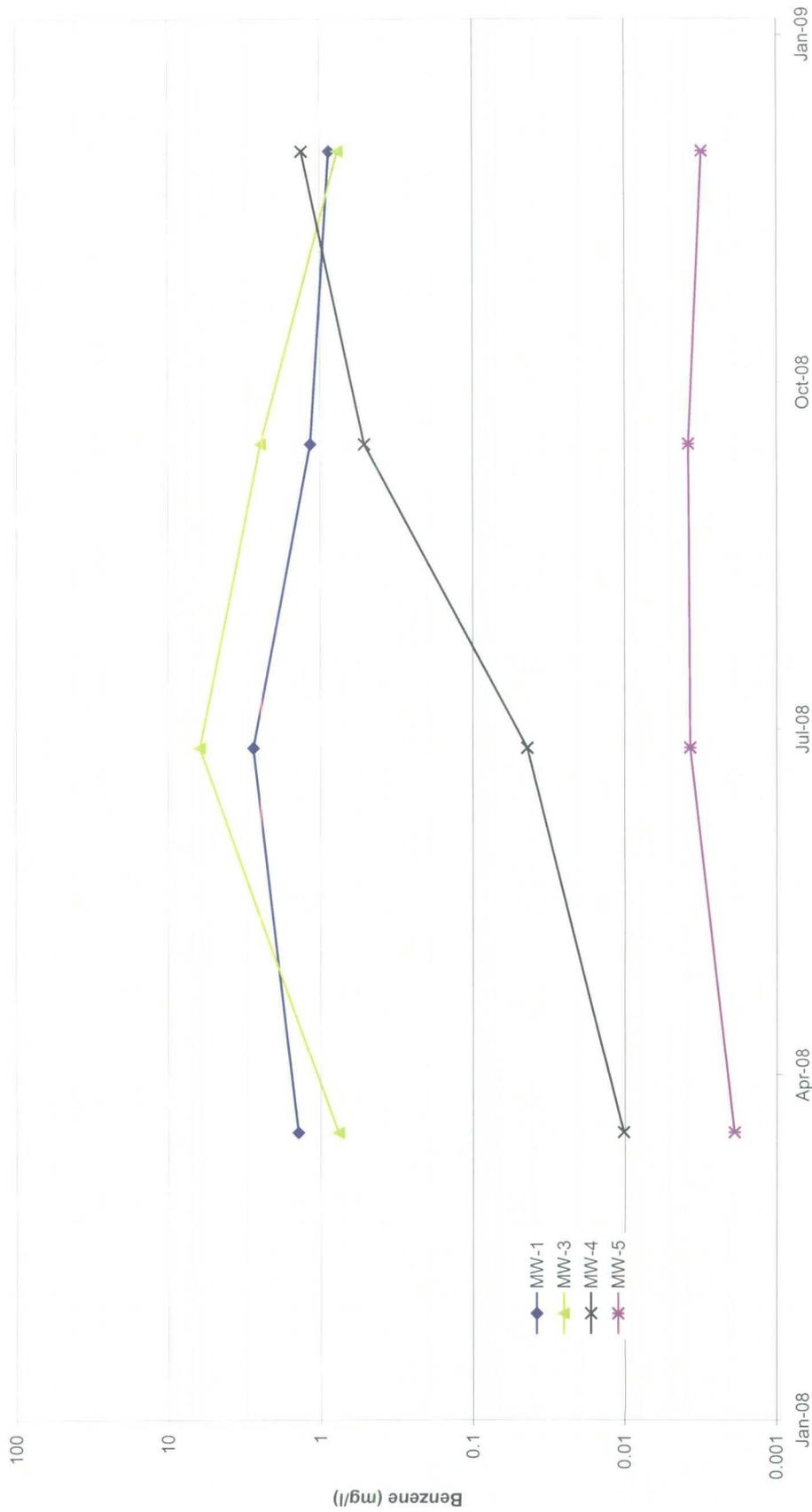


Figure 6 – Benzene Concentrations Verses Time

RR EXT AP #55

dcp
Midstream.

DRAWN BY: MHS
DATE: 1/09

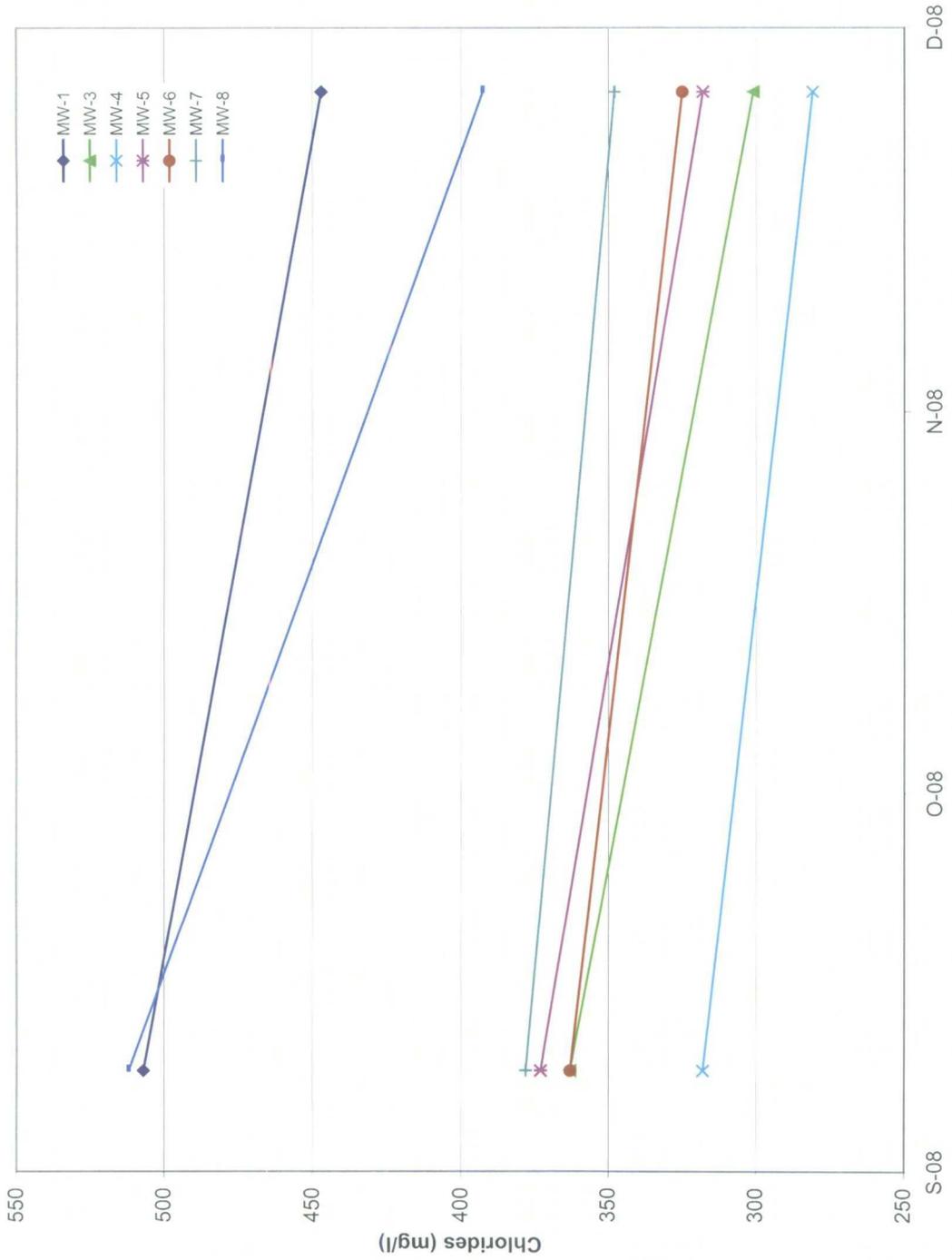


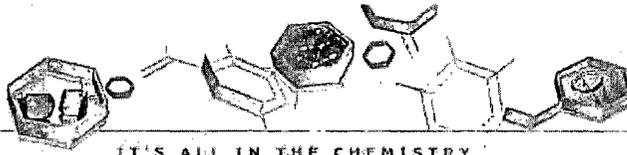
Figure 7 – Chloride Concentrations Verses Time

RR EXT AP #55
 drawn by: MHS
 DATE: 1/09



ATTACHMENT

WELL SAMPLING DATA AND
ANALYTICAL LABORATORY REPORT



01/26/09

Technical Report for

DCP Midstream, LLC

DCP Midstream RR Ext

Accutest Job Number: T24888

Sampling Date: 12/03/08



Report to:

American Environmental Consulting

mstewart@aecdenvr.com

ATTN: Mike Stewart

Total number of pages in report: 36



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

Paul K. Canevaro

Paul Canevaro
Laboratory Director

Client Service contact: William Reeves 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.

Table of Contents

Sections:



Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: T24888-1: MW-1	5
2.2: T24888-2: MW-3	7
2.3: T24888-3: MW-4	9
2.4: T24888-4: MW-5	11
2.5: T24888-5: DUP	13
2.6: T24888-6: TRIP BLANK	15
2.7: T24888-7: MW-6	16
2.8: T24888-8: MW-7	18
2.9: T24888-9: MW-8	20
Section 3: Misc. Forms	22
3.1: Chain of Custody	23
Section 4: GC/MS Volatiles - QC Data Summaries	26
4.1: Method Blank Summary	27
4.2: Blank Spike Summary	29
4.3: Matrix Spike/Matrix Spike Duplicate Summary	31
Section 5: General Chemistry - QC Data Summaries	33
5.1: Method Blank and Spike Results Summary	34
5.2: Duplicate Results Summary	35
5.3: Matrix Spike Results Summary	36



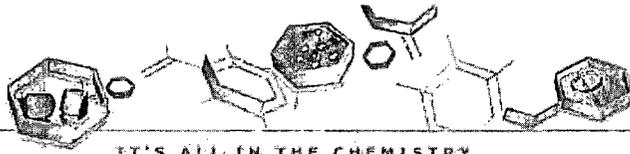
Sample Summary

DCP Midstream, LLC

Job No: T24888

DCP Midstream RR Ext

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
T24888-1	12/03/08	10:20 AEC	12/05/08	AQ Ground Water	MW-1
T24888-2	12/03/08	10:50 AEC	12/05/08	AQ Ground Water	MW-3
T24888-3	12/03/08	11:20 AEC	12/05/08	AQ Ground Water	MW-4
T24888-4	12/03/08	11:20 AEC	12/05/08	AQ Ground Water	MW-5
T24888-4D	12/03/08	11:20 AEC	12/05/08	AQ Water Dup/MSD	MW-5 MSD
T24888-4S	12/03/08	11:20 AEC	12/05/08	AQ Water Matrix Spike	MW-5 MS
T24888-5	12/03/08	00:00 AEC	12/05/08	AQ Ground Water	DUP
T24888-6	12/03/08	00:00 AEC	12/05/08	AQ Trip Blank Water	TRIP BLANK
T24888-7	12/03/08	11:55 AEC	12/05/08	AQ Ground Water	MW-6
T24888-8	12/03/08	11:55 AEC	12/05/08	AQ Ground Water	MW-7
T24888-9	12/03/08	10:30 AEC	12/05/08	AQ Ground Water	MW-8



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-1	Date Sampled: 12/03/08
Lab Sample ID: T24888-1	Date Received: 12/05/08
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	Z0046567.D	10	12/11/08	JL	n/a	n/a	VZ2318
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	0.869	0.020	0.0046	mg/l	
108-88-3	Toluene	0.581	0.020	0.0048	mg/l	
100-41-4	Ethylbenzene	0.0385	0.020	0.0045	mg/l	
1330-20-7	Xylene (total)	0.0709	0.060	0.014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		79-122%
17060-07-0	1,2-Dichloroethane-D4	120%		75-121%
2037-26-5	Toluene-D8	96%		87-119%
460-00-4	4-Bromofluorobenzene	96%		80-133%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1	Date Sampled:	12/03/08
Lab Sample ID:	T24888-1	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DCP Midstream RR Ext		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	447	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-3	Date Sampled:	12/03/08
Lab Sample ID:	T24888-2	Date Received:	12/05/08
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	Z0046568.D	10	12/11/08	JL	n/a	n/a	VZ2318
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	0.761	0.020	0.0046	mg/l	
108-88-3	Toluene	0.938	0.020	0.0048	mg/l	
100-41-4	Ethylbenzene	0.0492	0.020	0.0045	mg/l	
1330-20-7	Xylene (total)	0.158	0.060	0.014	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		79-122%
17060-07-0	1,2-Dichloroethane-D4	120%		75-121%
2037-26-5	Toluene-D8	94%		87-119%
460-00-4	4-Bromofluorobenzene	93%		80-133%

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:	12/03/08
Lab Sample ID:	T24888-2	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DCP Midstream RR Ext		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	301	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-4	Date Sampled:	12/03/08
Lab Sample ID:	T24888-3	Date Received:	12/05/08
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	Z0046520.D	1	12/10/08	JL	n/a	n/a	VZ2316
Run #2	Z0046569.D	50	12/11/08	JL	n/a	n/a	VZ2318

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	1.32 ^a	0.10	0.023	mg/l	
108-88-3	Toluene	1.35 ^a	0.10	0.024	mg/l	
100-41-4	Ethylbenzene	0.0812	0.0020	0.00045	mg/l	
1330-20-7	Xylene (total)	0.239 ^a	0.30	0.068	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	103%	79-122%
17060-07-0	1,2-Dichloroethane-D4	112%	119%	75-121%
2037-26-5	Toluene-D8	93%	96%	87-119%
460-00-4	4-Bromofluorobenzene	88%	93%	80-133%

(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:	12/03/08
Lab Sample ID:	T24888-3	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DCP Midstream RR Ext		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	281	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-5	Date Sampled: 12/03/08
Lab Sample ID: T24888-4	Date Received: 12/05/08
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	Z0046566.D	1	12/11/08	JL	n/a	n/a	VZ2318
Run #2 ^a	Z0046521.D	1	12/10/08	JL	n/a	n/a	VZ2316

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	0.0031	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0041	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	108%	105%	79-122%
17060-07-0	1,2-Dichloroethane-D4	122% ^b	115%	75-121%
2037-26-5	Toluene-D8	97%	92%	87-119%
460-00-4	4-Bromofluorobenzene	92%	89%	80-133%

(a) Sample reported for QC purposes only. Sample had to be reanalyzed.
 (b) Outside of control limits biased high. All results confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound



Report of Analysis

Client Sample ID:	MW-5	Date Sampled:	12/03/08
Lab Sample ID:	T24888-4	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DCP Midstream RR Ext		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	318	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	DUP	Date Sampled:	12/03/08
Lab Sample ID:	T24888-5	Date Received:	12/05/08
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	Z0046522.D	1	12/10/08	JL	n/a	n/a	VZ2316
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	0.0122	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0063	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	104%		79-122%
17060-07-0	1,2-Dichloroethane-D4	116%		75-121%
2037-26-5	Toluene-D8	93%		87-119%
460-00-4	4-Bromofluorobenzene	88%		80-133%

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: 12/03/08
Lab Sample ID: T24888-5	Date Received: 12/05/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: DCP Midstream RR Ext	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	457	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	TRIP BLANK	Date Sampled:	12/03/08
Lab Sample ID:	T24888-6	Date Received:	12/05/08
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	Z0046517.D	1	12/10/08	JL	n/a	n/a	VZ2316
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	116%		79-122%
17060-07-0	1,2-Dichloroethane-D4	124% ^a		75-121%
2037-26-5	Toluene-D8	101%		87-119%
460-00-4	4-Bromofluorobenzene	96%		80-133%

(a) Outside of control limits biased high. Data is acceptable for all ND results.

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6	Date Sampled:	12/03/08
Lab Sample ID:	T24888-7	Date Received:	12/05/08
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	Z0046523.D	1	12/10/08	JL	n/a	n/a	VZ2316
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	103%		79-122%
17060-07-0	1,2-Dichloroethane-D4	113%		75-121%
2037-26-5	Toluene-D8	93%		87-119%
460-00-4	4-Bromofluorobenzene	93%		80-133%

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-6	Date Sampled: 12/03/08
Lab Sample ID: T24888-7	Date Received: 12/05/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: DCP Midstream RR Ext	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	325	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	12/03/08
Lab Sample ID:	T24888-8	Date Received:	12/05/08
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	Z0046524.D	1	12/10/08	JL	n/a	n/a	VZ2316
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	104%		79-122%
17060-07-0	1,2-Dichloroethane-D4	118%		75-121%
2037-26-5	Toluene-D8	88%		87-119%
460-00-4	4-Bromofluorobenzene	88%		80-133%

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

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



Report of Analysis

Client Sample ID:	MW-7	Date Sampled:	12/03/08
Lab Sample ID:	T24888-8	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DCP Midstream RR Ext		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	348	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW-8	Date Sampled:	12/03/08
Lab Sample ID:	T24888-9	Date Received:	12/05/08
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	Z0046525.D	1	12/10/08	JL	n/a	n/a	VZ2316
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	0.0233	0.0020	0.00046	mg/l	
108-88-3	Toluene	0.0107	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	104%		79-122%
17060-07-0	1,2-Dichloroethane-D4	118%		75-121%
2037-26-5	Toluene-D8	91%		87-119%
460-00-4	4-Bromofluorobenzene	90%		80-133%

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-8	Date Sampled:	12/03/08
Lab Sample ID:	T24888-9	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DCP Midstream RR Ext		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	328	10	mg/l	10	12/09/08 12:00	KD	SM 4500 CL C

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SAMPLE INSPECTION FORM

Accutest Job Number: T2488 Client: DCP Midstream Project: DCP MIDSTREAM PRESS

Date/Time Received: 12-5-08 09:45 # of Coolers Received: 1 Thermometer # 110

Cooler Temps: #1: 4.0 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: 966324493618

- COOLER INFORMATION**
- Custody seal missing or not intact
 - Temperature criteria not met
 - Wet ice received in cooler

- CHAIN OF CUSTODY**
- Chain of Custody not received
 - Sample D/T unclear or missing
 - Analyses unclear or missing
 - COC not properly executed

- SAMPLE INFORMATION**
- Sample containers received broken
 - VOC vials have headspace
 - Sample labels missing or illegible
 - ID on COC does not match label(s)
 - D/T on COC does not match label(s)
 - Sample/Bottles recd but no analysis on COC
 - Sample listed on COC, but not received
 - Bottles missing for requested analysis
 - Insufficient volume for analysis
 - Sample received improperly preserved

- TRIP BLANK INFORMATION**
- Trip Blank on COC but not received
 - Trip Blank received but not on COC
 - Trip Blank not intact
 - Received Water Trip Blank
 - Received Soil TB

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

Summary of Discrepancies: MW-4 has MW-5 written on label. Please 250ml lid. Label (m) Bottle labeled as MW-4

TECHNICIAN SIGNATURE/DATE: [Signature] 12.5.08

INFORMATION AND SAMPLE LABELING VERIFIED BY: [Signature] 12.5.08

CORRECTIVE ACTIONS

Client Representative Notified: Mike Stewart Date: 12/10/08

By Accutest Representative: William Reeves Via: Phone Email

Client Instructions: Per Mike, use label notation and proceed with analysis.

3.1
35

SAMPLE RECEIPT LOG

JOB #: T24888 DATE/TIME RECEIVED: 12.05.08 0945
 CLIENT: DEP. MUSEUM INITIALS: IT

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	MW-1	12.3.08 1020	GW	250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	2	MW-3	12.3.08 1050		250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	3	MW-4	12.3.08 1120		250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	4	MW-5			250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	5	DUP	12.3.08		250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	6	Tip Blank		DI	↓	1-2	↓	① 2 3 4 5 6 7 8	<2 >12
	7	MW-6	12.3.08 1155	GW	250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	8	MW-7			250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
	9	MW-8	12.3.08 1070		250mL	1	ILL	① 2 3 4 5 6 7 8	<2 >12
	↓	↓	↓		40mL	2-4	VR	① 2 3 4 5 6 7 8	<2 >12
								① 2 3 4 5 6 7 8	<2 >12
								① 2 3 4 5 6 7 8	<2 >12
								① 2 3 4 5 6 7 8	<2 >12
								① 2 3 4 5 6 7 8	<2 >12
								① 2 3 4 5 6 7 8	<2 >12

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NaOH 6: DI 7: MeOH 8: Other
 LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

3.1

T24888: Chain of Custody
 Page 3 of 3



GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

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

Method Blank Summary

Job Number: T24888
Account: DUKE DCP Midstream, LLC
Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2316-MB	Z0046516.D	1	12/10/08	JL	n/a	n/a	VZ2316

4.1
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T24888-3, T24888-4, T24888-5, T24888-6, T24888-7, T24888-8, T24888-9

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	115% 79-122%
17060-07-0	1,2-Dichloroethane-D4	127%* a 75-121%
2037-26-5	Toluene-D8	99% 87-119%
460-00-4	4-Bromofluorobenzene	98% 80-133%

(a) Outside control limits biased high.

Method Blank Summary

Job Number: T24888
Account: DUKE DCP Midstream, LLC
Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2318-MB	Z0046565.D	1	12/11/08	JL	n/a	n/a	VZ2318

4.1
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T24888-1, T24888-2, T24888-3, T24888-4

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	106% 79-122%
17060-07-0	1,2-Dichloroethane-D4	117% 75-121%
2037-26-5	Toluene-D8	98% 87-119%
460-00-4	4-Bromofluorobenzene	94% 80-133%

Blank Spike Summary

Job Number: T24888
Account: DUKE DCP Midstream, LLC
Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2316-BS	Z0046514.D	1	12/10/08	JL	n/a	n/a	VZ2316

4.2
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T24888-3, T24888-4, T24888-5, T24888-6, T24888-7, T24888-8, T24888-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.8	91	76-118
100-41-4	Ethylbenzene	25	23.1	92	75-112
108-88-3	Toluene	25	22.7	91	77-114
1330-20-7	Xylene (total)	75	66.4	89	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	112%	79-122%
17060-07-0	1,2-Dichloroethane-D4	124%* a	75-121%
2037-26-5	Toluene-D8	97%	87-119%
460-00-4	4-Bromofluorobenzene	95%	80-133%

(a) Outside control limits biased high.

Blank Spike Summary

Job Number: T24888
Account: DUKE DCP Midstream, LLC
Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2318-BS	Z0046563.D	1	12/11/08	JL	n/a	n/a	VZ2318

4.2
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T24888-1, T24888-2, T24888-3, T24888-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.3	89	76-118
100-41-4	Ethylbenzene	25	22.8	91	75-112
108-88-3	Toluene	25	22.0	88	77-114
1330-20-7	Xylene (total)	75	64.9	87	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	117%	75-121%
2037-26-5	Toluene-D8	97%	87-119%
460-00-4	4-Bromofluorobenzene	92%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T24888
 Account: DUKE DCP Midstream, LLC
 Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T24888-4MS	Z0046534.D	1	12/10/08	JL	n/a	n/a	VZ2316
T24888-4MSD	Z0046535.D	1	12/10/08	JL	n/a	n/a	VZ2316
T24888-4 ^a	Z0046521.D	1	12/10/08	JL	n/a	n/a	VZ2316

4.3

The QC reported here applies to the following samples:

Method: SW846 8260B

T24888-3, T24888-4, T24888-5, T24888-6, T24888-7, T24888-8, T24888-9

CAS No.	Compound	T24888-4 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3.8	25	26.8	92	27.0	93	1	76-118/16
100-41-4	Ethylbenzene	ND	25	24.6	98	24.2	97	2	75-112/12
108-88-3	Toluene	3.7	25	26.7	92	26.3	90	2	77-114/12
1330-20-7	Xylene (total)	ND	75	70.9	95	69.5	93	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T24888-4	Limits
1868-53-7	Dibromofluoromethane	105%	106%	105%	79-122%
17060-07-0	1,2-Dichloroethane-D4	115%	111%	115%	75-121%
2037-26-5	Toluene-D8	92%	91%	92%	87-119%
460-00-4	4-Bromofluorobenzene	86%	85%	89%	80-133%

(a) Sample reported for QC purposes only. Sample had to be reanalyzed.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T24888
 Account: DUKE DCP Midstream, LLC
 Project: DCP Midstream RR Ext

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T24888-4MS	Z0046583.D	1	12/11/08	JL	n/a	n/a	VZ2318
T24888-4MSD	Z0046584.D	1	12/11/08	JL	n/a	n/a	VZ2318
T24888-4	Z0046566.D	1	12/11/08	JL	n/a	n/a	VZ2318

4.3
4

The QC reported here applies to the following samples:

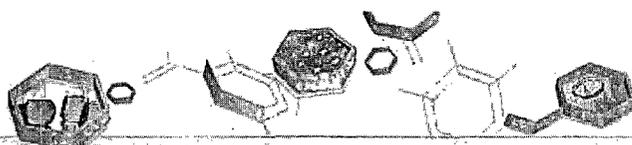
Method: SW846 8260B

T24888-1, T24888-2, T24888-3, T24888-4

CAS No.	Compound	T24888-4 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	3.1	25	26.0	92	25.6	90	2	76-118/16	
100-41-4	Ethylbenzene	ND	25	25.0	100	24.1	96	4	75-112/12	
108-88-3	Toluene	4.1	25	27.3	93	27.3	93	0	77-114/12	
1330-20-7	Xylene (total)	ND	75	71.1	95	70.7	94	1	75-111/12	

CAS No.	Surrogate Recoveries	MS	MSD	T24888-4	Limits
1868-53-7	Dibromofluoromethane	105%	108%	108%	79-122%
17060-07-0	1,2-Dichloroethane-D4	118%	117%	122%* a	75-121%
2037-26-5	Toluene-D8	94%	96%	97%	87-119%
460-00-4	4-Bromofluorobenzene	88%	89%	92%	80-133%

(a) Outside of control limits biased high. All results confirmed by reanalysis.



IT'S ALL IN THE CHEMISTRY

General Chemistry



QC Data Summaries

Includes the following where applicable:

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

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T24888
Account: DUKE - DCP Midstream, LLC
Project: DCP Midstream RR Ext

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP5923/GN15648	1.0	<1.0	mg/l	1000	994	99.4	92-107%

Associated Samples:

Batch GP5923: T24888-1, T24888-2, T24888-3, T24888-4, T24888-5, T24888-7, T24888-8, T24888-9

(*) Outside of QC limits

5.1



DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T24888
Account: DUKE - DCP Midstream, LLC
Project: DCP Midstream RR Ext

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP5923/GN15648	T24888-4	mg/l	318	313	1.6	0-5%

Associated Samples:

Batch GP5923: T24888-1, T24888-2, T24888-3, T24888-4, T24888-5, T24888-7, T24888-8, T24888-9

(*) Outside of QC limits

5.2



MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T24888
Account: DUKE - DCP Midstream, LLC
Project: DCP Midstream RR Ext

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP5923/GN15648	T24888-4	mg/l	318	10.0	329	109.0	81-119%

Associated Samples:

Batch GP5923: T24888-1, T24888-2, T24888-3, T24888-4, T24888-5, T24888-7, T24888-8, T24888-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

5.3

