

# **GW-175**

## **4<sup>th</sup> QTR GW Mon. Results**

**DATE:**

**March 17, 2010**



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

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March 17, 2010

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

**RE: 4th Quarter 2009 Groundwater Monitoring Results  
DCP Hobbs Gas Plant (GW-175)  
Unit G, Section 36, Township 18 South, Range 36 East  
Lea County, New Mexico**

Dear Mr. Lowe:

DCP Midstream, LP (DCP) is pleased to submit for your review, one copy of the 4th Quarter 2009 Groundwater Monitoring Results for the DCP Hobbs Gas Plant located in Lea County, New Mexico (Unit G, Section 36, Township 18 South, Range 36 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**

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

Stephen Weathers, P.G.  
Principal Environmental Specialist

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



## **FOURTH QUARTER GROUNDWATER MONITORING REPORT**

**HOBBS GAS PLANT**

**LATITUDE: N 32.70533° LONGITUDE: W 103.3066°**

**LEA COUNTY, NEW MEXICO**

**Prepared For:**

**Mr. Steve Weathers**

**DCP Midstream, LP**

**370 17<sup>th</sup> Street, Suite 2500**

**Denver, Colorado 80202**

**Siobhan Fackelman**

**Senior Staff Geologist**

**John Riggi, P.G.**

**Senior Project Geologist**

**MARCH 2010**

**REF. NO. 059097(2)**

**This report is printed on recycled paper.**

**Prepared by:  
Conestoga-Rovers  
& Associates**

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**CONESTOGA-ROVERS  
& ASSOCIATES**

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**CONESTOGA-ROVERS  
& ASSOCIATES**

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## **1.0     INTRODUCTION**

Conestoga-Rovers & Associates (CRA) is submitting this *Fourth Quarter 2009 Groundwater Monitoring Report* to DCP Midstream, LP (DCP) for the Hobbs Gas Plant. This report summarizes the November 16 and 17, 2009 groundwater sampling event. Groundwater monitoring and sampling details, analytical results and conclusions are presented below.

**Site Background:** The site is a cryogenic processing plant located in Lea County, New Mexico approximately nine miles west of Hobbs, New Mexico (Figure 1). The site occupies approximately 3.5 acres in an undeveloped area. Facilities include a laboratory, an amine unit, compressors, sumps, mol sieve dehydration, tank batteries and an onsite water production well used for non-potable water. The Apex Compressor Station is located approximately 750 feet (ft) north of the Hobbs Gas Plant. There are six groundwater monitoring wells onsite.

**Hydrogeology:** Historical static groundwater depths have ranged between 60.18 (MW-A) to 62.44 ft below ground surface (bgs)(MW-F). Static groundwater depths ranged from 60.40 (MW-A) to 62.13 ft bgs (MW-F) on November 16, 2009. Groundwater flow was to the southeast with a gradient of 0.0054 (Figure 2).

## **2.0     GROUNDWATER MONITORING AND SAMPLING**

CRA gauged groundwater monitoring wells MW-A through MW-F on November 16, 2009 and collected samples from MW-A through MW-F on November 17, 2009. Each well cap was removed to allow groundwater levels to stabilize and equilibrate prior to gauging. All sampled groundwater monitoring wells were purged of approximately three well-casing volumes then temperature, pH, and conductivity were measured. Groundwater samples, including a duplicate sample, were collected using clean disposable bailers and decanted into clean containers supplied by the analytical laboratory. Groundwater samples were submitted under chain-of-custody to Accutest Laboratories of Texas. CRA well sampling forms are presented as Appendix A. CRA's standard operating procedures for groundwater monitoring and sampling are presented as Appendix B. Groundwater gauging results are summarized in Table 1. Groundwater field parameters are summarized in Table 2.



**Purged Groundwater:** Purged groundwater from all site monitoring wells was stored in a secure onsite location in sealed U.S. Department of Transportation 55-gallon drums. The drums were labeled with contents, date of generation, generator identification and consultant contact information. Purged groundwater will be disposed at the DCP Linam Ranch facility.

### 3.0 ANALYTICAL RESULTS

**Groundwater Analytical Methods:** Groundwater samples collected from MW-A through MW-F were analyzed for the following:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by Environmental Protection Agency (EPA) Method 8260.

**Cleanup Levels:** The New Mexico Oil Conservation District (NMOCD) guidelines require groundwater to be analyzed for potential constituents of concern (COC) as defined by the New Mexico Water Quality Control Commission (NMWQCC) regulations. The COC in site groundwater is benzene. NMWQCC human health standards for groundwater (*Title 20, Chapter 6, Part 2, Subsection A*) are:

Analyte	NMWQCC Standard for Groundwater micrograms per liter ( $\mu\text{g/l}$ )
Benzene	10
Toluene	1,000
Ethylbenzene	700
Total xylenes	10,000

**Groundwater Sampling Results:** No BTEX was detected above NMWQCC standards in groundwater samples collected from wells MW-A, MW-D, MW-E, and MW-F. The maximum benzene concentration detected was 199 micrograms per liter ( $\mu\text{g/l}$ )(MW-B). Groundwater analytical results are summarized in Table 3. The laboratory analytical report is presented as Appendix C.



**CONESTOGA-ROVERS  
& ASSOCIATES**

#### 4.0 CONCLUSIONS

Benzene has been historically detected above cleanup levels in groundwater samples collected from monitoring wells MW-B and MW-C. No petroleum hydrocarbons have been detected in quarterly groundwater samples collected from wells MW-A, MW-D, MW-E and MW-F since June 2008. DCP will continue quarterly monitoring and sampling during 2010 to evaluate site groundwater conditions.

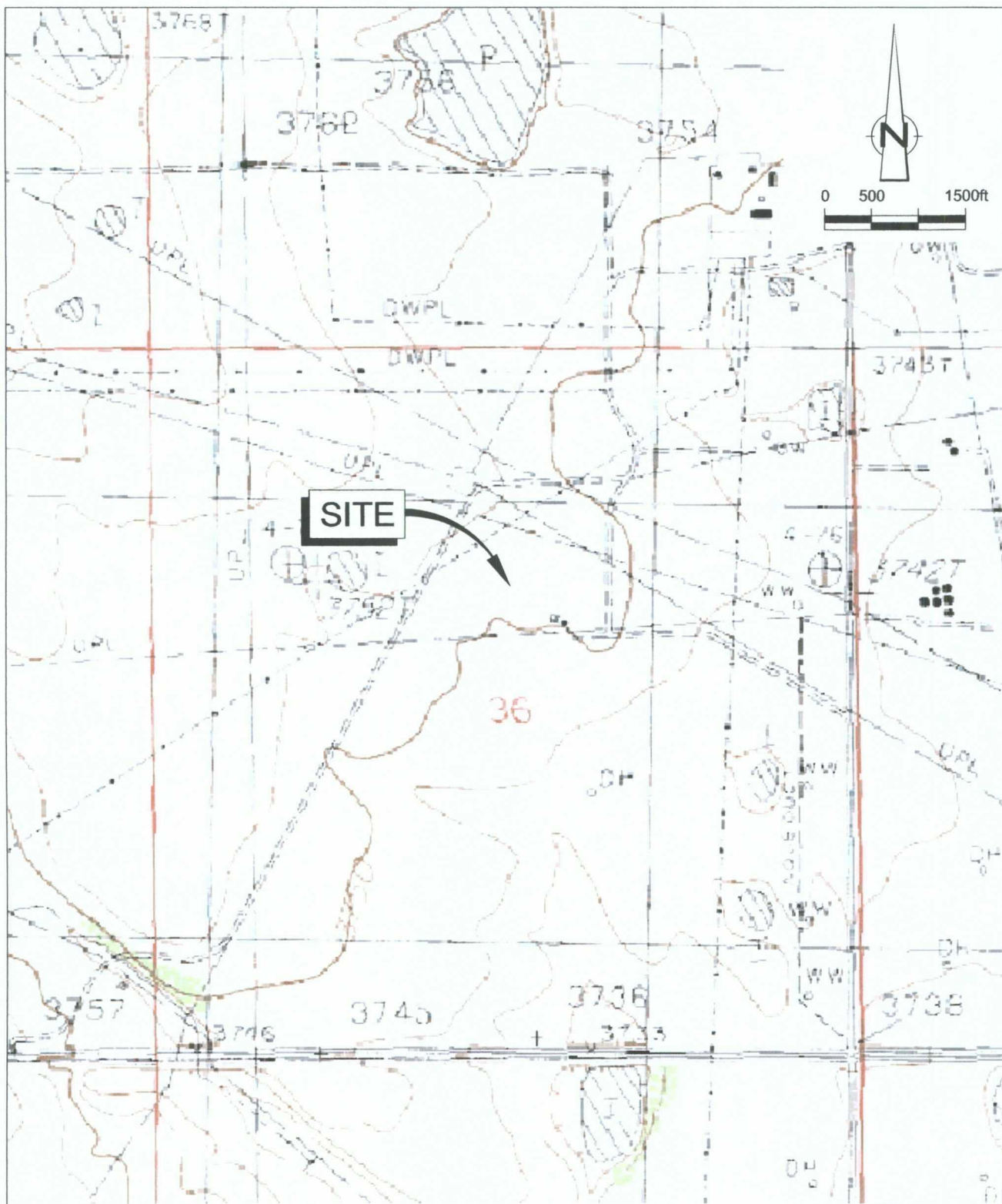


FIGURES

FIGURE 1: VICINITY MAP

FIGURE 2: GROUNDWATER ELEVATION CONTOUR MAP

FIGURE 3: GROUNDWATER BTEX ANALYTICAL RESULTS



QUAD: USGS MONUMENT NORTH



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**Figure 1**  
**VICINITY MAP**  
**HOBBS GAS PLANT**  
**LEA COUNTY, NEW MEXICO**  
*DCP Midstream*







TABLES

TABLE 1: GROUNDWATER GAUGING

TABLE 2: GROUNDWATER FIELD PARAMETERS

TABLE 3: GROUNDWATER ANALYTICAL RESULTS

TABLE I  
GROUNDWATER GAUGING SUMMARY  
DCP MIDSTREAM, LP  
HOBBS GAS PLANT  
LEA COUNTY, NEW MEXICO

1 of 1

Well ID TOC	Collection	Depth to Groundwater	Depth to LNAPL	LNAPL Thickness	Corrected Groundwater Elevation	Well Depth	Well Screen Interval
Elevation	Date	(ft TOC)	(ft TOC)	(ft)	(ft above MSL)	(ft TOC)	(ft bgs)
MW-A 3755.87	3/3/2008	60.18	---	---	3695.69	71.01	
	6/2/2008	60.19	---	---	3695.68	71.01	
	9/15/2008	60.58	---	---	3695.29	71.01	
	12/3/2008	60.41	---	---	3695.46	71.01	
	2/27/2009	60.18	---	---	3695.69	71.01	
	6/25/2009	60.21	---	---	3695.66	71.01	
	9/1/2009	60.37	---	---	3695.50	71.01	
	11/16/2009	60.40	---	---	3695.47	70.36	
MW-B 3755.94	3/3/2008	61.66	---	---	3694.28	70.96	
	6/2/2008	61.69	---	---	3694.25	70.96	
	9/15/2008	62.04	---	---	3693.90	70.96	
	12/3/2008	61.93	---	---	3694.01	70.96	
	2/27/2009	61.68	---	---	3694.26	70.96	
	6/25/2009	61.63	---	---	3694.31	70.96	
	9/1/2009	61.81	---	---	3694.13	70.96	
	11/16/2009	61.85	---	---	3694.09	70.90	
MW-C 3755.59	3/3/2008	61.18	---	---	3694.41	75.02	
	6/2/2008	61.22	---	---	3694.37	75.02	
	9/15/2008	61.54	---	---	3694.05	75.02	
	12/3/2008	61.48	---	---	3694.11	75.02	
	2/27/2009	61.15	---	---	3694.44	75.02	
	6/25/2009	61.16	---	---	3694.43	75.02	
	9/1/2009	61.35	---	---	3694.24	75.02	
	11/16/2009	61.37	---	---	3694.22	73.58	
MW-D 3755.43	3/3/2008	60.77	---	---	3694.66	70.02	
	6/2/2008	60.77	---	---	3694.66	70.02	
	9/15/2008	61.10	---	---	3694.33	70.02	
	12/3/2008	61.08	---	---	3694.35	70.02	
	2/27/2009	60.79	---	---	3694.64	70.02	
	6/25/2009	60.77	---	---	3694.66	70.02	
	9/1/2009	60.96	---	---	3694.47	70.02	
	11/16/2009	60.96	---	---	3694.47	69.50	
MW-E 3754.36	3/3/2008	60.75	---	---	3693.61	71.55	
	6/2/2008	60.78	---	---	3693.58	71.55	
	9/15/2008	61.21	---	---	3693.15	71.55	
	12/3/2008	61.13	---	---	3693.23	71.55	
	2/27/2009	60.81	---	---	3693.55	71.55	
	6/25/2009	60.74	---	---	3693.62	71.55	
	9/1/2009	60.93	---	---	3693.43	71.55	
	11/16/2009	60.94	---	---	3693.42	71.44	
MW-F 3756.13	3/3/2008	62.01	---	---	3694.12	74.65	
	6/2/2008	62.06	---	---	3694.07	74.65	
	9/15/2008	62.44	---	---	3693.69	74.65	
	12/3/2008	62.22	---	---	3693.91	74.65	
	2/27/2009	61.97	---	---	3694.16	74.65	
	6/25/2009	61.96	---	---	3694.17	74.65	
	9/1/2009	62.18	---	---	3693.95	74.65	
	11/16/2009	62.13	---	---	3694.00	73.63	

**Notes:**

1. ID - Identification
2. TOC - Top of Casing
3. LNAPL - Light Non-Aqueous Phase Liquid
4. ft TOC - feet below Top of Casing
5. ft - feet
6. MSL - Mean Sea Level
7. bgs - Below ground surface.

TABLE II  
GROUNDWATER FIELD PARAMETERS SUMMARY  
DCP MIDSTREAM, LP  
HOBBS GAS PLANT  
LEA COUNTY, NEW MEXICO

1 of 1

Well ID	Sample	pH (s.u.)	Conductivity (uS/cm)	Temperature (°C)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)
MW-A	3/5/2008	7.20	0.431	17.46	11.42	21.3
	6/2/2008	7.31	0.573	20.57	5.49	31.1
	9/15/2008	6.81	0.533	19.27	4.96	238.7
	12/3/2008	7.37	0.505	18.20	7.17	183.9
	2/27/2009	7.29	0.505	19.34	8.15	64.1
	6/25/2009	6.90	0.660	19.80	8.20	145.0
	9/1/2009	7.07	0.670	19.86	8.11	69.0
	11/17/2009	7.82	0.576	17.67	NA	NA
MW-B	3/5/2008	6.67	0.836	16.99	2.49	-214.1
	6/2/2008	7.08	0.868	19.99	1.09	-150.1
	9/15/2008	6.60	0.902	19.63	0.56	-151.6
	12/3/2008	6.93	0.889	18.39	1.57	-161.4
	2/27/2009	6.87	0.921	18.83	0.96	-115.7
	6/25/2009	6.60	0.130	19.80	2.50	-131.0
	9/1/2009	6.60	0.130	20.36	1.92	-206.0
	11/17/2009	6.99	0.822	17.50	NA	NA
MW-C	3/5/2008	6.91	0.535	17.46	6.50	-104.1
	6/2/2008	6.90	0.781	20.00	2.64	-121.2
	9/15/2008	6.51	0.679	18.99	1.97	160.3
	12/3/2008	6.88	0.621	18.24	2.31	-17.8
	2/27/2009	6.90	0.614	18.56	1.96	-8.7
	6/25/2009	6.60	0.760	19.60	4.42	54.0
	9/1/2009	6.78	0.990	19.27	2.66	40.0
	11/17/09	7.26	0.631	17.17	NA	NA
MW-D	3/5/2008	6.85	0.507	17.23	9.66	22.5
	6/2/2008	7.13	0.668	19.99	5.39	29.2
	9/15/2008	6.64	0.646	19.42	3.65	233.1
	12/3/2008	7.09	0.587	17.95	5.46	175.5
	2/27/2009	7.01	0.589	19.59	7.22	77.1
	6/25/2009	6.70	0.820	20.10	6.38	177.0
	9/1/2009	6.81	0.860	19.90	6.11	118.0
	11/17/2009	7.67	0.658	16.67	NA	NA
MW-E	3/5/2008	6.89	0.487	17.29	8.99	38.4
	6/2/2008	7.07	0.633	19.91	3.72	9.4
	9/15/2008	6.74	0.601	19.27	4.02	228.3
	12/3/2008	7.03	0.592	18.58	5.25	186.2
	2/27/2009	7.01	0.590	19.10	6.29	91.2
	6/25/2009	6.80	0.270	20.10	5.19	60.0
	9/1/2009	6.84	0.780	20.94	5.95	16.0
	11/17/2009	7.32	0.610	17.06	NA	NA
MW-F	3/5/2008	6.76	0.657	17.01	9.71	3.6
	6/2/2008	6.76	0.879	19.00	3.08	21.4
	9/15/2008	6.43	0.876	19.17	2.52	234.3
	12/3/2008	6.76	0.917	17.79	3.79	188.4
	2/27/2009	6.77	0.857	18.61	3.85	93.4
	6/25/2009	6.20	0.100	19.80	5.56	221.0
	9/1/2009	6.51	0.110	19.25	5.27	108.0
	11/17/2009	6.93	1.030	18.67	NA	NA

**Notes:**

1. ID - Identification
2. s.u. = Standard unit
3. uS/cm = microSiemens per centimeter
4. °C = Degree Celsius
5. mg/l = Milligrams per liter
6. mV = Millivolts
7. NA= Not Available

TABLE III  
GROUNDWATER ANALYTICAL SUMMARY  
DCP MIDSTREAM, LP  
HOBBS GAS PLANT  
LEA COUNTY, NEW MEXICO

Well ID	Date	Benzene ug/l	Toluene ug/l	Ethyl- Benzene ug/l	Total Xylenes ug/l
NMOCD Standard		10	750	750	620
MW-A	3/5/2008	11	<5.0	3.8	15.0
	6/2/2008	< 0.46	< 0.48	< 0.45	< 1.4
	9/15/2008	< 0.46	< 0.48	< 0.45	< 1.4
	12/3/2008	< 0.46	< 0.48	< 0.45	< 1.4
	2/27/2009	< 0.46	< 0.48	< 0.45	< 1.4
	6/25/2009	< 2.0	< 2.0	< 2.0	< 6.0
	9/1/2009	< 2.0	< 2.0	< 2.0	< 6.0
	11/17/2009	< 2.0	< 2.0	< 2.0	< 6.0
MW-B	3/5/2008	550	64	130	730
	6/2/2008	444	86.5	155	716
	9/15/2008	398	36.6	157	947
	9/15/2008	488	46.0	200	1,210
	12/3/2008	25.6	0.56 J	7.1	29.2
	2/27/2009	592	86.3	176	1,230
	6/25/2009	1,490	270	411	2,750
	9/1/2009	1,420	195	380	2,930
MW-C DUP  DUP  DUP DUP DUP DUP DUP DUP DUP DUP	3/5/2008	61	5.3	19.0	78.0
	3/5/2008	160	< 25	160	140
	6/2/2008	75.4	4.9	26.3	121
	6/2/2008	103	8.1	36.9	170
	9/15/2008	130	5.7	47.3	222
	12/3/2008	39.0	< 0.48	10.5	33.3
	12/3/2008	50.6	< 0.48	13.6	44.5
	2/27/2009	69.9	0.78 J	20.1	86.8
	2/27/2009	36.6	< 0.48	10.0	43.3
	6/25/2009	54.3	0.72 J	11.9	53.0
	6/25/2009	64.2	0.87 J	19.0	82.4
	9/1/2009	82.8	1.3 J	23.1	132
	9/1/2009	71.5	1.0 J	19.8	110
	11/17/2009	30	< 2.0	9.3	53
	11/17/2009	25.7	< 2.0	7.7	44.3
MW-D	3/5/2008	< 1.0	< 5.0	< 1.0	< 3.0
	6/2/2008	< 0.46	< 0.48	< 0.45	< 1.4
	9/15/2008	< 0.46	< 0.48	< 0.45	< 1.4
	12/3/2008	< 0.46	< 0.48	< 0.45	< 1.4
	2/27/2009	< 0.46	< 0.48	< 0.45	< 1.4
	6/25/2009	< 2.0	< 2.0	< 2.0	< 6.0
	9/1/2009	< 2.0	< 2.0	< 2.0	< 6.0
	11/17/2009	< 2.0	< 2.0	< 2.0	< 6.0



TABLE III  
GROUNDWATER ANALYTICAL SUMMARY  
DCP MIDSTREAM, LP  
HOBBS GAS PLANT  
LEA COUNTY, NEW MEXICO

Well ID	Date	Benzene ug/l	Toluene ug/l	Ethyl- Benzene ug/l	Total Xylenes ug/l
NMOCD Standard		10	750	750	620
MW-E	3/5/2008	14	< 5.0	3.9	14
	6/2/2008	< 0.46	< 0.48	< 0.45	< 1.4
	9/15/2008	< 0.46	< 0.48	< 0.45	< 1.4
	12/3/2008	< 0.46	< 0.48	< 0.45	< 1.4
	2/27/2009	< 0.46	< 0.48	< 0.45	< 1.4
	6/25/2009	< 2.0	< 2.0	< 2.0	< 6.0
	9/1/2009	< 2.0	< 2.0	< 2.0	< 6.0
	11/17/2009	< 2.0	< 2.0	< 2.0	< 6.0
MW-F	3/5/2008	1.9	< 5.0	< 1.0	3.8
	6/2/2008	< 0.46	< 0.48	< 0.45	< 1.4
	9/15/2008	< 0.46	< 0.48	< 0.45	< 1.4
	12/3/2008	< 0.46	< 0.48	< 0.45	< 1.4
	2/27/2009	< 0.46	< 0.48	< 0.45	< 1.4
	6/25/2009	< 2.0	< 2.0	< 2.0	< 6.0
	9/1/2009	< 2.0	< 2.0	< 2.0	< 6.0
	11/17/2009	< 2.0	< 2.0	< 2.0	< 6.0

**Notes:**

1. ID - Identification
2. All results are shown in micrograms per liter (ug/l).
3. NMOCD - New Mexico Oil Conservation Standard
4. < x - Constituent not detected above x micrograms per liter
5. J - estimated value
6. DUP: duplicate

APPENDIX A  
WELL SAMPLING FORMS

**DCP Hobbs Gas Plant**  
**November 2009 WELL GAUGING ORDER**

	<i>Well</i>	<i>Field</i>					Well Screen Interval from TOC (feet)
		Gauge	DTP	DTW	LNAPL Thickness	TD	
1	MW-D	X	—	60.96	—	69.50	
2	MW-F	X	—	62.13	—	73.63	
3	MW-A	X	—	60.40	—	70.36	
4	MW-E	X	—	60.94	—	71.44	
5	MW-C	X	—	61.37	—	73.58	
6	MW-B	X	—	61.85	—	70.90	

**DCP Hobbs Gas Plant**  
**November 2009 Sampling Table Order**

	<i>Accutest Laboratories (Houston, Texas)</i>				
	Well	Well Screen from TOC	BTEX 8260	Sample Date	Sample Time
1	MW-D		X	11-17-09	940
2	MW-F		X	11-17-09	1010
3	MW-A		X	11-17-09	1030
4	MW-E		X	11-17-09	1050
5	MW-C		X	11-17-09	1120
6	MW-B		X	11-17-09	1135
	Duplicate 1 = MWC	---	X	11-17-09	
	Trip	---	X		
	Temp	---			

Sept

BTEX8260 (6) HCL preserved VOAs



**Project Data:**

Project Name: DCP Hobbs Gas Plant  
Ref. No.: 59097-02

Date: 11-17-09  
Personnel: Jm JL  
Sample Yr: 1010

### Monitoring Well Data:

Well No.: **MW-F**

Measurement Point: C95.1m

Constructed Well Depth (ft): \_\_\_\_\_

Measured Well Depth (ft): \_\_\_\_\_

Screen Interval (ft TOC) \_\_\_\_\_

Screen Length (ft):	
Depth to Pump Intake (ft) <sup>u</sup> :	
Well Diameter, D (in):	2
Well Screen Volume, $V_s$ (mL) <sup>2</sup> :	
Initial Depth to Water (ft):	62.13

[illegible]

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi \cdot (D/2)^2 \cdot (5' \cdot 12") \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$ .







**Project Data:**

Project Name: DCP Hobbs Gas Plant

Ref. No.: 59097-02

Date: 11-17-09

Personnel: 11

Sample Time: 11:20

### Monitoring Well Data:

Well No.: MW-C = Dup

**Measurement Point:**

Constructed Well Depth (ft):

Measured Well Depth (ft):

Screen Interval (ft TOC)

Screen Length (ft):

Depth to Pump Intake (ft)<sup>(3)</sup>:

Well Diameter, D (in):

Well Screen Volume,  $V_s$  (mL)<sup>(2)</sup>:

Initial Depth to Water (ft):

Dup Taken Here

## Drawdown

## Pumping

Depth to

*from Initial*

Water Level (s)

erni

## Temperature

### Conductivity

ORP

DO

**Turbidity**

arged,  $V_p$  Screen Volumes

Purged<sup>(4)</sup>

[illegible]

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = P^4(D/2)^2(5 \times 12)(2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$ .

**Project Data:**

Project Name: DCP Hobbs Gas Plant  
Ref. No.: 59097-02

Date: 11-17-09  
Personnel: J L J  
Sample Time 1135

### Monitoring Well Data:

Well No.: MW-B

Measurement Point: mp 0 C

Constructed Well Depth (ft):

Measured Well Depth (ft):

Screen Interval (# TOC)

Screen Length (ft):

Depth to Pump Intake (ft)<sup>(1)</sup>:

Well Diameter, D (in):

Well Screen Volume,  $V_w$  (mL)<sup>(2)</sup>:

Initial Depth to Water (ft):

## Drawdown

### Pumping Depth to

*from Initial*

Temperatur

Conductivity

ORP

DO

**Turbidity**

Volume Purged, $V_p$ (mL)	No. of Well Screen Volumes Purged <sup>(4)</sup>
---------------------------------	--

No. of Well  
Green Volumes  
Purged<sup>(4)</sup>

[illegible]

**Notes:**

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length,  $V_s = \pi(D/2)^2(5 \times 12)(2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing). No. of Well Screen Volumes Purged =  $V_p/V_s$ .

APPENDIX B

STANDARD OPERATING PROCEDURES FOR GROUNDWATER  
MONITORING AND SAMPLING



**CONESTOGA-ROVERS  
& ASSOCIATES**

## **STANDARD FIELD PROCEDURES FOR GROUNDWATER MONITORING AND SAMPLING**

This document presents standard field methods for groundwater monitoring, purging and sampling, and well development. These procedures are designed to comply with Federal, State and local regulatory guidelines. Conestoga-Rovers & Associates' specific field procedures are summarized below.

### **Groundwater Monitoring**

Prior to performing monitoring activities, the historical monitoring and analytical data of each monitoring well shall be reviewed to determine if any of the wells are likely to contain separate phase hydrocarbons (SPH) and to determine the order in which the wells will be monitored (i.e. cleanest to dirtiest). Groundwater monitoring should not be performed when the potential exists for surface water to enter the well (i.e. flooding during a rainstorm).

Prior to monitoring, each well shall be opened and the well cap removed to allow water levels to stabilize and equilibrate. The condition of the well box and well cap shall be observed and recommended repairs noted. Any surface water that may have entered and flooded the well box should be evacuated prior to removing the well cap. In wells with no history of SPH, the static water level and total well depth shall be measured to the nearest 0.01 foot with an electronic water level meter. Wells with the highest contaminant concentrations shall be monitored last. In wells with a history of SPH, the SPH level/thickness and static water level shall be measured to the nearest 0.01 foot using an electronic interface probe. The water level meter and/or interface probe shall be thoroughly cleaned and decontaminated at the beginning of the monitoring event and between each well. Monitoring equipment shall be washed using soapy water consisting of Liqui-nox™ or Alconox™ followed by one rinse of clean tap water and then two rinses of distilled water.

### **Groundwater Purging and Sampling**

Prior to groundwater purging and sampling, the historical analytical data of each monitoring well shall be reviewed to determine the order in which the wells should be purged and sampled (i.e. cleanest to dirtiest). No purging or groundwater sampling shall be performed on wells with a measurable thickness of SPH or floating SPH globules. If a sheen is observed, the well should be purged and a groundwater sample collected only if no SPH is present. Wells shall be purged either by hand using a disposal or PVC bailer or by using an aboveground pump (e.g. peristaltic or Wattera™) or down-hole pump (e.g. Grundfos™ or DC Purger pump).

Groundwater wells shall be purged approximately three to ten well-casing volumes (depending on the regulatory agency requirements) or until groundwater parameters of temperature, pH, and conductivity have stabilized to within 10% for three consecutive readings. Temperature, pH, and conductivity shall be measured and recorded at the start of purging, once per well casing volume removed, and at the completion of purging. The total volume of groundwater removed shall be recorded along with any other notable physical characteristic such as color and odor. If required, field parameters such as turbidity, dissolved oxygen (DO), and oxidation-reduction potential (ORP) shall be measured prior to collection of each groundwater sample.

Groundwater samples shall be collected after the well has been purged and allowed to recharge to 80% of the pre-purging static water level, or if the well is slow to recharge, after waiting a minimum of 2 hours. Groundwater samples shall be collected using clean disposable bailers or



**CONESTOGA-ROVERS  
& ASSOCIATES**

pumps (if an operating remediation system exists on site and the project manager approves of its use for sampling) and shall be decanted into clean containers supplied by the analytical laboratory. New latex gloves and disposable tubing or bailers shall be used for sampling each well. If a PVC bailer or down-hole pump is used for groundwater purging, it shall be decontaminated before purging each well by using soapy water consisting of Liqui-nox™ or Alconox™ followed by one rinse of clean tap water and then two rinses of distilled water. If a submersible pump with non-dedicated discharge tubing is used for groundwater purging, both the inside and outside of pump and discharge tubing shall be decontaminated as described above.

### **Sample Handling**

Except for samples that will be tested in the field, or that require special handling or preservation, samples shall be stored in coolers chilled to 4° C for shipment to the analytical laboratory. Samples shall be labeled, placed in protective foam sleeves or bubble wrap as needed, stored on crushed ice at or below 4° C, and submitted under chain-of-custody (COC) to the laboratory. The laboratory shall be notified of the sample shipment schedule and arrival time. Samples shall be shipped to the laboratory within a time frame to allow for extraction and analysis to be performed within the standard sample holding times.

Sample labels shall be filled out using indelible ink and must contain the site name; field identification number; the date, time, and location of sample collection; notation of the type of sample; identification of preservatives used; remarks; and the signature of the sampler. Field identification must be sufficient to allow easy cross-reference with the field datasheet.

All samples submitted to the laboratory shall be accompanied by a COC record to ensure adequate documentation. One copy of the COC shall be kept in the QA/QC file and another copy shall be retained in the project file. Information on the COC shall consist of the project name and number; project location; sample numbers; sampler/recorder's signature; date and time of collection of each sample; sample type; analyses requested; name of person receiving the sample; and date of receipt of sample.

Laboratory-supplied trip blanks shall accompany the samples and be analyzed to check for cross-contamination, if requested by the project manager.

### **Well Development**

Wells shall be developed using a combination of groundwater surging and extraction. A surge block shall be used to swab the well and agitate the groundwater in order to dislodge any fine sediment from the sand pack. After approximately ten minutes of swabbing the well, groundwater shall be extracted from the well using a bailer, pump and/or reverse air-lifting through a pipe to remove the sediments from the well. Alternating surging and extraction shall continue until the sediment volume in the groundwater (i.e. turbidity) is negligible, which typically requires extraction of approximately ten well-casing volumes of groundwater. Preliminary well development usually is performed during well installation prior to placing the sanitary surface seal to ensure sand pack stabilization. Well development that is performed after surface seal installation, should occur 72 hours after seal installation to ensure that the cement has had adequate time to set.



**CONESTOGA-ROVERS  
& ASSOCIATES**

**Waste Handling and Disposal**

Groundwater extracted during development and sampling shall be stored onsite in sealed U.S. DOT H17 55-gallon drums. Each drum shall be labeled with the contents, date of generation, generator identification and consultant contact. If hydrocarbon concentrations in the purged groundwater are below ADEC cleanup levels or the site is in a remote area (pending ADEC approval) groundwater will be discharged to the ground surface, at least 100 feet from the nearest surface water body.

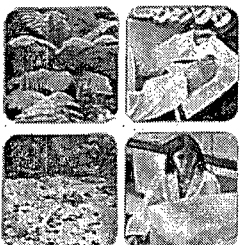
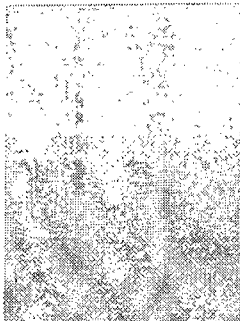
\\DEN-SI\Shared\Denver\Alaska\AK SOP\CRA Alaska SOP\AK Groundwater Monitoring and Sampling SOP - CRA.doc

APPENDIX C  
LABORATORY ANALYTICAL REPORT



IT'S ALL IN THE CHEMISTRY

12/01/09



## Technical Report for

DCP Midstream, LLC

CRA: Hobbs

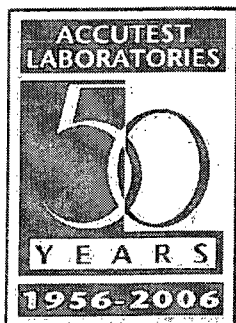
Accutest Job Number: T42893

Sampling Date: 11/17/09

Report to:

DCP Midstream, L.P.  
370 17th Street Suite 2500  
Denver, CO 80202  
SWWeathers@dcpmidstream.com; rbaca@craworld.com  
ATTN: Mr. Steve Weathers

Total number of pages in report: 26



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: Georgia Jones 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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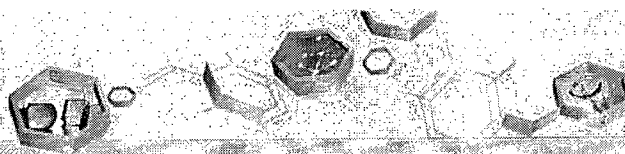
## Sample Summary

DCP Midstream, LLC

Job No: T42893

CRA: Hobbs

Sample Number	Collected		Matrix Received	Code	Type	Client Sample ID
	Date	Time By				
T42893-1	11/17/09	10:30 LM	11/21/09	AQ	Ground Water	MW-A
T42893-2	11/17/09	11:35 LM	11/21/09	AQ	Ground Water	MW-B
T42893-3	11/17/09	11:20 LM	11/21/09	AQ	Ground Water	MW-C
T42893-4	11/17/09	09:40 LM	11/21/09	AQ	Ground Water	MW-D
T42893-5	11/17/09	10:50 LM	11/21/09	AQ	Ground Water	MW-E
T42893-6	11/17/09	10:10 LM	11/21/09	AQ	Ground Water	MW-F
T42893-7	11/17/09	00:00 LM	11/21/09	AQ	Ground Water	DUPLICATE 1
T42893-8	11/17/09	00:00 LM	11/21/09	AQ	Trip Blank Water	TRIP BLANK



## Sample Results

## Report of Analysis

## Report of Analysis

Client Sample ID: MW-A  
 Lab Sample ID: T42893-1  
 Matrix: AQ - Ground Water  
 Method: SW846 8260B  
 Project: CRA: Hobbs

Date Sampled: 11/17/09  
 Date Received: 11/21/09  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053952.D	1	11/24/09	JL	n/a	n/a	VZ2675
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	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0017	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	103%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	91%		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

2.2  
2

Client Sample ID:	MW-B	Date Sampled:	11/17/09
Lab Sample ID:	T42893-2	Date Received:	11/21/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	CRA: Hobbs		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053996.D	1	11/25/09	JL	n/a	n/a	VZ2677
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	0.199	0.0020	0.00050	mg/l	
108-88-3	Toluene	0.0029	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	0.0685	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	0.159	0.0060	0.0017	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	82%		75-121%
2037-26-5	Toluene-D8	106%		87-119%
460-00-4	4-Bromofluorobenzene	100%		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

2.3  
2

Client Sample ID:	MW-C	Date Sampled:	11/17/09
Lab Sample ID:	T42893-3	Date Received:	11/21/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	CRA: Hobbs		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053954.D	1	11/24/09	JL	n/a	n/a	VZ2675
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	0:0300	0.0020	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	0:0093	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	0:0530	0.0060	0.0017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-122%
17060-07-0	1,2-Dichloroethane-D4	103%		75-121%
2037-26-5	Toluene-D8	94%		87-119%
460-00-4	4-Bromofluorobenzene	96%		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-D	Date Sampled:	11/17/09
Lab Sample ID:	T42893-4	Date Received:	11/21/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	CRA: Hobbs		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053955.D	1	11/24/09	JL	n/a	n/a	VZ2675
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	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0017	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	106%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	92%		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-E	Date Sampled:	11/17/09
Lab Sample ID:	T42893-5	Date Received:	11/21/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	CRA: Hobbs		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053956.D	1	11/24/09	JL	n/a	n/a	VZ2675
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	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		79-122%
17060-07-0	1,2-Dichloroethane-D4	107%		75-121%
2037-26-5	Toluene-D8	98%		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-F	Date Sampled:	11/17/09
Lab Sample ID:	T42893-6	Date Received:	11/21/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	CRA: Hobbs		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053957.D	1	11/25/09	JL	n/a	n/a	VZ2675
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	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0017	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		79-122%
17060-07-0	1,2-Dichloroethane-D4	105%		75-121%
2037-26-5	Toluene-D8	97%		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

Page 1 of 1

Client Sample ID: DUPLICATE 1

Lab Sample ID: T42893-7

Matrix: AQ - Ground Water

Method: SW846 8260B

Project: CRA: Hobbs

Date Sampled: 11/17/09

Date Received: 11/21/09

Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053964.D	1	11/25/09	JL	n/a	n/a	VZ2676
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	0.0257	0.0020	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	0.0077	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	0.0443	0.0060	0.0017	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	106%		75-121%
2037-26-5	Toluene-D8	100%		87-119%
460-00-4	4-Bromofluorobenzene	92%		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:	TRIP BLANK	Date Sampled:	11/17/09
Lab Sample ID:	T42893-8	Date Received:	11/21/09
Matrix:	AQ - Trip Blank Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	CRA: Hobbs		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z0053942.D	1	11/24/09	JL	n/a	n/a	VZ2675
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	0.00050	mg/l	
108-88-3	Toluene	ND	0.0020	0.00043	mg/l	
100-41-4	Ethylbenzene	ND	0.0020	0.00055	mg/l	
1330-20-7	Xylene (total)	ND	0.0060	0.0017	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	101%		75-121%
2037-26-5	Toluene-D8	97%		87-119%
460-00-4	4-Bromofluorobenzene	95%		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



## Misc. Forms

### Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



# CHAIN OF CUSTODY

Page 1 of 1

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job # <b>T42893</b>

Client / Reporting Information		Project Information		Requested Analyses		Matrix Codes	
Company Name <b>Conestoga Rovers and Associates</b>		Project Name / No. <b>DCP Midstream-Hobbs</b>				DW - Drinking Water	
Project Contact <b>Rustin Baca</b>		Bill to <b>DCP Midstream-Hobbs</b>				GW - Ground Water	
E-Mail <b>rbaca@croworld.com</b>		Invoice Attn. <b>Steve Weathers</b>				WW - Wastewater	
Address <b>2135 South Loop 250 W</b>		Address <b>DCP Project # 390861201</b>				SO - Soil	
City <b>Midland</b>		City <b>Texas</b>				SL - Sludge	
State <b>Texas</b>		State <b>79703</b>				OI - Oil	
Zip <b>79703</b>		Zip <b>79703</b>				LIQ - Liquid	
Phone No. <b>432 686-0086</b>		Phone No. <b>432 686-0086</b>				SOL - Other Solid	
Fax No. <b>432 686-0086</b>		Fax No. <b>432 686-0086</b>					
Samples Name <b>Joe Mireles</b>		Client Purchase Order # <b>059097</b>					
Sampler's Name <b>Joe Mireles</b>		Collection <b>DCP Project # 390861201</b>					
Accutest Sample #	Field ID / Point of Collection	Date	Time	Matrix	# of bottles	Number of preserved bottles	LAB USE ONLY
1	MW-A	11-17-09	1030	GW	3	3	
2	MW-B	11-17-09	1135	GW	3	3	
3	MW-C	11-17-09	1120	GW	3	3	
4	MW-D	11-17-09	0940	GW	3	3	
5	MW-E	11-17-09	1050	GW	3	3	
6	MW-F	11-17-09	1010	GW	3	3	
7	Duplicate 1	11-17-09	—	GW	3	3	
8	Trip Blank	—	—	GW	3	3	
				GW	3	3	
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks			
<input type="checkbox"/> 10 Day STANDARD		<input type="checkbox"/> Commercial "A"		Thanks for pre-filling everything			
<input type="checkbox"/> 7 Day		<input checked="" type="checkbox"/> Commercial "B"		cuts on errors in field, Major			
<input type="checkbox"/> 4 Day RUSH		<input type="checkbox"/> Reduced Tier 1		thanks again			
<input type="checkbox"/> 3 Day EMERGENCY		<input type="checkbox"/> Full Data Package					
<input type="checkbox"/> 2 Day EMERGENCY		Commercial "A" = Results Only					
<input type="checkbox"/> 1 Day EMERGENCY		Commercial "B" = Results & Standard QC					
<input checked="" type="checkbox"/> Other		1U calendar day					
Real time analytical data available via Lablink							
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:		
1 <b>Joe Mireles</b>	11-20-09 0930	1	2 <b>Fed Ex</b>	11/21/09	2		
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:		
3		3	4		4		
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.	
5		5				4.1	

T42893: Chain of Custody

Page 1 of 3

# SAMPLE INSPECTION FORM

Accutest Job Number: T42893 Client: CRA Date/Time Received: 11/21/05 1015

# of Coolers Received: 1 Thermometer #: 12-1 Temperature Adjustment Factor: +0.4

Cooler Temps: #1: 4.1 #2: \_\_\_\_\_ #3: \_\_\_\_\_ #4: \_\_\_\_\_ #5: \_\_\_\_\_ #6: \_\_\_\_\_ #7: \_\_\_\_\_ #8: \_\_\_\_\_

Method of Delivery: FEDEX UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: \_\_\_\_\_

## 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:

TECHNICIAN SIGNATURE/DATE: [Signature] 11/21/05

INFORMATION AND SAMPLE LABELING VERIFIED BY: \_\_\_\_\_

## CORRECTIVE ACTIONS

Client Representative Notified: \_\_\_\_\_

Date: \_\_\_\_\_

By Accutest Representative: \_\_\_\_\_

Via: Phone Email

Client Instructions:

**T42893: Chain of Custody**

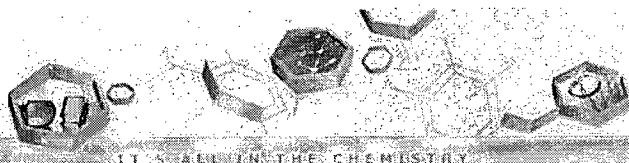
**Page 2 of 3**

3.1

[illegible]

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

**T42893: 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: T42893

Account: DUKE DCP Midstream, LLC

Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2675-MB	Z0053939.D	1	11/24/09	JL	n/a	n/a	VZ2675

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-1, T42893-3, T42893-4, T42893-5, T42893-6, T42893-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.55	ug/l	
108-88-3	Toluene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.7	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	101% 79-122%
17060-07-0	1,2-Dichloroethane-D4	101% 75-121%
2037-26-5	Toluene-D8	101% 87-119%
460-00-4	4-Bromofluorobenzene	95% 80-133%

## Method Blank Summary

Page 1 of 1

Job Number: T42893  
Account: DUKE DCP Midstream, LLC  
Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2676-MB	Z0053963.D	1	11/25/09	JL	n/a	n/a	VZ2676

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-7

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.55	ug/l	
108-88-3	Toluene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.7	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	103% 79-122%
17060-07-0	1,2-Dichloroethane-D4	105% 75-121%
2037-26-5	Toluene-D8	99% 87-119%
460-00-4	4-Bromofluorobenzene	91% 80-133%

## Method Blank Summary

Page 1 of 1

Job Number: T42893  
Account: DUKE DCP Midstream, LLC  
Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2677-MB	Z0053995.D	1	11/25/09	JL	n/a	n/a	VZ2677

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.55	ug/l	
108-88-3	Toluene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.7	ug/l	

CAS No.	Surrogate Recoveries	Results	Limits
1868-53-7	Dibromofluoromethane	98%	79-122%
17060-07-0	1,2-Dichloroethane-D4	94%	75-121%
2037-26-5	Toluene-D8	107%	87-119%
460-00-4	4-Bromofluorobenzene	99%	80-133%

## Blank Spike Summary

Page 1 of 1

Job Number: T42893

Account: DUKE DCP Midstream, LLC

Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2675-BS	Z0053937.D	1	11/24/09	JL	n/a	n/a	VZ2675

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-1, T42893-3, T42893-4, T42893-5, T42893-6, T42893-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.3	109	76-118
100-41-4	Ethylbenzene	25	26.0	104	75-112
108-88-3	Toluene	25	25.5	102	77-114
1330-20-7	Xylene (total)	75	80.0	107	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	75-121%
2037-26-5	Toluene-D8	94%	87-119%
460-00-4	4-Bromofluorobenzene	96%	80-133%

## Blank Spike Summary

Page 1 of 1

Job Number: T42893

Account: DUKE DCP Midstream, LLC

Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2676-BS	Z0053962.D	1	11/25/09	JL	n/a	n/a	VZ2676

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	27.8	111	76-118
100-41-4	Ethylbenzene	25	26.4	106	75-112
108-88-3	Toluene	25	26.1	104	77-114
1330-20-7	Xylene (total)	75	80.1	107	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	79-122%
17060-07-0	1,2-Dichloroethane-D4	100%	75-121%
2037-26-5	Toluene-D8	96%	87-119%
460-00-4	4-Bromofluorobenzene	95%	80-133%

## Blank Spike Summary

Page 1 of 1

Job Number: T42893

Account: DUKE DCP Midstream, LLC

Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2677-BS	Z0053993.D	1	11/25/09	JL	n/a	n/a	VZ2677

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	26.2	105	76-118
100-41-4	Ethylbenzene	25	26.7	107	75-112
108-88-3	Toluene	25	27.0	108	77-114
1330-20-7	Xylene (total)	75	80.3	107	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	79-122%
17060-07-0	1,2-Dichloroethane-D4	89%	75-121%
2037-26-5	Toluene-D8	103%	87-119%
460-00-4	4-Bromofluorobenzene	104%	80-133%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T42893  
Account: DUKE DCP Midstream, LLC  
Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T42619-6MS	Z0053948.D	1	11/24/09	JL	n/a	n/a	VZ2675
T42619-6MSD	Z0053949.D	1	11/24/09	JL	n/a	n/a	VZ2675
T42619-6	Z0053947.D	1	11/24/09	JL	n/a	n/a	VZ2675

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-1, T42893-3, T42893-4, T42893-5, T42893-6, T42893-8

CAS No.	Compound	T42619-6 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD	
71-43-2	Benzene	0.92	J	25	26.1	101	26.1	101	0	76-118/16
100-41-4	Ethylbenzene	ND		25	23.5	94	24.0	96	2	75-112/12
108-88-3	Toluene	ND		25	24.1	96	24.4	98	1	77-114/12
1330-20-7	Xylene (total)	ND		75	72.6	97	74.1	99	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T42619-6	Limits
1868-53-7	Dibromofluoromethane	102%	99%	100%	79-122%
17060-07-0	1,2-Dichloroethane-D4	101%	103%	104%	75-121%
2037-26-5	Toluene-D8	97%	101%	102%	87-119%
460-00-4	4-Bromofluorobenzene	95%	99%	93%	80-133%

# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T42893

Account: DUKE DCP Midstream, LLC

Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T42893-7MS	Z0053965.D	1	11/25/09	JL	n/a	n/a	VZ2676
T42893-7MSD	Z0053966.D	1	11/25/09	JL	n/a	n/a	VZ2676
T42893-7	Z0053964.D	1	11/25/09	JL	n/a	n/a	VZ2676

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-7

CAS No.	Compound	T42893-7 ug/l	Spike Q	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	25.7	25	51.1	102	50.5	99	1	76-118/16
100-41-4	Ethylbenzene	7.7	25	34.7	108	34.4	107	1	75-112/12
108-88-3	Toluene	ND	25	27.7	111	26.5	106	4	77-114/12
1330-20-7	Xylene (total)	44.3	75	123	105	121	102	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T42893-7	Limits
1868-53-7	Dibromofluoromethane	103%	101%	107%	79-122%
17060-07-0	1,2-Dichloroethane-D4	102%	99%	106%	75-121%
2037-26-5	Toluene-D8	98%	96%	100%	87-119%
460-00-4	4-Bromofluorobenzene	94%	96%	92%	80-133%



# Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: T42893  
Account: DUKE DCP Midstream, LLC  
Project: CRA: Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T42896-1MS	Z0053999.D	1	11/25/09	JL	n/a	n/a	VZ2677
T42896-1MSD	Z0054000.D	1	11/25/09	JL	n/a	n/a	VZ2677
T42896-1	Z0053998.D	1	11/25/09	JL	n/a	n/a	VZ2677

The QC reported here applies to the following samples:

Method: SW846 8260B

T42893-2

CAS No.	Compound	T42896-1		Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD		Limits Rec/RPD
		ug/l	Q					%	RPD	
71-43-2	Benzene	8.1		25	33.6	102	32.6	98	3	76-118/16
100-41-4	Ethylbenzene	ND		25	24.4	98	25.6	102	5	75-112/12
108-88-3	Toluene	ND		25	25.7	103	25.3	101	2	77-114/12
1330-20-7	Xylene (total)	ND		75	75.1	100	74.9	100	0	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T42896-1	Limits
1868-53-7	Dibromofluoromethane	97%	94%	99%	79-122%
17060-07-0	1,2-Dichloroethane-D4	91%	88%	95%	75-121%
2037-26-5	Toluene-D8	101%	104%	106%	87-119%
460-00-4	4-Bromofluorobenzene	100%	103%	98%	80-133%