

# AP-122

## 1<sup>st</sup> QTR Groundwater Mon. Report Results and Proposed Well Decommission and Installation WORK PLAN

DATE:  
06.17.13



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

RECEIVED OCD

June 17, 2013

2013 JUN 18 P 2: 17

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

**RE: 1st Quarter 2013 Groundwater Monitoring Results and Proposed Well Decommission and Installation Work Plan.  
DCP Hobbs Gas Plant (AP-122)  
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 1<sup>st</sup> Quarter 2013 Groundwater Monitoring Results and Proposed Well Decommission and Installation Work Plan for the DCP Hobbs Gas Plant located in Lea County, New Mexico (Unit G, Section 36, Township 18 South, Range 36 East).

In the Proposed Well Decommission and Installation Work Plan, DCP will be abandoning a monitor well (MW-A) that was damaged when a contractor upgraded our secondary containment. When the upgrade was completed, the damaged well was located inside the secondary containment. Based on this, DCP will over drill the damaged well and properly abandon it to prevent any potential pathway to groundwater. The replacement well (MW-AR) will be drilled outside the secondary containment. Also an additional monitor well (MW-G) will be installed along the fence line near the entrance gate to the plant. Figure 4 in the work plan shows the locations of the monitor wells.

The field work is scheduled to start on June 24<sup>th</sup> and is anticipated to last 2 -3 days. Sorry for the short notice but with the damaged well located inside our secondary containment, I felt it necessary to mobilize a drill rig as soon as practical to minimize any risk to groundwater with the potential pathway open to groundwater.

If you have any questions regarding the report or work plan, please call me at 303-605-1718.

Sincerely

**DCP Midstream, LP**

Stephen Weathers, P.G.  
Principal Environmental Specialist

cc: Geoffrey Leking, OCD Hobbs District Office (Copy on CD)  
Environmental Files



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2013 JUN 18 P 2: 19

# FIRST QUARTER 2013 GROUNDWATER MONITORING REPORT AND PROPOSED WELL DECOMMISSIONING AND INSTALLATION WORKPLAN

DCP HOBBS GAS PLANT  
AP-122

LATITUDE: North 32.70533° LONGITUDE: West 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

Stobhan Pritchard, P.G.  
Senior Project Geologist

John Riggi, P.G.  
Senior Project Geologist

JUNE 13, 2013  
REF. NO. 059097 (17)

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

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## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *First Quarter 2013 Groundwater Monitoring Report and Proposed Well Decommissioning and Installation Workplan* to DCP Midstream, LP (DCP) for the Hobbs Gas Plant in Lea County, New Mexico. This report summarizes the March 2013 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 DCP Apex Compressor Station is located approximately 750 feet (ft) north of the Hobbs Gas Plant. There are five groundwater monitoring wells onsite.

### **Hydrogeology**

Historical static groundwater depths have ranged between 60.13 (MW-A) and 65.07 ft below ground surface (bgs) (MW-B). Static groundwater depths ranged from 61.70 (MW-C) to 65.00 ft bgs (MW-B) on March 11, 2013. Groundwater flows to the south with a gradient of 0.01 ft/ft (Figure 2).

## 2.0 GROUNDWATER MONITORING AND SAMPLING

CRA gauged and collected samples from groundwater monitoring wells MW-C through MW-F on March 11, 2013. Well MW-A could not be located during the sampling event and was determined to have been destroyed during site activities. CRA field personnel identified well MW-A on May 15, 2013 during site reconnaissance. A cement well pad and well vault were located near the former well location and presumed to be from well MW-A. Light non-aqueous phase liquids (LNAPL) was measured at a thickness of 3.60 ft in well MW-B; a sample was not collected. 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 while 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's standard operating procedures for groundwater monitoring and sampling are presented as Appendix A.

#### **Purged Groundwater**

Purged groundwater from monitoring wells MW-D through MW-F was discharged to the surface. Purged groundwater from well MW-C is stored in a United States Department of Transportation approved 55-gallon drum within secondary containment.

### **3.0 ANALYTICAL RESULTS**

#### **Groundwater Analytical Methods**

Groundwater samples collected from MW-C through MW-F were analyzed for:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX) by SW-846 8260B

#### **Groundwater Sampling Results**

No BTEX was detected above New Mexico Water Quality Control Commission (NMWQCC) cleanup levels in groundwater samples MW-C through MW-F. Groundwater sample MW-C contained the highest benzene concentration 8.6 micrograms per liter ( $\mu\text{g}/\text{l}$ ). BTEX concentrations in groundwater are presented on Figure 3. Current groundwater analytical results are summarized in Table 1. Historical groundwater analytical results are summarized in Table 2. The laboratory analytical report is presented as Appendix B.

### **4.0 PROPOSED MONITORING WELL DECOMMISSIONING AND INSTALLATION**

#### **Monitoring Well Installation Rationale**

Monitoring well MW-A was destroyed during site upgrades. CRA proposes to decommission and re-install MW-A and install one monitoring well in the historical downgradient of well MW-B (Figure 4).

#### **Monitoring Well Abandonment and Installation**

Well MW-A will be decommissioned by overdrilling the remaining well casing and filling the borehole with bentonite grout. The monitoring well will be installed as 2-inch wells, screened by 5 ft above to 10 ft below the potentiometric surface. Soil samples will be collected for analyses based on lithological changes, signs of subsurface impact, and the capillary fringe.

## 5.0 CONCLUSIONS

No BTEX was detected above NMWQCC cleanup levels in any collected groundwater sample. LNAPL was measured in well MW-B at a thickness of 3.60 ft. DCP will continue quarterly monitoring and sampling in 2013 to evaluate site groundwater conditions. CRA will abandon and re-install monitoring well MW-A and install well MW-G on June 24, 2013.

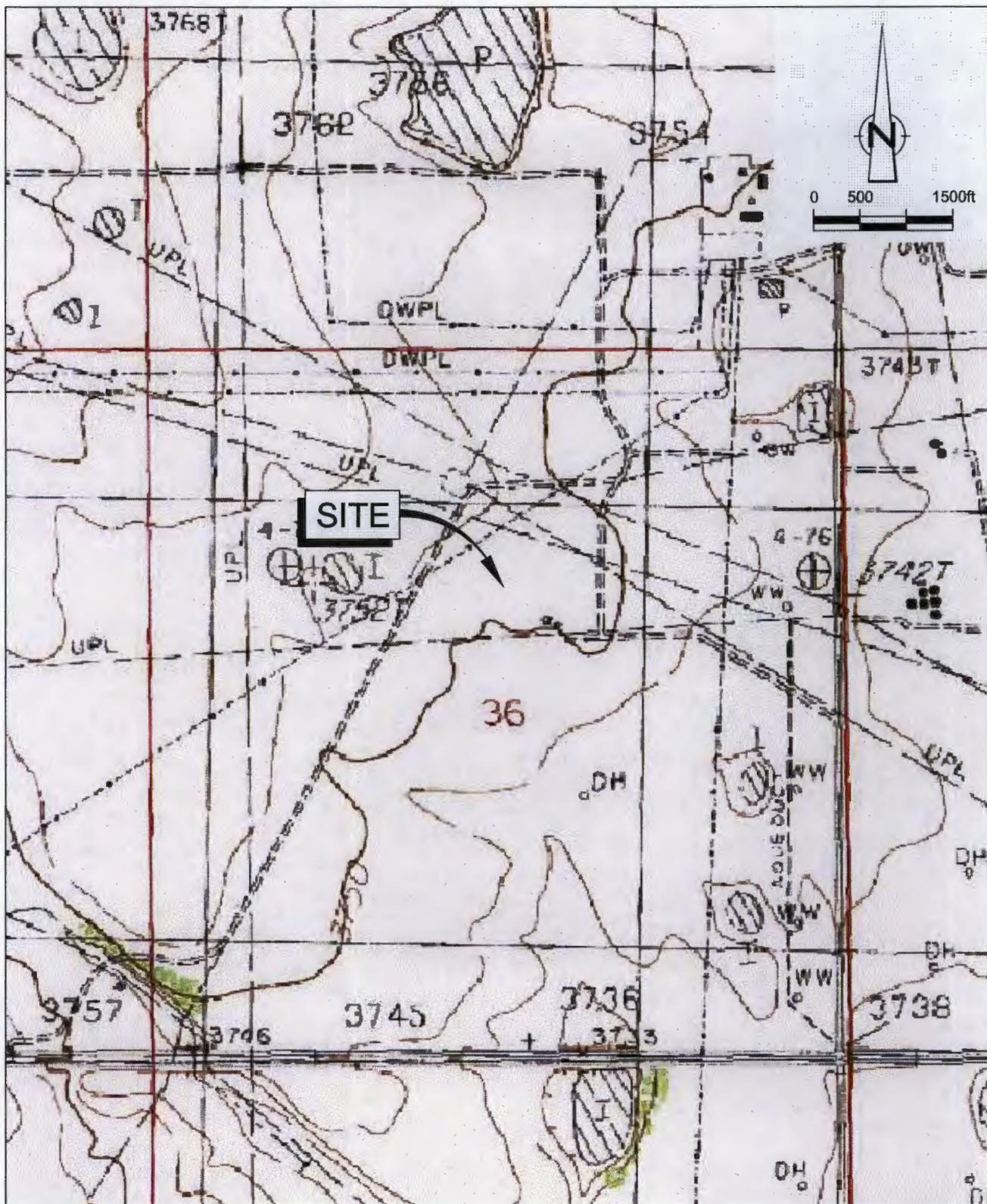
## FIGURES

FIGURE 1: VICINITY MAP

FIGURE 2: GROUNDWATER ELEVATION CONTOUR MAP-  
FIRST QUARTER 2013

FIGURE 3: GROUNDWATER BTEX ANALYTICAL RESULTS-  
FIRST QUARTER 2013

FIGURE 4: PROPOSED MONITORING WELL LOCATION MAP



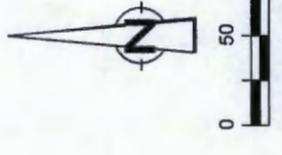
QUAD: USGS MONUMENT NORTH

Figure 1

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







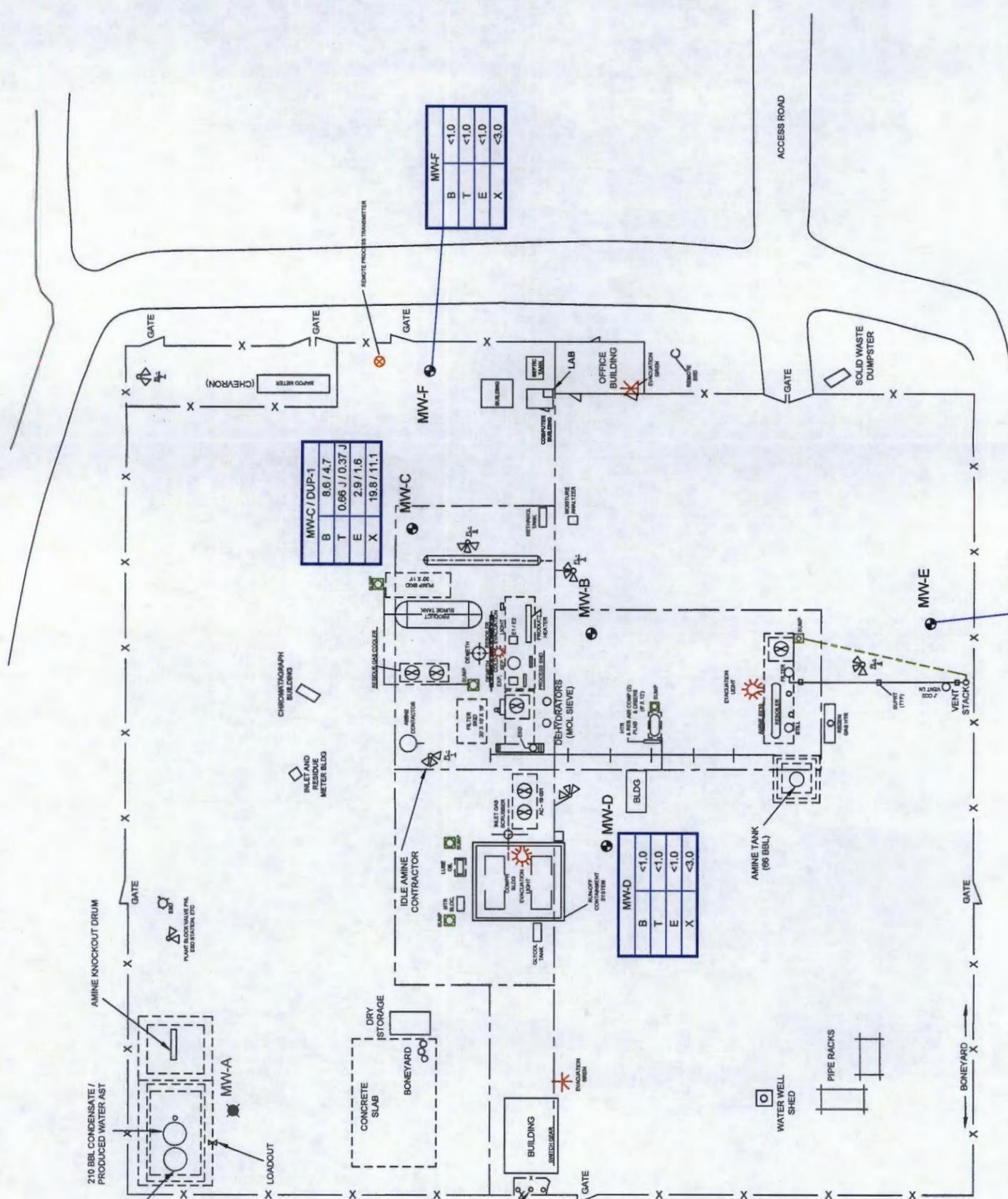
**LEGEND:**

- X — FENCE LINE
- ▭ SECONDARY CONTAINMENT
- ▭ ABOVEGROUND STORAGE TANK (AST) OR DRUM
- MW-B
- ⊗ MW-A
- EXISTING MONITORING WELL
- ⊗ DESTROYED MONITORING WELL

		MW-C
BENZENE	B	<1.0
TOLUENE	T	<1.0
ETHYLBENZENE	E	<1.0
XYLENES	X	<3.0

**NOTES:**

1. GROUNDWATER SAMPLES WERE COLLECTED ON MARCH 11, 2013.
2. BTEX ANALYSIS WAS BY EPA METHOD 8260 AND REPORTED IN µg/L.
3. MW-B NOT SAMPLED DUE TO LIGHT NON-AQUEOUS PHASE LIQUID (LNAPL).



		MW-C / DUP-1
B	8.6 / 4.7	
T	0.66 J / 0.37 J	
E	2.9 / 1.6	
X	19.8 / 11.1	

		MW-F
B	<1.0	
T	<1.0	
E	<1.0	
X	<3.0	

		MW-D
B	<1.0	
T	<1.0	
E	<1.0	
X	<3.0	

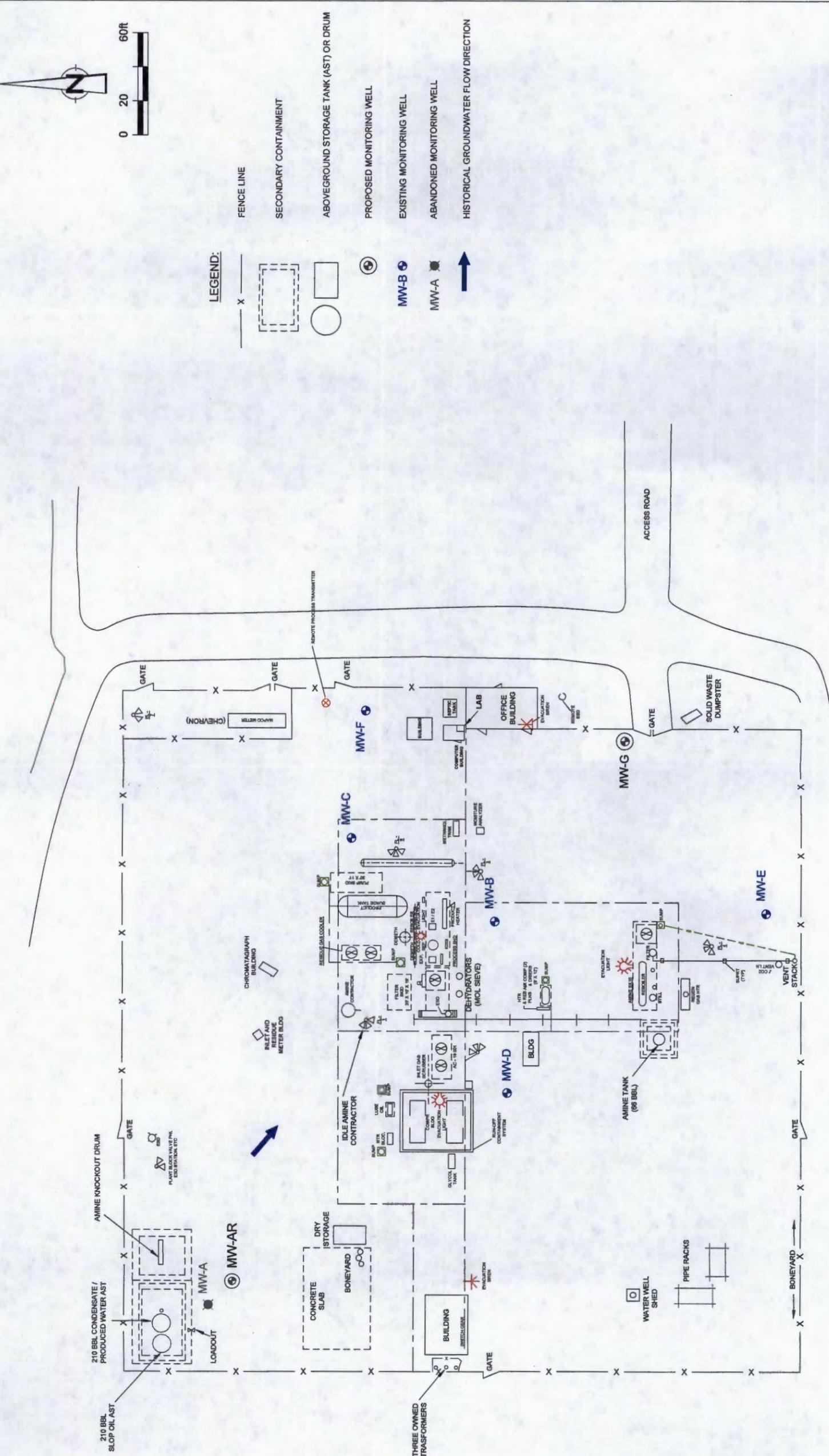
		MW-E
B	<1.0	
T	<1.0	
E	<1.0	
X	<0.3	

**Figure 3**  
**GROUNDWATER BTEX ANALYTICAL RESULTS - FIRST QUARTER 2013**  
**DCP HOBBS GAS PLANT**  
**LEA COUNTY, NEW MEXICO**  
*DCP Midstream*  
**March 11, 2013**





059097-10(017)GN-DN004 JUN 13/2013



**LEGEND:**

- FENCE LINE
- SECONDARY CONTAINMENT
- ABOVEGROUND STORAGE TANK (AST) OR DRUM
- PROPOSED MONITORING WELL
- EXISTING MONITORING WELL
- ABANDONED MONITORING WELL
- HISTORICAL GROUNDWATER FLOW DIRECTION



figure 4  
**PROPOSED MONITORING WELL LOCATION MAP**  
 DCP HOBBS GAS PLANT  
 LEA COUNTY, NEW MEXICO  
*DCP Midstream*

TABLES

TABLE 1: CURRENT GROUNDWATER ANALYTICAL RESULTS

TABLE 2: HISTORICAL GROUNDWATER ANALYTICAL RESULTS

## CONESTOGA-ROVERS & ASSOCIATES

**Table 1. Current Groundwater Analytical Results - DCP Hobbs Gas Plant, Lea County, New Mexico**

Well ID	Date	TOC (ft msl)	DTW (ft bgs)	GWE (ft msl)	Concentrations in µg/l			
					Benzene	Toluene	Ethyl - benzene	Total Xylenes
<b>NMQCC Cleanup Levels</b>					<b>10</b>	<b>750</b>	<b>750</b>	<b>620</b>
MW-A	3/11/2013				Well Destroyed			
MW-B*	3/11/2013	3755.94	65.00	3693.86	<b>LNAPL present</b>			
MW-C	3/11/2013	3755.59	61.70	3693.89	8.6/4.7	0.66 J/0.37 J	2.9/1.6	19.8/11.1
MW-D	3/11/2013	3755.43	62.20	3693.23	<1.0	<1.0	<1.0	<3.0
MW-E	3/11/2013	3754.36	61.91	3692.45	<1.0	<1.0	<1.0	<3.0
MW-F	3/11/2013	3756.13	63.50	3692.63	<1.0	<1.0	<1.0	<3.0

**Notes and Abbreviations:**

ID = Identification

TOC = Top of casing

DTW = Depth to water

GWE = Groundwater elevation

BTEX = Benzene, toluene, ethylbenzene, and total xylenes by SW-846 8021 or 8260B

ft msl = Feet above mean sea level

ft bgs = Feet below ground surface

µg/l = Micrograms per liter

x/y = Sample results/blind duplicate results

<x = Not detected above x µg/l

**BOLD** = Indicates concentration above the NMQCC Cleanup Levels

J = Estimated value

NMQCC = New Mexico Water Quality Control Commission

\* = Groundwater elevation corrected using a LNAPL specific gravity of 0.81



# CONESTOGA-ROVERS & ASSOCIATES

**Table 2. Historical Groundwater Analytical Results - DCP Hobbs Gas Plant, Lea County, New Mexico**

Well ID	Date	TOC (ft. ms)	DTW (ft. bgs)	LNAPL thickness feet	GWE (ft. ms)	pH	Conductivity µS/cm	Temperature °C	DO mg/l	ORP mV	Benzene			Toluene			Ethyl- benzene			Total Xylenes		
											10	750	620	10	750	620	10	750	620	10	750	620
<b>NM9000 Cleanup Levels</b>																						
MW-C	3/5/2008	3755.59	61.18	-	3694.41	6.91	535	17.46	6.50	-104.1	61	5.3	19.0	78.0								
MW-C(d)	3/5/2008	3755.59	61.18	-	3694.41	6.91	535	17.46	6.50	-104.1	160	<25	160	140								
MW-C	6/2/2008	3755.59	61.22	-	3694.37	6.90	781	20.00	2.64	-121.2	75.4	4.9	26.3	121								
MW-C(d)	6/2/2008	3755.59	61.22	-	3694.37	6.90	781	20.00	2.64	-121.2	103	8.1	36.9	170								
MW-C	9/15/2008	3755.59	61.54	-	3694.05	6.51	679	18.99	1.97	160.3	130	5.7	47.3	222								
MW-C	12/3/2008	3755.59	61.48	-	3694.11	6.88	621	18.24	2.31	-17.8	39.0	<0.48	10.5	33.3								
MW-C(d)	12/3/2008	3755.59	61.48	-	3694.11	6.88	621	18.24	2.31	-17.8	50.6	<0.48	13.6	44.5								
MW-C	2/27/2009	3755.59	61.15	-	3694.44	6.90	614	18.56	1.96	-8.7	69.9	0.78 J	20.1	86.8								
MW-C(d)	2/27/2009	3755.59	61.15	-	3694.44	6.90	614	18.56	1.96	-8.7	36.6	<0.48	10.0	43.3								
MW-C	6/25/2009	3755.59	61.16	-	3694.43	6.60	760	19.60	4.42	54.0	54.3	0.72 J	11.9	53.0								
MW-C(d)	6/25/2009	3755.59	61.16	-	3694.43	6.60	760	19.60	4.42	54.0	64.2	0.87 J	19.0	82.4								
MW-C	9/1/2009	3755.59	61.35	-	3694.24	6.78	990	19.27	2.66	40.0	82.8	1.3 J	23.1	132								
MW-C(d)	9/1/2009	3755.59	61.35	-	3694.24	6.78	990	19.27	2.66	40.0	71.5	1.0 J	19.8	110								
MW-C	11/17/2009	3755.59	61.37	-	3694.22	7.26	631	17.17	-	-	30	<2.0	9.3	53								
MW-C(d)	11/17/2009	3755.59	61.37	-	3694.22	7.26	631	17.17	-	-	25.7	<2.0	7.7	44.3								
MW-C	3/25/2010	3755.59	61.27	-	3694.32	7.13	686	19.20	-	-	48.2	3.0	16.9	141								
MW-C(d)	3/25/2010	3755.59	61.27	-	3694.32	7.13	686	19.20	-	-	52.2	2.9	20.3	123								
MW-C	6/8/2010	3755.59	61.33	-	3694.26	6.92	621	23.06	-	-	20.4	1.1	8.5	52.3								
MW-C	9/21/2010	3755.59	61.10	-	3694.49	6.58	741.8	19.2	-	-	124	3.1	50.4	276								
MW-C	12/16/2010	3755.59	61.15	-	3694.44	6.95	760.5	18.1	-	-	10.7	0.59	5.1	25.2								
MW-C(d)	12/16/2010	3755.59	61.15	-	3694.44	6.95	760.5	18.1	-	-	5.4	<0.43	2.8	12.6								
MW-C	3/11/2011	3755.59	61.28	-	3694.31	6.80	725.3	19.3	-	-	95.8	5.7	42.4	235								
MW-C	6/14/2011	3755.59	61.52	-	3694.07	6.60	737.1	21.2	-	-	66.0	2.8	29.8	145								
MW-C	9/27/2011	3755.59	62.00	-	3693.59	7.34	677.2	20.5	-	-	40.3	0.7	19.9	94.4								
MW-C	12/13/2011	3755.59	62.20	-	3693.39	7.06	730.1	16.5	-	-	112	4.3	29.8	200								
MW-C(d)	12/13/2011	3755.59	62.20	-	3693.39	7.06	730.1	16.5	-	-	44.1	1.9	14.4	97.7								
MW-C	3/27/2012	3755.59	62.33	-	3693.26	7.26	652.3	19.2	-	-	37.0	1.2	11.4	75.8								
MW-C(d)	3/27/2012	3755.59	62.33	-	3693.26	7.26	652.3	19.2	-	-	52.0	1.8	15.0	104								
MW-C	6/19/2012	3755.59	62.45	-	3693.14	7.15	701.2	20.0	-	-	66.8	1.9	20.1	135								
MW-C	9/24/2012	3755.59	62.67	-	3692.92	7.76	732.2	20.6	-	-	2.1	<0.33	0.89	5.6								
MW-C	12/10/2012	3755.59	62.73	-	3692.86	7.08	669.6	17.6	-	-	26.6	2.2	8.2	57.8								
MW-C	3/11/2013	3755.59	61.70	-	3693.89	7.64	800.5	18.4	-	-	8.6	0.66 J	2.9	19.8								
MW-C(d)	3/11/2013	3755.59	61.70	-	3693.89	7.64	800.5	18.4	-	-	4.7	0.37 J	1.6	11.1								

# CONESTOGA-ROVERS & ASSOCIATES

**Table 2. Historical Groundwater Analytical Results - DCP Hobbs Gas Plant, Lea County, New Mexico**

Well ID	Date	TOC (ft ms)	DTW (ft bgs)	LNAPL thickness feet	GWE (ft ms)	pH s.u.	Conductivity µS/cm	Temperature °C	DO mg/l	ORP mV	Concentrations in µg/l			
											Benzene 10	Toluene 750	Ethyl - benzene 750	Total Xylenes 620
<b>NMWQCC Cleanup Levels</b>														
MW-D	3/5/2008	3755.43	60.77	--	3694.66	6.85	507	17.23	9.66	22.5	<1.0	<5.0	<1.0	<3.0
MW-D	6/2/2008	3755.43	60.77	--	3694.66	7.13	668	19.99	5.39	29.2	<0.46	<0.48	<0.45	<1.4
MW-D	9/15/2008	3755.43	61.10	--	3694.33	6.64	646	19.42	3.65	233.1	<0.46	<0.48	<0.45	<1.4
MW-D	12/3/2008	3755.43	61.08	--	3694.35	7.09	587	17.95	5.46	175.5	<0.46	<0.48	<0.45	<1.4
MW-D	2/27/2009	3755.43	60.79	--	3694.64	7.01	589	19.59	7.22	77.1	<0.46	<0.48	<0.45	<1.4
MW-D	6/25/2009	3755.43	60.77	--	3694.66	6.70	820	20.10	6.38	177.0	<2.0	<2.0	<2.0	<6.0
MW-D	9/1/2009	3755.43	60.96	--	3694.47	6.81	860	19.90	6.11	118.0	<2.0	<2.0	<2.0	<6.0
MW-D	11/17/2009	3755.43	60.96	--	3694.47	7.67	638	16.67	--	--	<2.0	<2.0	<2.0	<6.0
MW-D	3/25/2010	3755.43	60.89	--	3694.54	7.18	706	19.50	--	--	<2.0	<2.0	<2.0	<6.0
MW-D	6/8/2010	3755.43	60.91	--	3694.52	7.09	636	22.38	--	--	<2.0	<2.0	<2.0	<6.0
MW-D	9/21/2010	3755.43	60.66	--	3694.77	6.84	730.5	19.30	--	--	<0.50	<0.43	<0.55	<1.7
MW-D	12/16/2010	3755.43	60.72	--	3694.71	7.03	794.7	18.70	--	--	<0.50	<0.43	<0.55	<1.7
MW-D	3/11/2011	3755.43	60.84	--	3694.59	6.82	760.7	19.40	--	--	<2.0	<2.0	<2.0	<6.0
MW-D	6/14/2011	3755.43	61.09	--	3694.34	6.65	842.4	20.00	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	9/27/2011	3755.43	61.55	--	3693.88	7.21	708.7	20.60	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	12/13/2011	3755.43	61.70	--	3693.73	7.28	771.7	16.7	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	3/27/2012	3755.43	61.84	--	3693.59	7.18	659.7	20.5	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	6/19/2012	3755.43	61.97	--	3693.46	7.26	706.4	21.1	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	9/24/2012	3755.43	62.12	--	3693.31	8.18	717.9	23.0	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	12/10/2012	3755.43	62.26	--	3693.17	6.92	676.4	18.3	--	--	<1.0	<1.0	<1.0	<3.0
MW-D(d)	12/10/2012	3755.43	62.26	--	3693.17	6.92	676.4	18.3	--	--	<1.0	<1.0	<1.0	<3.0
MW-D	3/11/2013	3755.43	62.20	--	3693.23	8.14	706.9	18.8	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	3/5/2008	3754.36	60.75	--	3693.61	6.89	487	17.29	8.99	38.4	14	<5.0	3.9	14
MW-E	6/2/2008	3754.36	60.78	--	3693.58	7.07	633	19.91	3.72	9.4	<0.46	<0.48	<0.45	<1.4
MW-E	9/15/2008	3754.36	61.21	--	3693.15	6.74	601	19.27	4.02	228.3	<0.46	<0.48	<0.45	<1.4
MW-E	12/3/2008	3754.36	61.13	--	3693.23	7.03	592	18.58	5.25	186.2	<0.46	<0.48	<0.45	<1.4
MW-E	2/27/2009	3754.36	60.81	--	3693.55	7.01	590	19.10	6.29	91.2	<0.46	<0.48	<0.45	<1.4
MW-E	6/25/2009	3754.36	60.74	--	3693.62	6.80	270	20.10	5.19	60.0	<2.0	<2.0	<2.0	<6.0
MW-E	9/1/2009	3754.36	60.93	--	3693.43	6.84	780	20.94	5.95	16.0	<2.0	<2.0	<2.0	<6.0
MW-E	11/17/2009	3754.36	60.94	--	3693.42	7.32	610	17.06	--	--	<2.0	<2.0	<2.0	<6.0
MW-E	3/25/2010	3754.36	60.82	--	3693.54	7.14	654	19.50	--	--	<2.0	<2.0	<2.0	<6.0
MW-E	6/8/2010	3754.36	60.83	--	3693.53	7.00	612	22.50	--	--	<2.0	<2.0	<2.0	<6.0
MW-E	9/21/2010	3754.36	60.65	--	3693.71	6.72	730	19.40	--	--	<0.50	<0.43	<0.55	<1.7
MW-E(d)	9/21/2010	3754.36	60.65	--	3693.71	6.72	730	19.40	--	--	<0.50	<0.43	<0.55	<1.7
MW-E	12/16/2010	3754.36	60.65	--	3693.61	6.82	684.9	19.30	--	--	<2.0	<2.0	<2.0	<6.0
MW-E	3/11/2011	3754.36	60.75	--	3693.61	6.82	684.9	19.30	--	--	<2.0	<2.0	<2.0	<6.0
MW-E(d)	3/11/2011	3754.36	60.75	--	3693.61	6.82	684.9	19.30	--	--	<2.0	<2.0	<2.0	<6.0
MW-E	6/14/2011	3754.36	60.91	--	3693.45	6.63	727.9	21.00	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	9/27/2011	3754.36	61.43	--	3692.93	7.42	607.3	20.90	--	--	<1.0	<1.0	<1.0	<3.0
MW-E(d)	9/27/2011	3754.36	61.43	--	3692.93	7.42	607.3	20.90	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	12/13/2011	3754.36	61.59	--	3692.77	7.19	682.3	15.9	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	3/27/2012	3754.36	61.66	--	3692.70	7.55	630.1	20.0	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	6/19/2012	3754.36	61.81	--	3692.55	7.25	641.0	19.9	--	--	<1.0	<1.0	<1.0	<3.0
MW-E(d)	6/19/2012	3754.36	61.81	--	3692.55	7.25	641.0	19.9	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	9/24/2012	3754.36	61.94	--	3692.52	7.83	706.9	23.0	--	--	<1.0	<1.0	<1.0	<3.0
MW-E(d)	9/24/2012	3754.36	61.94	--	3692.52	7.83	706.9	23.0	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	12/10/2012	3754.36	62.90	--	3691.46	6.21	652.7	17.1	--	--	<1.0	<1.0	<1.0	<3.0
MW-E	3/11/2013	3754.36	61.91	--	3692.45	8.17	697.3	18.8	--	--	<1.0	<1.0	<1.0	<3.0

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**Table 2. Historical Groundwater Analytical Results - DCP Hobbs Gas Plant, Lea County, New Mexico**

Well ID	Date	TOC (ft ms)	DTW (ft bgs)	LNAPL thickness feet	GWE (ft ms)	pH s.u.	Conductivity µS/cm	Temperature °C	DO mg/l	ORP mV	Concentrations in µg/l			
											Benzene 10	Toluene 750	Ethyl- benzene 750	Total Xylenes 620
MW-F	3/5/2008	3756.13	62.01	--	3694.12	6.76	657	17.01	9.71	3.6	1.9	<5.0	<1.0	3.8
MW-F	6/2/2008	3756.13	62.06	--	3694.07	6.76	879	19.00	3.08	21.4	<0.46	<0.48	<0.45	<1.4
MW-F	9/15/2008	3756.13	62.44	--	3693.69	6.43	876	19.17	2.52	234.3	<0.46	<0.48	<0.45	<1.4
MW-F	12/3/2008	3756.13	62.22	--	3693.91	6.76	917	17.79	3.79	188.4	<0.46	<0.48	<0.45	<1.4
MW-F	2/27/2009	3756.13	61.97	--	3694.16	6.77	857	18.61	3.85	93.4	<0.46	<0.48	<0.45	<1.4
MW-F	6/25/2009	3756.13	61.96	--	3694.17	6.20	100	19.80	5.56	221.0	<2.0	<2.0	<2.0	<6.0
MW-F	9/1/2009	3756.13	62.18	--	3693.95	6.51	110	19.25	5.27	108.0	<2.0	<2.0	<2.0	<6.0
MW-F	11/17/2009	3756.13	62.13	--	3694.00	6.93	1,030	18.67	--	--	<2.0	<2.0	<2.0	<6.0
MW-F	3/25/2010	3756.13	62.02	--	3694.11	6.94	1,053	19.00	--	--	<2.0	<2.0	<2.0	<6.0
MW-F	6/8/2010	3756.13	62.12	--	3694.01	7.03	900	22.06	--	--	<2.0	<2.0	<2.0	<6.0
MW-F	9/21/2010	3756.13	61.92	--	3694.21	6.67	1,003	19.10	--	--	<0.50	<0.43	<0.55	<1.7
MW-F	12/16/2010	3756.13	61.93	--	3694.20	6.90	1,058	17.60	--	--	<0.50	<0.43	<0.55	<1.7
MW-F	3/11/2011	3756.13	62.05	--	3694.08	6.84	1,017	19.00	--	--	<2.0	<2.0	<2.0	<6.0
MW-F	6/14/2011	3756.13	62.35	--	3693.78	6.53	1,053	20.10	--	--	<1.0	<1.0	<1.0	<3.0
MW-F	9/27/2011	3756.13	62.85	--	3693.28	7.05	890	20.40	--	--	<1.0	<1.0	<1.0	<3.0
MW-F	12/13/2011	3756.13	63.05	--	3693.08	7.12	922.0	16.7	--	--	<1.0	<1.0	<1.0	<3.0
MW-F	3/27/2012	3756.13	63.16	--	3692.97	7.20	754.8	20.6	--	--	<1.0	<1.0	<1.0	<3.0
MW-F	6/19/2012	3756.13	63.30	--	3692.83	7.23	776.1	19.7	--	--	<1.0	<1.0	<1.0	<3.0
MW-F	9/24/2012	3756.13	63.50	--	3692.63	7.64	769.8	21.6	--	--	<0.34	<0.33	<0.32	<0.87
MW-F	12/10/2012	3756.13	63.65	--	3692.48	6.97	753.7	15.8	--	--	<1.0	<1.0	<1.0	<3.0
MW-F	3/11/2013	3756.13	63.50	--	3692.63	7.96	829.7	18.4	--	--	<1.0	<1.0	<1.0	<3.0

**Notes and Abbreviations:**

- ID = Identification
- TOC = Top of casing
- DTW = Depth to water
- LNAPL = Light non-aqueous phase liquids
- GWE = Groundwater elevation
- DO = Dissolved oxygen
- ORP = Oxidation reduction potential
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes by SW-846 8021 or 8260B
- ft msd = Feet above mean sea level
- ft bgs = Feet below ground surface
- s.u. = Standard unit
- µS/cm = Microsiemens per centimeter
- °C = Degrees Celsius
- mg/l = Milligrams per liter
- mV = Millivolts
- µg/l = Micrograms per liter
- NMWQCC = New Mexico Water Quality Control Commission
- BOLD = Indicates concentration above the NMWQCC Cleanup Levels
- <x = Not detected/ not analyzed
- = Not measured/ not analyzed
- (d) = Duplicate sample
- J = Estimated value
- \* = Groundwater elevation corrected using a LNAPL specific gravity of 0.81

APPENDIX A  
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



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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.



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### **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.

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APPENDIX B  
LABORATORY ANALYTICAL REPORT



03/27/13



**Technical Report for**

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**DCP Midstream, LLC**

**CRA: DCP Midstream-Hobbs**

**059097-2012-04**

**Accutest Job Number: TC27113**

**Sampling Date: 03/12/13**

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**Report to:**

spritchard@croworld.com

**Total number of pages in report: 19**



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.

  
Richard Rodriguez  
Laboratory Director

**Client Service contact: Sylvia Garza 713-271-4700**

Certifications: TX (T104704220-12-9) AR (12-029-0) AZ (AZ0769) FL (E87628) KS (E-10366)  
LA (85695/04004) OK (2012-059)

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Test results relate only to samples analyzed.

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### Sample Summary

DCP Midstream, LLC

Job No: TC27113

CRA: DCP Midstream-Hobbs  
 Project No: 059097-2012-04

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
TC27113-1	03/12/13	12:50	03/15/13	AQ	Ground Water	MW-C
TC27113-2	03/12/13	13:30	03/15/13	AQ	Ground Water	MW-D
TC27113-3	03/12/13	13:45	03/15/13	AQ	Ground Water	MW-E
TC27113-4	03/12/13	13:15	03/15/13	AQ	Ground Water	MW-F
TC27113-5	03/12/13	00:00	03/15/13	AQ	Ground Water	DUP-1
TC27113-6	03/12/13	00:00	03/15/13	AQ	Trip Blank Water	TRIP BLANK

## Summary of Hits

**Job Number:** TC27113  
**Account:** DCP Midstream, LLC  
**Project:** CRA: DCP Midstream-Hobbs  
**Collected:** 03/12/13

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

**TC27113-1 MW-C**

Benzene	0.0086	0.0010	0.00034	mg/l	SW846 8260B
Toluene	0.00066 J	0.0010	0.00033	mg/l	SW846 8260B
Ethylbenzene	0.0029	0.0010	0.00032	mg/l	SW846 8260B
Xylene (total)	0.0198	0.0030	0.00087	mg/l	SW846 8260B

**TC27113-2 MW-D**

No hits reported in this sample.

**TC27113-3 MW-E**

No hits reported in this sample.

**TC27113-4 MW-F**

No hits reported in this sample.

**TC27113-5 DUP-1**

Benzene	0.0047	0.0010	0.00034	mg/l	SW846 8260B
Toluene	0.00037 J	0.0010	0.00033	mg/l	SW846 8260B
Ethylbenzene	0.0016	0.0010	0.00032	mg/l	SW846 8260B
Xylene (total)	0.0111	0.0030	0.00087	mg/l	SW846 8260B

**TC27113-6 TRIP BLANK**

No hits reported in this sample.



Sample Results

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Report of Analysis

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## Report of Analysis

3.1  
3

<b>Client Sample ID:</b> MW-C	<b>Date Sampled:</b> 03/12/13
<b>Lab Sample ID:</b> TC27113-1	<b>Date Received:</b> 03/15/13
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> CRA: DCP Midstream-Hobbs	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G019188.D	1	03/19/13	IS	n/a	n/a	VG859
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	0.0086	0.0010	0.00034	mg/l	
108-88-3	Toluene	0.00066	0.0010	0.00033	mg/l	J
100-41-4	Ethylbenzene	0.0029	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	0.0198	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		72-122%
17060-07-0	1,2-Dichloroethane-D4	103%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

---

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

### Report of Analysis

3.2  
3

<b>Client Sample ID:</b> MW-D	<b>Date Sampled:</b> 03/12/13
<b>Lab Sample ID:</b> TC27113-2	<b>Date Received:</b> 03/15/13
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> CRA: DCP Midstream-Hobbs	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G019189.D	1	03/19/13	IS	n/a	n/a	VG859
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	0.0010	0.00034	mg/l	
108-88-3	Toluene	ND	0.0010	0.00033	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		72-122%
17060-07-0	1,2-Dichloroethane-D4	101%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

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

## Report of Analysis



<b>Client Sample ID:</b> MW-E	<b>Date Sampled:</b> 03/12/13
<b>Lab Sample ID:</b> TC27113-3	<b>Date Received:</b> 03/15/13
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> CRA: DCP Midstream-Hobbs	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G019190.D	1	03/19/13	IS	n/a	n/a	VG859
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	0.0010	0.00034	mg/l	
108-88-3	Toluene	ND	0.0010	0.00033	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

---

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

## Report of Analysis

<b>Client Sample ID:</b> MW-F	<b>Date Sampled:</b> 03/12/13
<b>Lab Sample ID:</b> TC27113-4	<b>Date Received:</b> 03/15/13
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> CRA: DCP Midstream-Hobbs	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G019191.D	1	03/19/13	IS	n/a	n/a	VG859
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	0.0010	0.00034	mg/l	
108-88-3	Toluene	ND	0.0010	0.00033	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

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

## Report of Analysis

<b>Client Sample ID:</b> DUP-1	<b>Date Sampled:</b> 03/12/13
<b>Lab Sample ID:</b> TC27113-5	<b>Date Received:</b> 03/15/13
<b>Matrix:</b> AQ - Ground Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> CRA: DCP Midstream-Hobbs	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G019192.D	1	03/19/13	IS	n/a	n/a	VG859
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	0.0047	0.0010	0.00034	mg/l	
108-88-3	Toluene	0.00037	0.0010	0.00033	mg/l	J
100-41-4	Ethylbenzene	0.0016	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	0.0111	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

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

## Report of Analysis

<b>Client Sample ID:</b> TRIP BLANK	<b>Date Sampled:</b> 03/12/13
<b>Lab Sample ID:</b> TC27113-6	<b>Date Received:</b> 03/15/13
<b>Matrix:</b> AQ - Trip Blank Water	<b>Percent Solids:</b> n/a
<b>Method:</b> SW846 8260B	
<b>Project:</b> CRA: DCP Midstream-Hobbs	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G019176.D	1	03/19/13	IS	n/a	n/a	VG859
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	0.0010	0.00034	mg/l	
108-88-3	Toluene	ND	0.0010	0.00033	mg/l	
100-41-4	Ethylbenzene	ND	0.0010	0.00032	mg/l	
1330-20-7	Xylene (total)	ND	0.0030	0.00087	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

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

Misc. Forms

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Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody





# Accutest Laboratories Sample Receipt Summary

Accutest Job Number: TC27113 Client: CONESTOGA ROVERS & ASSOCIATES Project: DCP MIDSTREAM-HOBBS 059097-2012-04  
 Date / Time Received: 3/15/2013 Delivery Method: \_\_\_\_\_ Airbill #'s: 558744947401  
 No. Coolers: 1 Therm ID: IR6; Temp Adjustment Factor: -0.1;  
 Cooler Temps (Initial/Adjusted): #1: (4/3.9);

**Cooler Security**

1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Cooler Temperature**

1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	_____	
3. Cooler media:	<u>Ice (Bag)</u>	

**Quality Control Preservation**

	Y	or	N	N/A	WTB	STB
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

**Sample Integrity - Documentation**

1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Sample Integrity - Condition**

1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	<u>Intact</u>	

**Sample Integrity - Instructions**

	Y	or	N	N/A
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

4.1  
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Job #: TC27113 Date / Time Received: 3/15/2013 9:05:00 AM Initials: CH  
 Client: CONESTOGA ROVERS & ASSOCIATES

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TC27113-1	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-1	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-1	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-2	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-2	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-2	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-3	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-3	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-3	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-4	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-4	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-4	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-5	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-5	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-5	40ml	3	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-6	40ml	1	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9
1	TC27113-6	40ml	2	VR	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR6	4	-0.1	3.9

4.1  
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TC27113: 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:** TC27113  
**Account:** DUKE DCP Midstream, LLC  
**Project:** CRA: DCP Midstream-Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG859-MB	G019174.D	1	03/19/13	IS	n/a	n/a	VG859

The QC reported here applies to the following samples:

Method: SW846 8260B

TC27113-1, TC27113-2, TC27113-3, TC27113-4, TC27113-5, TC27113-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.34	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.32	ug/l	
108-88-3	Toluene	ND	1.0	0.33	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.87	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	106%	72-122%
17060-07-0	1,2-Dichloroethane-D4	101%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

5.1.1

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# Blank Spike Summary

**Job Number:** TC27113  
**Account:** DUKE DCP Midstream, LLC  
**Project:** CRA: DCP Midstream-Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG859-BS	G019172.D	1	03/19/13	IS	n/a	n/a	VG859

The QC reported here applies to the following samples:

Method: SW846 8260B

TC27113-1, TC27113-2, TC27113-3, TC27113-4, TC27113-5, TC27113-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	19.4	78	68-119
100-41-4	Ethylbenzene	25	20.3	81	71-117
108-88-3	Toluene	25	20.1	80	73-119
1330-20-7	Xylene (total)	75	61.0	81	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	72-122%
17060-07-0	1,2-Dichloroethane-D4	96%	68-124%
2037-26-5	Toluene-D8	100%	80-119%
460-00-4	4-Bromofluorobenzene	94%	72-126%

\* = Outside of Control Limits.

# Matrix Spike/Matrix Spike Duplicate Summary

**Job Number:** TC27113  
**Account:** DUKE DCP Midstream, LLC  
**Project:** CRA: DCP Midstream-Hobbs

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TC27112-3MS	G019178.D	5	03/19/13	IS	n/a	n/a	VG859
TC27112-3MSD	G019179.D	5	03/19/13	IS	n/a	n/a	VG859
TC27112-3	G019177.D	5	03/19/13	IS	n/a	n/a	VG859

The QC reported here applies to the following samples:

Method: SW846 8260B

TC27113-1, TC27113-2, TC27113-3, TC27113-4, TC27113-5, TC27113-6

CAS No.	Compound	TC27112-3 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	476	125	590	91	558	66* <sup>a</sup>	6	68-119/12
100-41-4	Ethylbenzene	197	125	321	99	311	91	3	71-117/12
108-88-3	Toluene	332	125	450	94	437	84	3	73-119/13
1330-20-7	Xylene (total)	224	375	602	101	579	95	4	74-119/13

CAS No.	Surrogate Recoveries	MS	MSD	TC27112-3	Limits
1868-53-7	Dibromofluoromethane	105%	103%	106%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	96%	100%	68-124%
2037-26-5	Toluene-D8	100%	101%	101%	80-119%
460-00-4	4-Bromofluorobenzene	95%	97%	98%	72-126%

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

\* = Outside of Control Limits.

5.3.1  
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