

1RP-1728

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

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 Monitoring Results
DCP Midstream, LP J-4-2 Pipeline Release (1RP-1728)
Unit C, Section 27, Township 19 South, Range 35 East
Lea County, New Mexico**

Dear Mr. Price:

DCP Midstream, LP (DCP) is pleased to submit for your review, a copy of the 4th Quarter 2008 Groundwater Monitoring Results for the DCP J-4-2 Pipeline Release located in Lea County, New Mexico (Unit C, Section 27, Township 19 South, Range 35 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

A handwritten signature in black ink, appearing to read "Stephen Weathers", followed by a horizontal line.

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 the Fourth Quarter 2008 Groundwater Monitoring Results for the
DCP J-4-2 Pipeline Release in Lea County New Mexico **(1RP-1728)**
Unit C, Section 27 Township 19 South, Range 35 East

Dear Mr. Weathers:

This report summarizes the fourth quarter 2008 groundwater monitoring activities completed at the J-4-2 release location for DCP Midstream, LP. The site is located in the northeastern quarter of the northwestern quarter (Unit C) of Section 27, Township 19 South, Range 35 East approximately 3 miles south of the intersection of US Highway 82 and State Highway 483 in Lea County New Mexico (Figure 1). The approximate coordinates are 32.647° north and 103.447° west.

The monitoring network includes the seven groundwater monitoring wells shown on Figure 2. Table 1 summarizes construction information for each well. Note that monitoring well MW-5 was not installed because of drilling refusal.

The approximate excavation limits are shown on Figure 2. Wells MW-4 and MW-1 were intact and could be accessed by removing blank sections of the threaded PVC. Wells MW-2 and MW-3 were at ground surface approximately 5-to-10 feet south of the southern excavation boundary. Barricade fencing and tape was present around the excavation.

GROUNDWATER SAMPLING

Groundwater sampling was completed on December 3, 2008. The depth to water and, if present, free phase hydrocarbons (FPH) was measured in each well prior to conducting the purging and sampling activities. The water-table elevations for the wells containing FPH were adjusted using the following formula:

$GWE_{corr} = MGWE + (PT * PD)$: where

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

The calculated groundwater elevations for all monitoring episodes are summarized in Table 2. FPH was measured at thicknesses of 0.21 feet in MW-1 and 0.17 feet in MW-2 so they were not sampled. The historic FPH thickness values are summarized in Table 3.

Wells MW-3, MW-4, MW-6, MW-7 and MW-8 were purged and sampled with dedicated bailers. Purging continued until a minimum of three casing volumes of water was removed and the field parameters temperature, pH and conductivity stabilized. The well purging forms are attached. The affected purge water was disposed at the DCP Linam Ranch facility.

Unfiltered samples were collected upon stabilization using the dedicated bailers. All samples were placed in an ice-filled chest immediately upon collection and delivered to ACCUTEST Laboratories using standard chain-of-custody protocol. The samples were analyzed for benzene, toluene, ethylbenzene, total xylenes (BTEX), chlorides and total dissolved solids (TDS).

RESULTS AND INTERPRETATIONS

The laboratory report is attached. The QA/QC evaluation included:

- The method blanks and blank spikes were all within their respective control limits.
- All of the individual surrogate spikes were within their control limits.
- The matrix spike and matrix spike duplicate results from MW-6 were within the control limits for all four constituents.

The above information indicates that the data is suitable for use as periodic groundwater monitoring data.

The results and interpretations presented below are based upon all of the data collected to date. The laboratory analyses for the fourth quarter 2008 sampling episode are summarized in Table 4. Table 5 summarizes all of the organic data collected during this project. Table 6 summarizes the chloride data collected during this project. The New Mexico Water Quality Control Commission (NMWQCC) groundwater standards are reproduced at the top of each table. The constituents that exceed these standards are highlighted as bold text.

Groundwater Flow

Figure 3 includes hydrographs for the corrected water-table elevations for all site wells. The water table declined across the site.

The resulting fourth quarter 2008 calculated water table elevation contours as generated using the Surfer® program with the kriging option are shown on Figure 4. The water table exhibits a gradient to the southeast that is consistent with past monitoring events.

Groundwater Chemistry

Examination of Table 4 shows that none of the BTEX constituents were detected. The benzene concentrations are plotted on Figure 5 along with the wells where FPH was measured. Comparison of Figure 4 with Figure 5 demonstrates that any dissolved-phase BTEX constituents are attenuating below the method reporting limits within the study area.

It is also important to note that:

- The toluene, ethylbenzene and total xylenes concentrations have never exceeded the NMWQCC standards in any of the wells;
- BTEX constituents were sporadically detected at concentrations near the method quantitation limits in MW-3;
- Benzene has not been detected in MW-4 since March 2007; and
- Benzene has not been detected in down-gradient wells MW-6, MW-7 and MW-8.

Examination of Table 6, the historical chlorides data, indicates that the chlorides concentrations in all wells exceed the NMWQCC secondary standard of 250 mg/l except for the most recent value from MW-4. This sample was reanalyzed by the laboratory; however, the field conductivity measurement indicates that it should be higher. The data were not contoured for that reason along with no data from MW-1 and MW-2. Figure 5 graphs the chloride concentrations over time. This figure highlights the anomalous reading in MW-4.

CONCLUSIONS AND RECOMMENDATIONS

Based upon the data collected to date, AEC concludes that:

1. Groundwater flow remains constant toward the southeast;
2. The presence of dissolved phase BTEX constituents is limited to the original release area as defined by MW-1 and MW-2;
3. The dissolved-phase hydrocarbon plume associated with the DCP J-4-2 pipeline release is either stable or contracting;
4. The salts that are present in the groundwater did not originate from the DCP release. This conclusion is based upon two reasons. First, releases from these types of pipelines typically do not contain elevated chlorides or other salts. Second, and most importantly, the highest chlorides and TDS concentrations were measured in MW-3. MW-3 is upgradient from the DCP release based upon the consistent water table configuration measured over the duration of the project and the fact that the groundwater samples do not contain any detectable BTEX constituents.

Mr. Stephen Weathers
February 6, 2009
Page 4

AEC recommends continued quarterly groundwater monitoring to evaluate any effects produced by the open excavation. The next groundwater-monitoring event is scheduled for the first quarter of 2009.

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

Sincerely,
AMERICAN ENVIRONMENTAL CONSULTING, LLC

Michael H. Stewart

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

TABLES

Table 1 – Summary of Monitoring Well Completions at the J-4-2 Site

Name	Date Installed	Stickup	Casing Diameter (inches)	Total Depth (btoc)	Screen Interval (ground)	Sand Interval
MW-1	2/06	3.17	2	43.05	19-39	17-39
MW-2	2/06	3.08	4	43.30	19-39	17-39
MW-3	2/06	3.21	2	43.00	19-39	17-39
MW-4	9/06	3.12	2	38.12	20-35	18-35
MW-5	Not installed because of drilling refusal					
MW-6	9/06	3.32	2	38.32	20-35	18-35
MW-7	9/06	2.95	2	39.45	21.5-36.5	19.5-36.5
MW-8	9/06	3.32	2	38.32	20-35	18-35

All units are feet except as noted

btoc: Below top of casing

Table 2 - Summary of Water Table Elevations for the J-4-2 Site

Well	2/15/06	9/25/06	12/21/06	3/14/07	6/26/07	9/25/07	11/30/07
MW-1	3713.61	3712.60	3712.63	3712.29	3712.15	3711.86	3712.42
MW-2	3713.93	3713.48	3712.49	3712.75	3712.63	3712.34	3712.91
MW-3	3713.36	3712.57	3712.57	3712.55	3712.79	3711.50	3712.09
MW-4		3712.80	3712.82	3712.78	3713.25	3712.98	3713.48
MW-6		3711.76	3712.00	3711.96	3711.87	3711.56	3711.92
MW-7		3711.03	3710.80	3710.73	3710.50	3709.87	3710.33
MW-8		3709.22	3708.95	3708.79	3708.54	3708.06	3708.33

Well	3/20/08	6/27/08	9/16/08	12/3/08
MW-1	3713.48	NM	NM	3711.94
MW-2	3713.40	NM	NM	3712.14
MW-3	3713.30	3713.09	3712.34	3712.25
MW-4	3713.70	3713.13	3712.18	3712.10
MW-6	3712.53	3712.20	3711.86	3711.70
MW-7	3711.38	3710.95	3710.11	3710.00
MW-8	3709.17	3708.78	3708.23	3708.13

Units are feet

Blank cells: wells not installed

NM: Not measured because of probe malfunction.

Table 3 - Summary of Free Phase Hydrocarbon Thickness Values for MW-1 and MW-2

Date	MW-1	MW-2
02/15/06	0.00	0.57
09/25/06	0.00	0.15
12/21/06	0.09	0.13
03/14/07	0.07	0.10
06/26/07	0.09	0.00
09/25/07	0.09	0.03
11/30/07	0.00	0.00
03/20/08	0.00	0.00
06/27/08	0.04	0.01
09/16/08	0.08	0.02
12/03/08	0.21	0.17

Units are feet

Table 4 - Summary of Fourth Quarter 2008 Groundwater Sampling Results

Well	Benzene	Toluene	Ethyl benzene	Total Xylene	Chlorides
NMWQCC Groundwater Standard	0.01	0.75	0.75	0.62	250*
MW-3	<0.002	<0.002	<0.002	<0.006	2550
MW-3 Duplicate	<0.002	<0.002	<0.002	<0.006	2700
MW-4	<0.002	<0.002	<0.002	<0.006	70
MW-6	<0.002	<0.002	<0.002	<0.006	391
MW-7	<0.002	<0.002	<0.002	<0.006	1050
MW-8	<0.002	<0.002	<0.002	<0.006	480

Notes: Units are mg/l,
 MW-1 and MW-2 not sampled because free phase hydrocarbons were present
 MW-5 was not installed because of drilling refusal
 NMWQCC: New Mexico Water Quality Control Commission
 Values above the NMWQCC standard are highlighted as bold text.
 * Secondary (aesthetics) rather than primary (health-based) standards.

Table 5 – Summary of Organic Groundwater Data

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Groundwater Standard		0.01	0.75	0.75	0.62
MW-1	2/06	0.139	0.326	0.34	0.31
	9/06	0.0418	0.0048	0.0247	0.0605
Dup	9/06	0.0555	0.0068	0.032	0.0782
	12/06	FPH	FPH	FPH	FPH
	3/07	FPH	FPH	FPH	FPH
	6/07	FPH	FPH	FPH	FPH
	9/07	0.0114	0.0029	0.0035	0.0978
	11/07	0.107	0.0243	0.0401	0.39
	3/08	0.042	0.0186	0.0177	0.260
Dup	3/08	0.031	0.0123	0.0107	0.170
MW-2	6/07	0.0262	0.0382	0.0404	0.335
	9/07	0.0045	<0.001	0.0027	0.0471
	11/07	0.006	0.0033	0.0025	0.0613
Dup	11/07	0.0062	0.003	0.0023	0.0577
	3/08	0.188	0.0062	0.0262	0.125
MW-3	2/06	<0.001	<0.001	<0.001	<0.002
	9/06	<0.002	<0.002	<0.002	<0.006
	12/06	<0.002	<0.002	<0.002	<0.006
	3/07	<0.002	<0.002	<0.002	<0.006
Dup	3/07	<0.002	<0.002	<0.002	<0.006
	6/07	0.0029	0.0053	0.0015	0.0097
Dup	6/07	<0.001	<0.001	<0.001	<0.001
	9/07	<0.001	<0.001	<0.001	<0.001
Dup	9/07	<0.001	<0.001	<0.001	<0.001
	11/07	0.0011J	<0.002	<0.002	<0.006
	3/08	<0.002	<0.002	<0.002	<0.006
	6/08	<0.002	<0.002	<0.002	<0.006
Dup	6/08	<0.002	<0.002	<0.002	0.0072
	9/08	<0.002	<0.002	<0.002	<0.006
	12/08	<0.002	<0.002	<0.002	<0.006
	12/08	<0.002	<0.002	<0.002	<0.006
MW-4	9/06	0.0086	0.00093J	0.0092	0.0061
	12/06	0.0295	0.0058	<0.002	0.0075
Dup	12/06	0.0207	0.004	<0.002	0.0054
	3/07	0.0044	0.0006	<0.002	0.0032
	6/07	<0.001	<0.001	<0.001	0.0025
	9/07	<0.001	<0.001	<0.001	<0.001
	11/07	<0.002	<0.002	<0.002	<0.006
	3/08	<0.002	<0.002	<0.002	<0.006
	6/08	<0.002	<0.002	<0.002	<0.006
	9/08	<0.002	<0.002	<0.002	0.0041J
	12/08	<0.002	<0.002	<0.002	<0.006

Notes: Units are mg/l,
 MW-5 was not installed.
 J modifiers are not included in this table
 Values above the NMWQCC standard are highlighted as bold text

Table 5 – Summary of Organic Groundwater Data (continued)

Well	Date	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Groundwater Standard		0.01	0.75	0.75	0.62
MW-6	9/06	<0.002	<0.002	<0.002	<0.006
	12/06	<0.002	<0.002	<0.002	<0.006
	3/07	<0.002	<0.002	<0.002	<0.006
	6/07	<0.001	<0.001	<0.001	<0.001
	9/07	<0.001	<0.001	<0.001	<0.001
	11/07	<0.002	<0.002	<0.002	<0.006
	3/08	<0.002	<0.002	<0.002	<0.006
	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	9/06	<0.002	<0.002	<0.002	<0.006
	12/06	<0.002	<0.002	<0.002	<0.006
	3/07	<0.002	<0.002	<0.002	<0.006
	6/07	<0.001	<0.001	<0.001	0.0027
	9/07	<0.001	<0.001	<0.001	<0.001
	11/07	<0.002	<0.002	<0.002	<0.006
	3/08	<0.002	<0.002	<0.002	<0.006
	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	9/06	<0.002	<0.002	<0.002	<0.006
	12/06	<0.002	<0.002	<0.002	<0.006
	3/07	<0.002	<0.002	<0.002	<0.006
	6/07	<0.001	<0.001	<0.001	<0.001
	9/07	<0.001	<0.001	<0.001	<0.001
	11/07	<0.002	<0.002	<0.002	<0.006
	3/08	<0.002	<0.002	<0.002	<0.006
	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

Notes: Units are mg/l,
 J modifiers are not included in this table
 Values above the NMWQCC standard are highlighted as bold text

Table 6 – Summary of Chlorides Groundwater Data

Well	3/14/07	6/26/07	9/16/08	12/3/08
NMWQCC Groundwater Standard 250 mg/l				
MW-3	7,800	10,800	4,070	2,625
MW-4	1,300	1,380	1,440	70
MW-6	669	544	537	391
MW-7	1,230	1,150	1,180	1,050
MW-8	609	617	735	480

Notes: Units are mg/l
 Values above the NMWQCC standard are highlighted as bold text. The
 250 mg/l standard is based upon secondary (non-health risk) considerations.

FIGURES

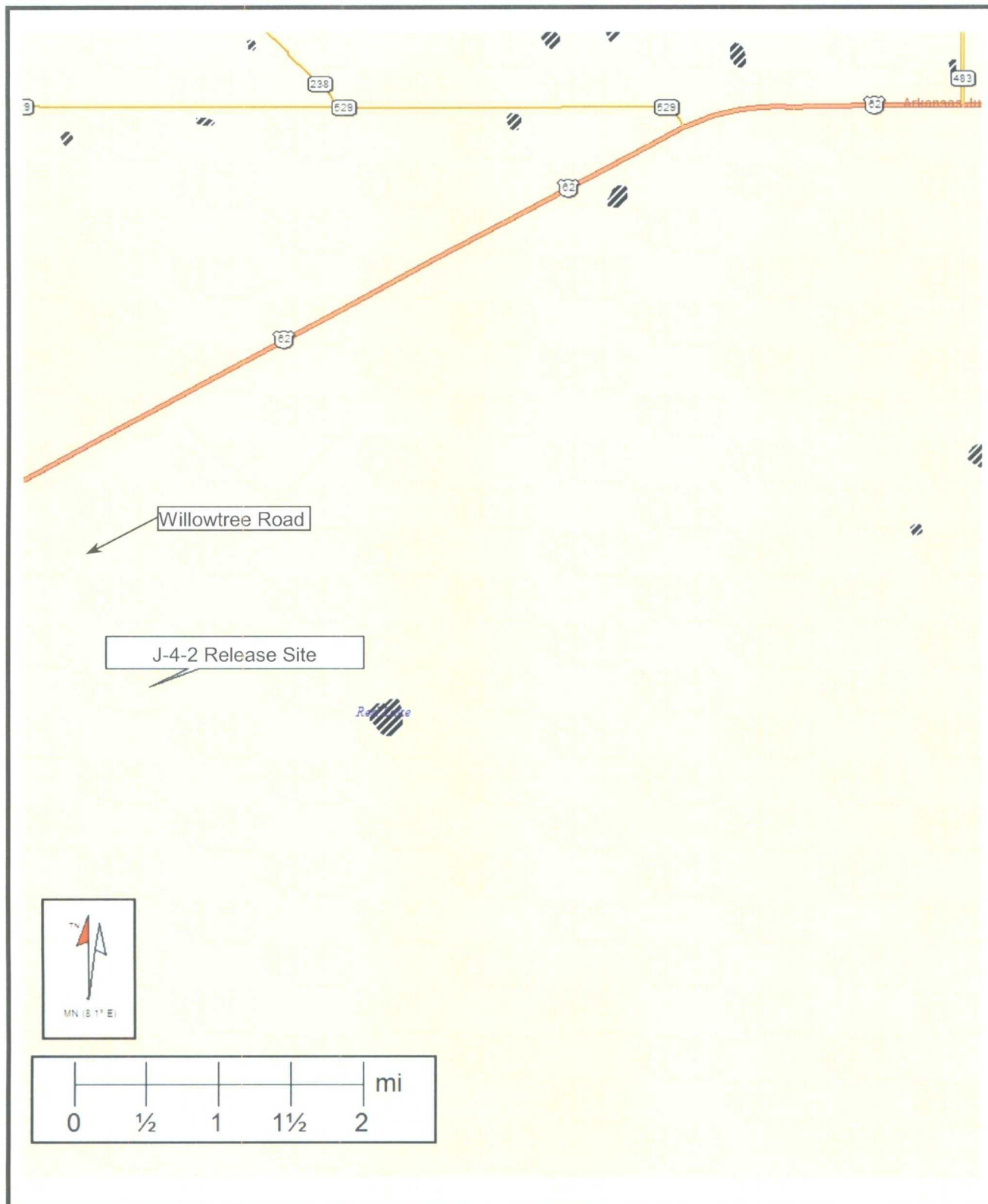


Figure 1 – Site Location
J-4-2 Groundwater Monitoring



DRAWN BY: MHS
REVISED:
DATE: 5/06

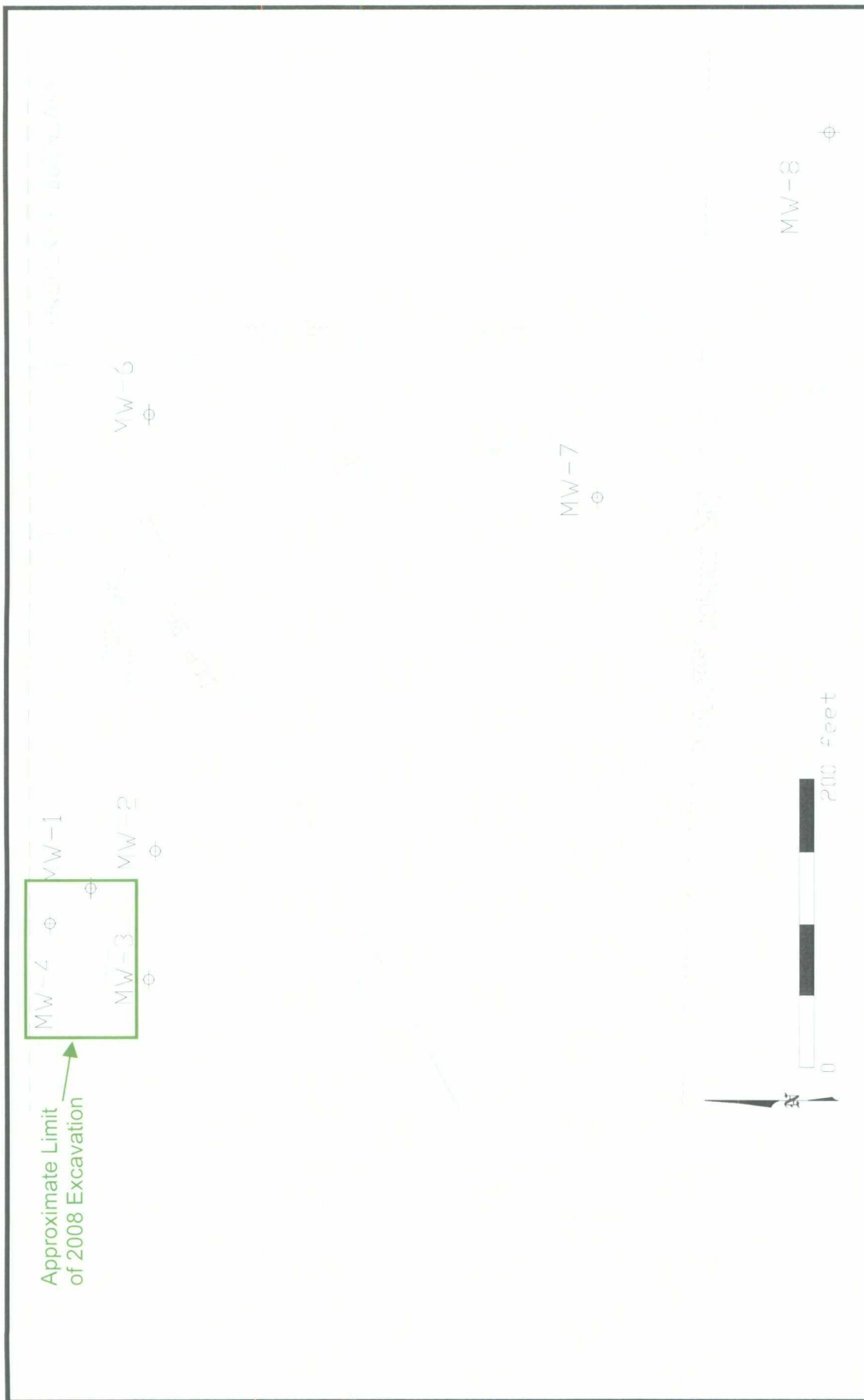


Figure 2 – Site Details and Limit of Affected Materials Excavation

J-4-2 Groundwater Monitoring	
dcp Midstream	DRAWN BY: MHS DATE: 10/08

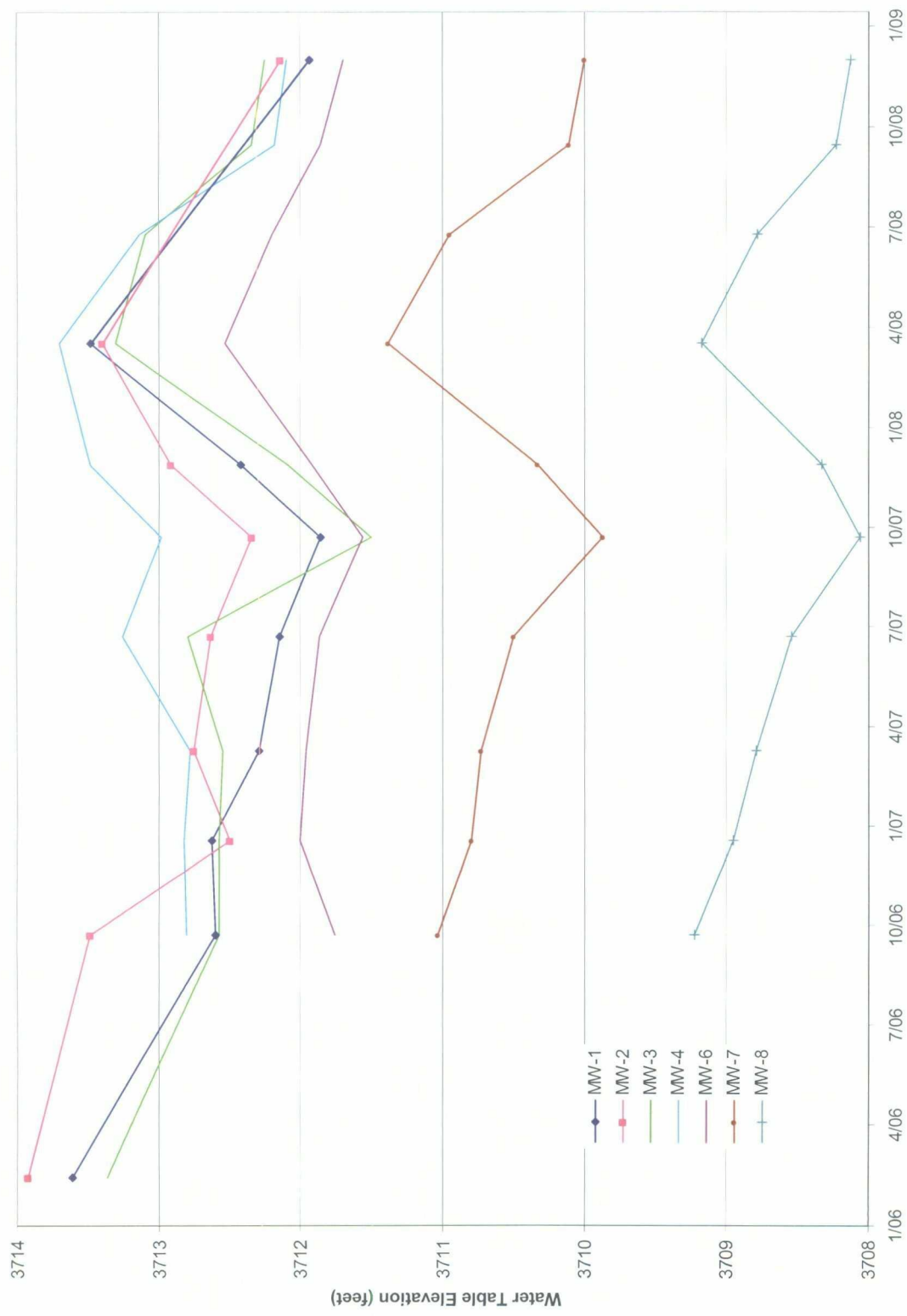


Figure 3 – Monitoring Well Hydrographs

J-4-2 Groundwater Monitoring	
dcp Midstream	DRAWN BY: MHS
	DATE: 1/09

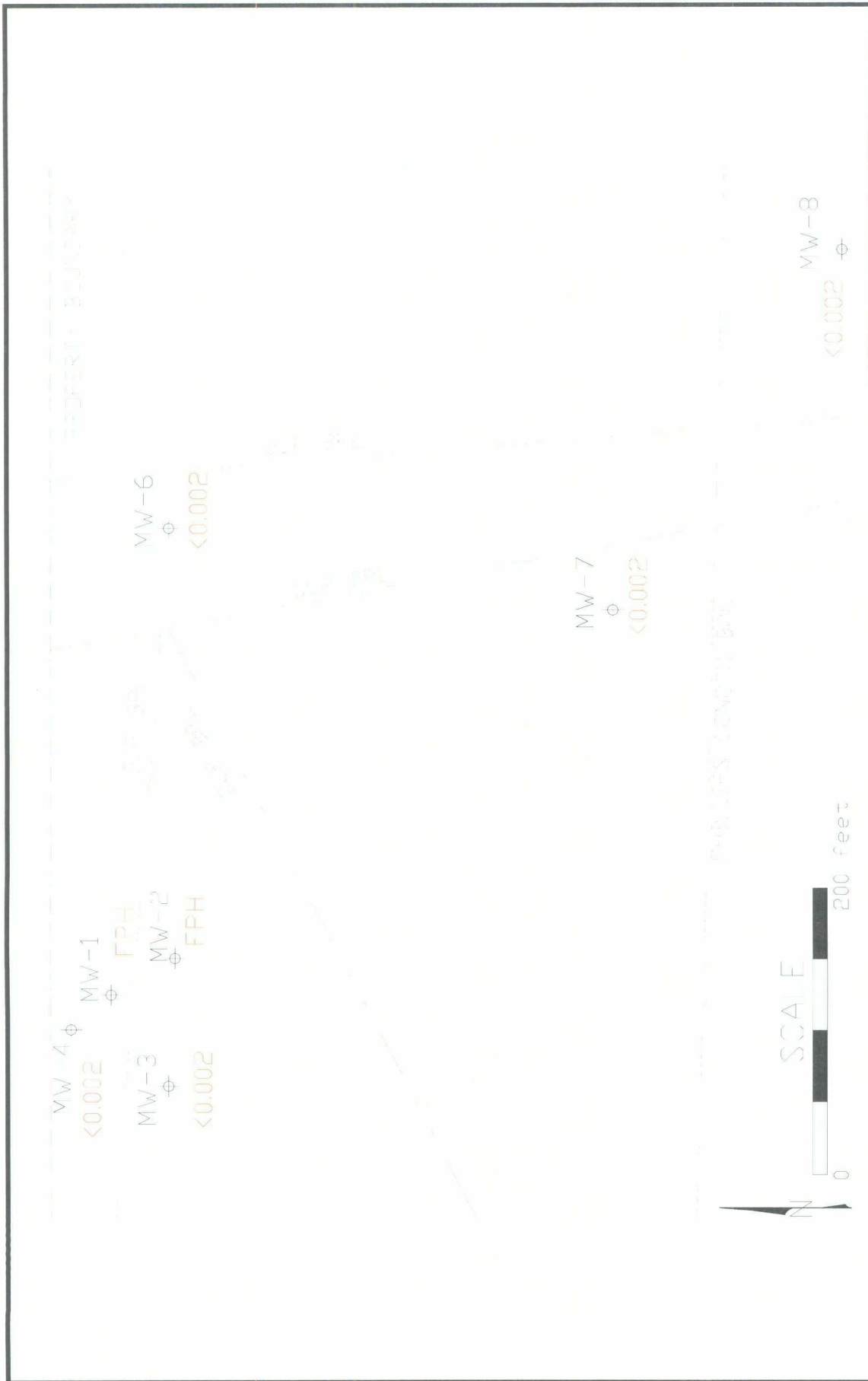


Figure 5 – Fourth Quarter 2008 Benzene Results

Units are mg/l
FPH: free phase hydrocarbons

J-4-2 Groundwater Monitoring	
dcp Midstream.	DRAWN BY: MHS DATE: 1/09

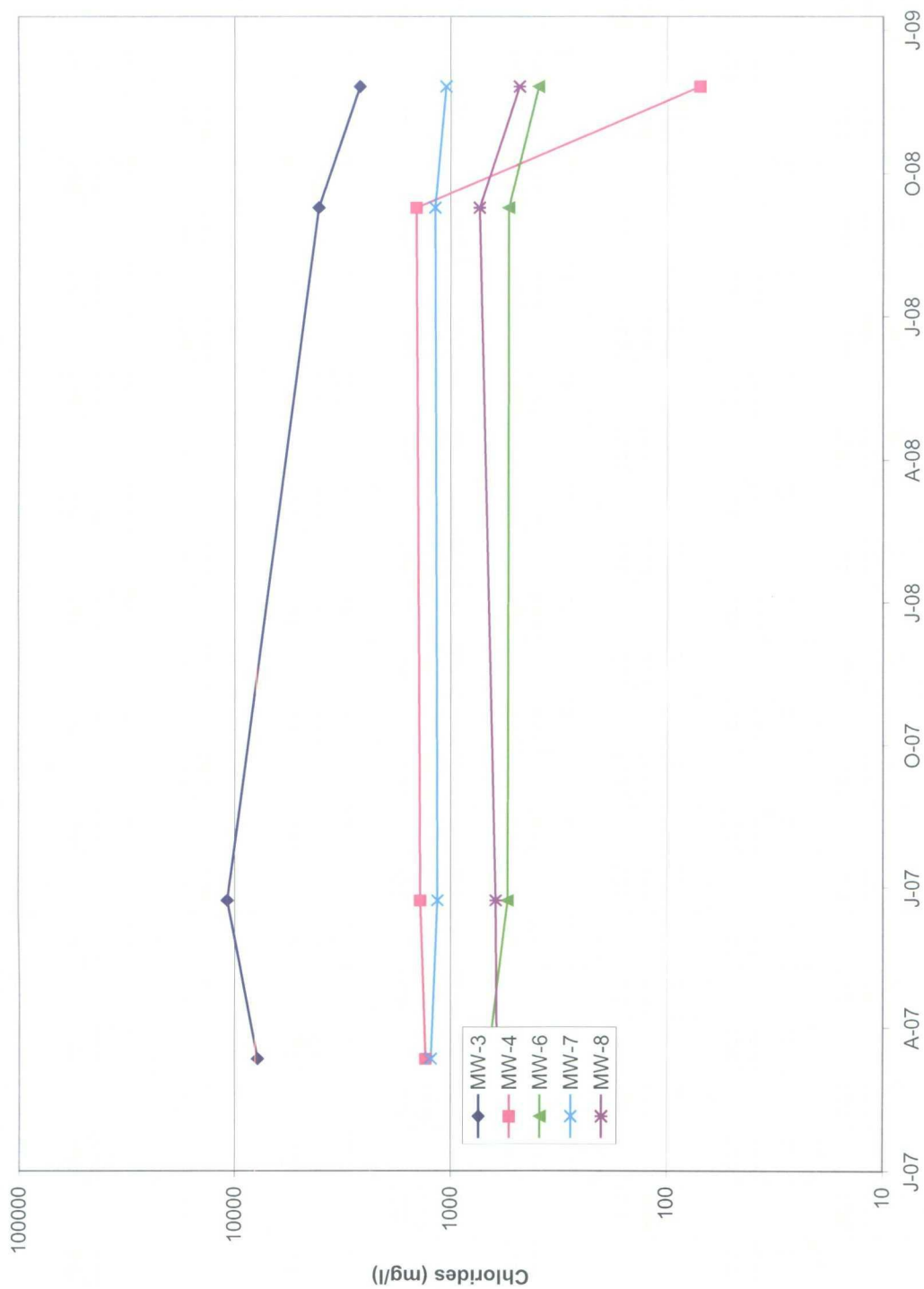


Figure 6 – Chloride Concentrations Verses
Sampling Date

J-4-2 Groundwater Monitoring

drawn by: MHS
DATE: 1/09

dcp
Midstream.

**WELL SAMPLING DATA
AND LABORATORY ANALYTICAL REPORT**

WELL SAMPLING DATA FORM

CLIENT: **DCP Midstream**

WELL ID: **MW-1**

SITE NAME: J42 (Pipeline Leak)

DATE: 12/3/2008

PROJECT NO. _____

SAMPLER: M. Stewart/A. Taylor

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: _____

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

TOTAL DEPTH OF WELL: 43.05 Feet

DEPTH TO WATER: 28.51 Feet

HEIGHT OF WATER COLUMN: 14.54 Feet

WELL DIAMETER: 4.0 Inch

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

[illegible]

SAMPLE NO.: Collected Sample No.: Not sampled

ANALYSES:

COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: **DCP Midstream**

WELL ID: **MW-2**

SITE NAME: J42 (Pipeline Leak)

DATE: 12/3/2008

PROJECT NO. _____

SAMPLER: M. Stewart/A. Taylor

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: _____

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

TOTAL DEPTH OF WELL: 43.30 Feet

DEPTH TO WATER: 28.48 Feet

HEIGHT OF WATER COLUMN: 14.82 Feet

WELL DIAMETER: 2.0 Inch

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

[illegible]

SAMPLE NO.: Collected Sample No.: Not sampled

ANALYSES:

COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: **DCP Midstream**

WELL ID: **MW-3**

SITE NAME: J42 (Pipeline Leak)

DATE: 12/3/2008

PROJECT NO.

SAMPLER: M. Stewart/A. Taylor

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

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:

TOTAL DEPTH OF WELL: 43.00 Feet

DEPTH TO WATER: 27.14 Feet

HEIGHT OF WATER COLUMN: 15.86 Feet

WELL DIAMETER: 2.0 Inch

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

[illegible]

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

ANALYSES: BTEX, chlorides

COMMENTS: Collected duplicate sample DUP

WELL SAMPLING DATA FORM

CLIENT: **DCP Midstream**

WELL ID: **MW-4**

SITE NAME: J42 (Pipeline Leak)

DATE: 12/3/2008

PROJECT NO.

SAMPLER: M. Stewart/A. Taylor

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

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☒ Alconox ☒ Distilled Water Rinse ☐ Other: _____

TOTAL DEPTH OF WELL: 38.12 Feet

DEPTH TO WATER: 28.14 Feet

HEIGHT OF WATER COLUMN: 9.98 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. <i>mS/cm</i>	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	2.0	19.3	3.95	7.06			Begin Hand Bailing
	4.0	19.4	3.96	7.14			
	6.0	19.5	3.98	7.09			

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

ANALYSES: BTEX, chlorides.

COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: DCP Midstream
SITE NAME: J42 (Pipeline Leak)
PROJECT NO. _____

WELL ID: **MW-6**

DATE: 12/3/2008

SAMPLER: M. Stewart/A. Taylor

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

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:

TOTAL DEPTH OF WELL: 34.35 Feet

DEPTH TO WATER: 28.26 Feet

HEIGHT OF WATER COLUMN: 6.09 Feet

WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. mS/cm	pH.	DO mg/L	Turb	(Water Column Height in cm) PHYSICAL APPEARANCE AND REMARKS
	1.3	18.9	1.87	7.24			
	2.6	19.2	1.81	7.22			
	3.9	19.3	1.79	7.19			

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

ANALYSES: BTEX, chlorides

COMMENTS: Collected matrix spike, matrix spike duplicate sample

WELL SAMPLING DATA FORM

CLIENT: **DCP Midstream**

SITE NAME: **J42 (Pipeline Leak)**

PROJECT NO. _____

WELL ID: **MW-7**
 DATE: 12/3/2008
 SAMPLER: M. Stewart/A. Taylor

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: _____

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other: _____

TOTAL DEPTH OF WELL:	<u>39.45</u>	Feet
DEPTH TO WATER:	<u>30.73</u>	Feet
HEIGHT OF WATER COLUMN:	<u>8.72</u>	Feet
WELL DIAMETER:	2.0	Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. mS/cm	pH	DO mg/L	Turb	PHYSICAL APPEARANCE AND REMARKS
	1.6	18.7	3.43	7.15			Begin Hand Bailing
	3.2	19.0	3.52	7.13			
	4.8	19.0	3.54	7.13			

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

ANALYSES: BTEX, chlorides

COMMENTS:

WELL SAMPLING DATA FORM

CLIENT: DCP Midstream
SITE NAME: J42 (Pipeline Leak)
PROJECT NO. _____

WELL ID: **MW-8**
DATE: 12/3/2008
SAMPLER: M. Stewart/A. Taylor

PURGING METHOD: ☒ Hand Bailed ☐ Pump If Pump, Type: _____

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

☒ Gloves ☐ Alconox ☐ Distilled Water Rinse ☐ Other:

TOTAL DEPTH OF WELL: 38.32 Feet

DEPTH TO WATER: 29.19 Feet

HEIGHT OF WATER COLUMN: 9.13 Feet

WELL DIAMETER: 2.0 Inch

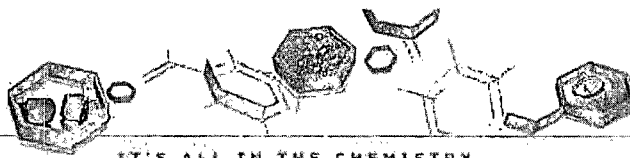
4.5 Minimum Gallons to
purge 3 well volumes
(Water Column Height x 0.49)

[illegible]

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

ANALYSES: BTEX, chlorides

COMMENTS:



01/17/09



Technical Report for

DCP Midstream, LLC

DEFS J-4-2

Accutest Job Number: T24886

Sampling Date: 12/03/08

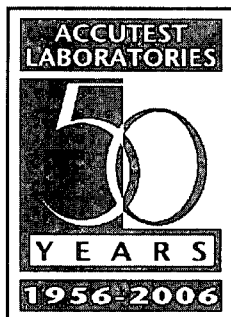
Report to:

American Environmental Consulting

mstewart@aecdenvr.com

ATTN: Mike Stewart

Total number of pages in report: 28



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

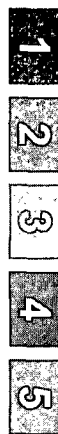
Client Service contact: William Reeves 713-271-4700

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

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

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Sample Summary

DCP Midstream, LLC

Job No: T24886

DEFS J-4-2

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
T24886-1	12/03/08	09:00 AEC	12/05/08	AQ	Ground Water	MW-3
T24886-2	12/03/08	08:45 AEC	12/05/08	AQ	Ground Water	MW-4
T24886-3	12/03/08	08:15 AEC	12/05/08	AQ	Ground Water	MW-6
T24886-3D	12/03/08	08:15 AEC	12/05/08	AQ	Water Dup/MSD	MW-6 MSD
T24886-3S	12/03/08	08:15 AEC	12/05/08	AQ	Water Matrix Spike	MW-6 MS
T24886-4	12/03/08	07:35 AEC	12/05/08	AQ	Ground Water	MW-7
T24886-5	12/03/08	07:20 AEC	12/05/08	AQ	Ground Water	MW-8
T24886-6	12/03/08	00:00 AEC	12/05/08	AQ	Ground Water	DUP



IT'S ALL IN THE CHEMISTRY



Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-3	Date Sampled:	12/03/08
Lab Sample ID:	T24886-1	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DEFS J-4-2		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0028946.D	1	12/08/08	JL	n/a	n/a	VY1977
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0020	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	100%		79-122%
17060-07-0	1,2-Dichloroethane-D4	112%		75-121%
2037-26-5	Toluene-D8	113%		87-119%
460-00-4	4-Bromofluorobenzene	105%		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

Page 1 of 1

Client Sample ID:	MW-3	Date Sampled:	12/03/08
Lab Sample ID:	T24886-1	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DEFS J-4-2		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	2550	100	mg/l	100	12/09/08 20:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: MW-4
 Lab Sample ID: T24886-2
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: DEFS J-4-2

Date Sampled: 12/03/08
 Date Received: 12/05/08
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0028947.D	1	12/08/08	JL	n/a	n/a	VY1977
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	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	106%		87-119%
460-00-4	4-Bromofluorobenzene	99%		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

Page 1 of 1

Client Sample ID:	MW-4	Date Sampled:	12/03/08
Lab Sample ID:	T24886-2	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DEFS J-4-2		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	70.0	2.0	mg/l	2	12/09/08 20:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID: MW-6
 Lab Sample ID: T24886-3
 Matrix: AQ - Ground Water
 Method: SW846 8260B
 Project: DEFS J-4-2

Date Sampled: 12/03/08
 Date Received: 12/05/08
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0028948.D	1	12/08/08	JL	n/a	n/a	VY1977
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0020	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%		79-122%
17060-07-0	1,2-Dichloroethane-D4	107%		75-121%
2037-26-5	Toluene-D8	104%		87-119%
460-00-4	4-Bromofluorobenzene	101%		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

Page 1 of 1

Client Sample ID:	MW-6	Date Sampled:	12/03/08
Lab Sample ID:	T24886-3	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DEFS J-4-2		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	391	10	mg/l	10	12/09/08 20:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	MW-7	Date Sampled:	12/03/08
Lab Sample ID:	T24886-4	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DEFS J-4-2		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0028949.D	1	12/08/08	JL	n/a	n/a	VY1977
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	101%		79-122%
17060-07-0	1,2-Dichloroethane-D4	112%		75-121%
2037-26-5	Toluene-D8	111%		87-119%
460-00-4	4-Bromofluorobenzene	109%		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

Page 1 of 1

Client Sample ID:	MW-7	Date Sampled:	12/03/08
Lab Sample ID:	T24886-4	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DEFS J-4-2		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	1050	50	mg/l	50	12/09/08 20:00	KD	SM 4500 CL C

RL = Reporting Limit



Report of Analysis

Page 1 of 1

Client Sample ID: MW-8

Lab Sample ID: T24886-5

Date Sampled: 12/03/08

Matrix: AQ - Ground Water

Date Received: 12/05/08

Method: SW846 8260B

Percent Solids: n/a

Project: DEFS J-4-2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0028950.D	1	12/08/08	JL	n/a	n/a	VY1977
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	0.0020	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	97%		79-122%
17060-07-0	1,2-Dichloroethane-D4	109%		75-121%
2037-26-5	Toluene-D8	106%		87-119%
460-00-4	4-Bromofluorobenzene	104%		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

Page 1 of 1

Client Sample ID: MW-8	Date Sampled: 12/03/08
Lab Sample ID: T24886-5	Date Received: 12/05/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: DEFS J-4-2	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	480	10	mg/l	10	12/09/08 20:00	KD	SM 4500 CL C

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	DUP	Date Sampled:	12/03/08
Lab Sample ID:	T24886-6	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	DEFS J-4-2		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y0028951.D	1	12/08/08	JL	n/a	n/a	VY1977
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	96%		79-122%
17060-07-0	1,2-Dichloroethane-D4	106%		75-121%
2037-26-5	Toluene-D8	106%		87-119%
460-00-4	4-Bromofluorobenzene	107%		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

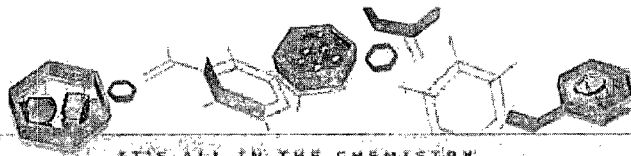
Page 1 of 1

Client Sample ID:	DUP	Date Sampled:	12/03/08
Lab Sample ID:	T24886-6	Date Received:	12/05/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	DEFS J-4-2		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chloride	2700	100	mg/l	100	12/09/08 20:00	KD	SM 4500 CL C

RL = Reporting Limit



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

Accutest Laboratories Gulf Coast
10165 Harwin Drive, Suite 150 Houston, TX 77036
713-271-4700 Fax: 713-271-4770

Accutest Job #: _____
Accutest Quote #: **T24886**

Client Information				Facility Information				Analytical Information																							
DCP Midstream				American Environmental Consulting, LP																											
Name 370 Seventeenth Street, Suite 2500				Project Name DCP J-4-2																											
Address Denver CO 80202				Location																											
City State Zip				Project/PO #: DCP Midstream J42																											
Send Report to: Phone #: 303.605.1718				FAX #:																											
Field ID / Point of Collection		Collection			Matrix	# of bottles	Preservation						BTEX 8260B	Chlorides	MS/MSD FOR BTEX 8260B																
		Date	Time	Sampled By			ICL	NOH	NO3	NO3A	None																				
MW-1					GW	3	X							X	X																
MW-2					GW	3	X							X	X																
MW-3		12/3/08	900	AEC	GW	3	X							X	X																
MW-4		12/3/08	845	AEC	GW	3	X							X	X																
MW-6		12/3/08	815	AEC	GW	3	X							X	X																
MW-7		12/3/08	735	AEC	GW	3	X							X	X																
MW-8		12/3/08	720	AEC	GW	3	X							X	X																
Dup		12/3/08	000	AEC	GW	3	X							X	X																
Trip Blank		12/3/08	000	Lab	GW	3	X							X																	
MW- MS/MSD MW-6		12/3/08	815	AEC	GW	6	X									X															
Turnaround Information				Data Deliverable Information				Comments / Remarks																							
☐ 21 Day Standard ☐ 14 Day ☒ 7 Days EMERGENCY ☐ Other _____ (Days) RUSH TAT is for F&D data unless previously approved.				Approved By: _____ ☐ NJ Reduced ☐ NJ Full ☐ FULL CLP ☐ Disk Deliverable ☐ Other (Specify) _____				☐ Commercial "A" ☒ Commercial "B" ☐ ASP Category B ☐ State Forms				Please send electronic (PDF) copy of results to Stephen Weathers at DCP (SwwWeathers@dcpmidstream.com)																			
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:		Relinquished By:		Date / Time:		Received By:		Relinquished By:		Date / Time:		Received By:			
1		12/4/08 406		1		2				2		3				4		4				5		5		5		5		5	
3				3		4				4		5				5		5				5		5		5		5		5	
5		12/5/08 945		5		5		5		5		5		5		5		5		5		5		5		5		5		5	

3.1
25

T24886: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T24886 Client: PCP midstream Project: DCP J-4-2
 Date/Time Received: 12.5.08 0945 # of Coolers Received: 1 Thermometer # 110
 Cooler Temps: #1: 14 #2: #3: #4: #5: #6: #7: #8:
 Method of Delivery: FIDEX UPS Accutest Courier Greyhound Delivery Other
 Airbill Numbers: 2403 23097085

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:

Did not receive trip blank but it is listed on the COC.

TECHNICIAN SIGNATURE/DATE: [Signature] 12-5-08

INFORMATION AND SAMPLE LABELING VERIFIED BY: [Signature]

CORRECTIVE ACTIONS

Client Representative Notified: Curt Date: 12-9-08

By Accutest Representative: Joey Nguyen Via: Phone Email

Client Instructions: Mike Stewart was not there. Spoke to Curt and let him know that we did not receive a (TB) for this job. Mike Stewart will call us if have any question. Proceed w/analysis's. - Mike Stewart called 12-9-08 ok to proceed w/analysis's... 1450

١٠

DATE/TIME RECEIVED: 12.5.08 745

INITIALS: 17

[illegible]

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

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

Page 1 of 1

Job Number: T24886
Account: DUKE DCP Midstream, LLC
Project: DEFS J-4-2

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY1977-MB	Y0028944.D	1	12/08/08	JL	n/a	n/a	VY1977

The QC reported here applies to the following samples:

Method: SW846 8260B

T24886-1, T24886-2, T24886-3, T24886-4, T24886-5, T24886-6

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	92% 79-122%
17060-07-0	1,2-Dichloroethane-D4	102% 75-121%
2037-26-5	Toluene-D8	102% 87-119%
460-00-4	4-Bromofluorobenzene	97% 80-133%

Blank Spike Summary

Page 1 of 1

Job Number: T24886
Account: DUKE DCP Midstream, LLC
Project: DEFS J-4-2

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY1977-BS	Y0028960.D	1	12/09/08	JL	n/a	n/a	VY1977

The QC reported here applies to the following samples:

Method: SW846 8260B

T24886-1, T24886-2, T24886-3, T24886-4, T24886-5, T24886-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	24.1	96	76-118
100-41-4	Ethylbenzene	25	23.7	95	75-112
108-88-3	Toluene	25	25.5	102	77-114
1330-20-7	Xylene (total)	75	70.9	95	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	79-122%
17060-07-0	1,2-Dichloroethane-D4	114%	75-121%
2037-26-5	Toluene-D8	114%	87-119%
460-00-4	4-Bromofluorobenzene	105%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T24886
Account: DUKE DCP Midstream, LLC
Project: DEFS J-4-2

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T24886-3MS	Y0028961.D	1	12/09/08	JL	n/a	n/a	VY1977
T24886-3MSD	Y0028962.D	1	12/09/08	JL	n/a	n/a	VY1977
T24886-3	Y0028948.D	1	12/08/08	JL	n/a	n/a	VY1977

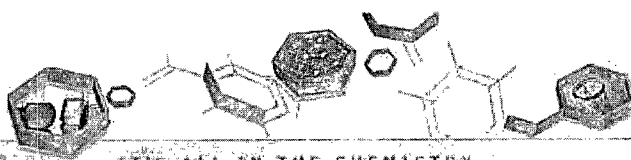
The QC reported here applies to the following samples:

Method: SW846 8260B

T24886-1, T24886-2, T24886-3, T24886-4, T24886-5, T24886-6

CAS No.	Compound	T24886-3 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	25	24.7	99	24.5	98	1	76-118/16	
100-41-4	Ethylbenzene	ND	25	24.3	97	24.2	97	0	75-112/12	
108-88-3	Toluene	ND	25	26.0	104	24.5	98	6	77-114/12	
1330-20-7	Xylene (total)	ND	75	72.9	97	71.0	95	3	75-111/12	

CAS No.	Surrogate Recoveries	MS	MSD	T24886-3	Limits
1868-53-7	Dibromofluoromethane	96%	96%	95%	79-122%
17060-07-0	1,2-Dichloroethane-D4	112%	115%	107%	75-121%
2037-26-5	Toluene-D8	115%	105%	104%	87-119%
460-00-4	4-Bromofluorobenzene	109%	113%	101%	80-133%



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: T24886
Account: DUKE - DCP Midstream, LLC
Project: DEFS J-4-2

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chloride	GP5919/GN15638	1.0	<1.0	mg/l	1000	1000	100.0	92-107%

Associated Samples:

Batch GP5919: T24886-1, T24886-2, T24886-3, T24886-4, T24886-5, T24886-6

(*) Outside of QC limits

5.1



DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T24886
Account: DUKE - DCP Midstream, LLC
Project: DEFS J-4-2

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chloride	GP5919/GN15638	T24886-3	mg/l	391	415	6.0* (a)	0-5%

Associated Samples:

Batch GP5919: T24886-1, T24886-2, T24886-3, T24886-4, T24886-5, T24886-6

(*) Outside of QC limits

(a) RPD outside laboratory criteria; however, within method criteria.

5.2



MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T24886
Account: DUKE - DCP Midstream, LLC
Project: DEFS J-4-2

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP5919/GN15638	T24886-3	mg/l	391	400	825	109.0	81-119%

Associated Samples:

Batch GP5919: T24886-1, T24886-2, T24886-3, T24886-4, T24886-5, T24886-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

5.3

