GW-1745

3rd QTR 2010 GW Monitoring Results

DATE:
02.07.11

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

February 3, 2011

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

RE: 3rd Quarter 2010 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 3rd Quarter 2010 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.

Sincerely

DCP Midstream, LP

Stephen Weathers, P.G.
Principal Environmental Specialist

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

THIRD QUARTER 2010 GROUNDWATER MONITORING REPORT

DCP HOBBS GAS PLANT
GW-175
LATITUDE: N 32.70533 LONGITUDE: W 103.3066
LEA COUNTY, NEW MEXICO

Prepared For:
Mr. Steve Weathers
DCP Midstream, LP
370 17th Street, Suite 2500
Denver, Colorado 80202

Siobhan Pritchard
Senior Staff Geologist

John Riggi, P.G.
Senior Project Geologist

Prepared by:
Conestoga-Rovers & Associates

2420 West 26th Ave, Suite 450-D
Denver, CO 80211

Office: 720-975-9120
Fax: 720-975-9150

JANUARY 25, 2011
REF. NO. 059097(7)
This report is printed on recycled paper.

CONESTOGA-ROVERS
& ASSOCIATES

TABLE OF CONTENTS

CONESTOGA-ROVERS
& ASSOCIATES

LIST OF FIGURES
(Following Text)

LIST OF TABLES
(Following Text)

LIST OF APPENDICES

1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *Third Quarter 2010 Groundwater Monitoring Report* to DCP Midstream, LP (DCP) for the Hobbs Gas Plant in Lea County, New Mexico. This report summarizes the September 21, 2010 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 six groundwater monitoring wells onsite.

Hydrogeology

Historical static groundwater depths have ranged between 60.13 (MW-A) and 62.44 ft below ground surface (bgs)(MW-F). Static groundwater depths ranged from 60.13 (MW-A) to 61.92 ft bgs (MW-F) on September 21, 2010. Groundwater flow was to the southeast with a gradient of 0.0055 ft/ft (Figure 2).

2.0 GROUNDWATER MONITORING AND SAMPLING

CRA gauged and collected samples from groundwater monitoring wells MW-A through MW-F on September 21, 2010. 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 well sampling forms are presented as Appendix A. CRA's standard operating procedures for groundwater monitoring and sampling are presented as Appendix B.

Purged Groundwater

Purged groundwater from all site monitoring wells was transported to the DCP Linam Ranch Facility, where purged groundwater was disposed in the onsite sump.

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 SW-846 8260B.

Groundwater Sampling Results

No BTEX was detected above New Mexico Water Quality Control Commission standards in groundwater samples collected from wells MW-A, MW-D, MW-E and MW-F. Groundwater samples collected from wells MW-B and MW-C contained 572 micrograms per liter (µg/l) and 124 µg/l of benzene, respectively (Figure 3). Groundwater sample MW-B contained 885 µg/l total xylenes. Current groundwater analytical results are summarized in Table 1. Historical groundwater analytic results are summarized in Table 2. The laboratory analytical report is presented as Appendix C.

4.0 CONCLUSIONS

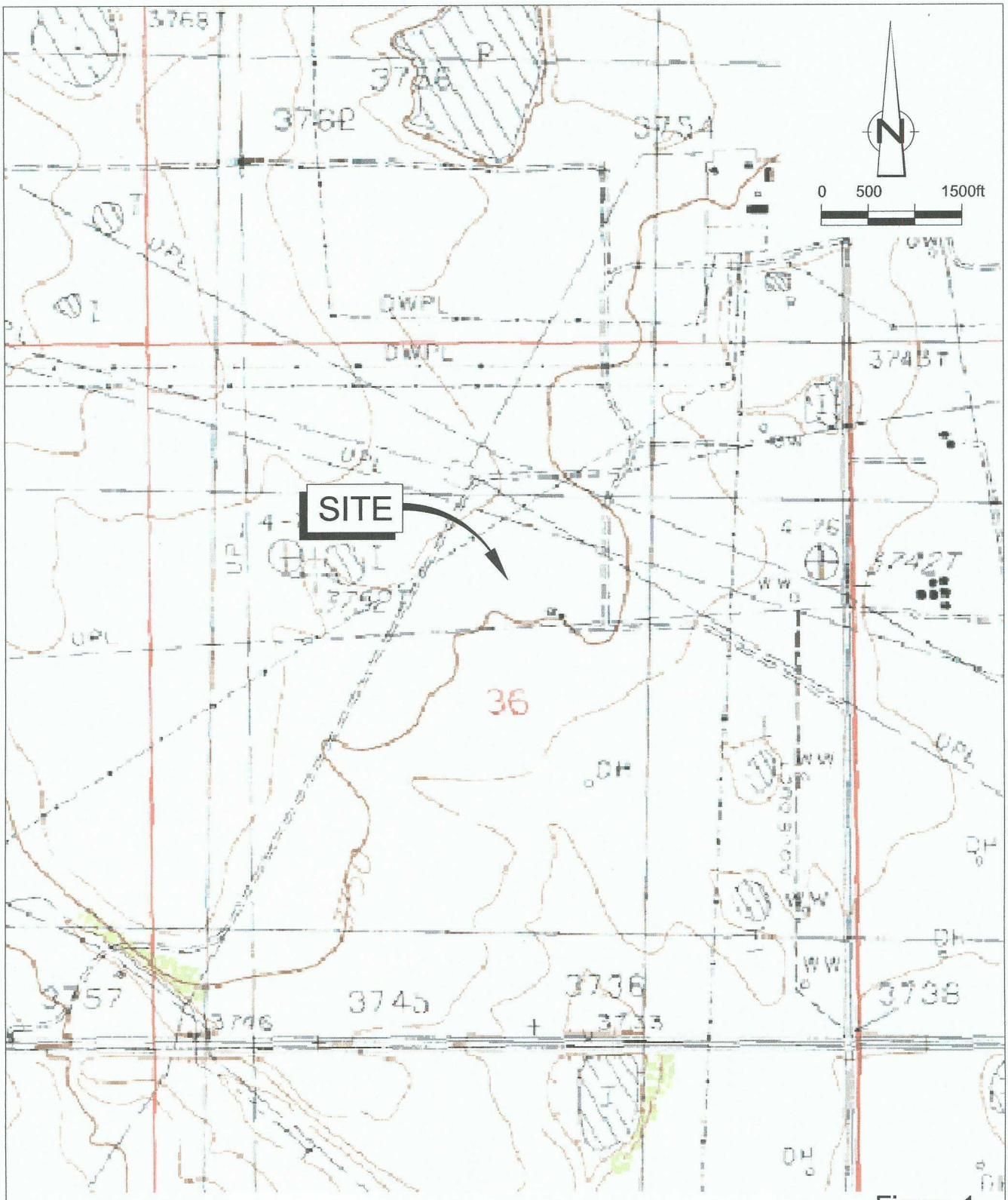
Benzene and xylenes concentrations increased in well MW-C during the third quarter in 2010. DCP will continue quarterly monitoring and sampling to evaluate site groundwater conditions.

FIGURES

FIGURE 1: VICINITY MAP

FIGURE 2: GROUNDWATER CONTOUR MAP

FIGURE 3: GROUNDWATER BTEX ANALYTICAL RESULTS

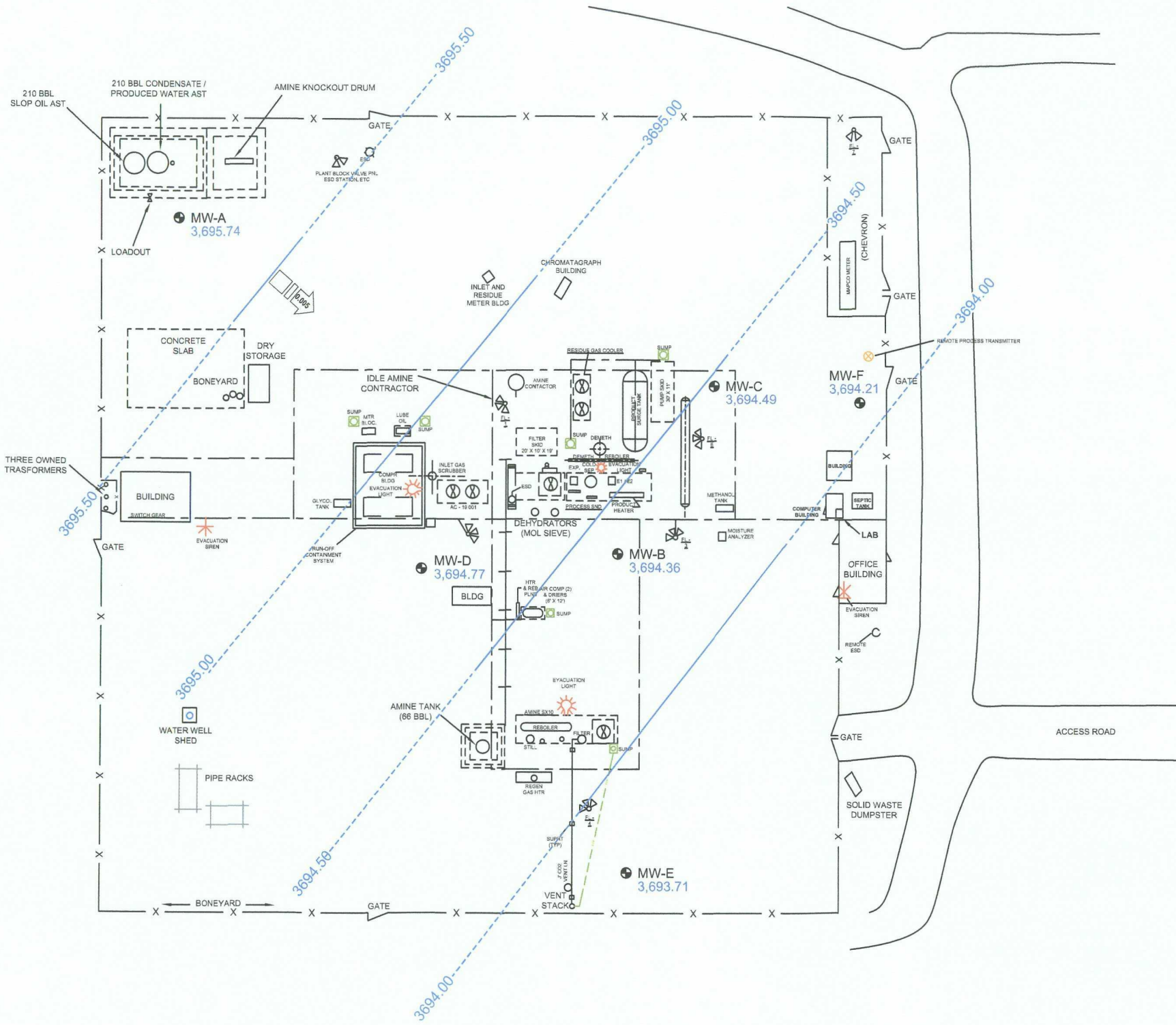


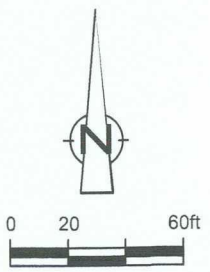
QUAD: USGS MONUMENT NORTH

Figure 1

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

059097-10(010)GN-MD001 FEB 09/2010





LEGEND:

- FENCE LINE
- SECONDARY CONTAINMENT
- ABOVEGROUND STORAGE TANK (AST) OR DRUM
- EXISTING MONITORING WELL
- 3694.0 — POTENTIOMETRIC SURFACE CONTOURS AND ELEVATION
- 3,694.49 — GROUNDWATER ELEVATION, FEET ABOVE MEAN SEA LEVEL
- 0.005 — REGIONAL GROUNDWATER FLOW DIRECTION AND GRADIENT

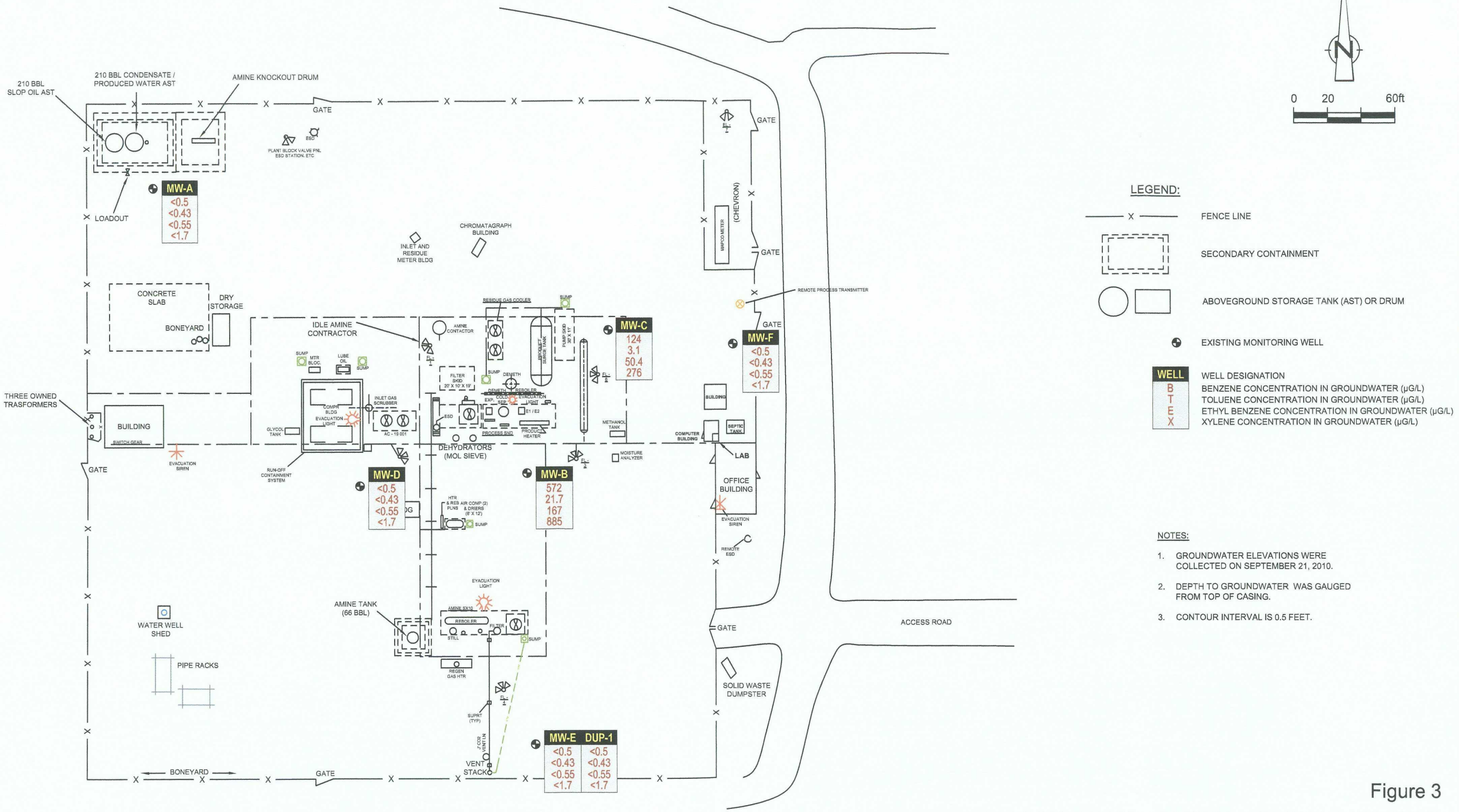
NOTES:

1. GROUNDWATER ELEVATIONS WERE COLLECTED ON SEPTEMBER 21, 2010.
2. DEPTH TO GROUNDWATER / LNAPL WAS GAUGED FROM TOP OF CASING.
3. CONTOUR INTERVAL IS 0.5 FEET.

Figure 2

GROUNDWATER ELEVATION CONTOUR MAP
DCP HOBBS GAS PLANT
LEA COUNTY, NEW MEXICO
DCP Midstream
September 21, 2010

059097-10(010)GN-DN007 DEC 14 2010



LEGEND:

- FENCE LINE
- SECONDARY CONTAINMENT
- ABOVEGROUND STORAGE TANK (AST) OR DRUM
- EXISTING MONITORING WELL

WELL	
B	WELL DESIGNATION
T	BENZENE CONCENTRATION IN GROUNDWATER (µG/L)
E	TOLUENE CONCENTRATION IN GROUNDWATER (µG/L)
X	ETHYL BENZENE CONCENTRATION IN GROUNDWATER (µG/L)
	XYLENE CONCENTRATION IN GROUNDWATER (µG/L)

NOTES:

1. GROUNDWATER ELEVATIONS WERE COLLECTED ON SEPTEMBER 21, 2010.
2. DEPTH TO GROUNDWATER WAS GAUGED FROM TOP OF CASING.
3. CONTOUR INTERVAL IS 0.5 FEET.

Figure 3

HYDROCARBON CONCENTRATIONS IN GROUNDWATER
DCP HOBBS GAS PLANT
LEA COUNTY, NEW MEXICO
DCP Midstream
September 21, 2010

059097-10(007)GN-DN008 JAN 24 2011

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)	Benzene	Toluene	Ethyl - benzene	Total Xylenes
					← Concentrations in µg/l →			
NMWQCC Cleanup Levels					**10**	**750**	**750**	**620**
MW-A	9/21/2010	3755.87	60.13	3695.74	<0.5	<0.43	<0.55	<1.7
MW-B	9/21/2010	3755.94	61.58	3694.36	**572 a**	21.7	167	**885**
MW-C	9/21/2010	3755.59	61.10	3694.49	**124**	3.1	50.4	276
MW-D	9/21/2010	3755.43	60.66	3694.77	<0.5	<0.43	<0.55	<1.7
MW-E	9/21/2010	3754.36	60.65	3693.71	<0.5/<0.5	<0.43/<0.43	<0.55/0.55	<1.7/<1.7
MW-F	9/21/2010	3756.13	61.92	3694.21	<0.5	<0.43	<0.55	<1.7

Notes and Abbreviations:

ID = Identification

TOC = Top of casing

DTW = Depth to water

GWE = Groundwater elevation

DO = Dissolved oxygen

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 = Not detected above x µg/l

x / y = Sample results / blind duplicate results

a = Result is from run # 2

BOLD = Indicates concentration above the NMOCD Cleanup Levels

NMWQCC = New Mexico Water Quality Control Commission

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

Well ID	Date	TOC	DTW	GWE	pH	Conductivitiy	Temperature	DO	ORP	Benzene	Toluene	*Ethyl*-benzene	Total Xylenes
		(ft msl)	(ft bgs)	(ft msl)	s.u.	µS/cm	°C	mg/l	mV	← Concentrations in µg/l →			
MW-A	3/5/2008	3755.87	60.18	3695.69	7.20	431	17.46	11.42	21.3	11	<5.0	3.8	15.0
MW-A	6/2/2008	3755.87	60.19	3695.68	7.31	573	20.57	5.49	31.1	< 0.46	< 0.48	< 0.45	< 1.4
MW-A	9/15/2008	3755.87	60.58	3695.29	6.81	533	19.27	4.96	238.7	< 0.46	< 0.48	< 0.45	< 1.4
MW-A	12/3/2008	3755.87	60.41	3695.46	7.37	505	18.20	7.17	183.9	< 0.46	< 0.48	< 0.45	< 1.4
MW-A	2/27/2009	3755.87	60.18	3695.69	7.29	505	19.34	8.15	64.1	< 0.46	< 0.48	< 0.45	< 1.4
MW-A	6/25/2009	3755.87	60.21	3695.66	6.90	660	19.80	8.20	145.0	< 2.0	< 2.0	< 2.0	< 6.0
MW-A	9/1/2009	3755.87	60.37	3695.50	7.07	670	19.86	8.11	69.0	< 2.0	< 2.0	< 2.0	< 6.0
MW-A	11/17/2009	3755.87	60.40	3695.47	7.82	576	17.67	--	--	< 2.0	< 2.0	< 2.0	< 6.0
MW-A	3/25/2010	3755.87	60.40	3695.47	7.51	567	21.70	--	--	< 2.0	< 2.0	< 2.0	< 6.0
MW-A	6/8/2010	3755.87	60.39	3695.48	7.36	513	22.28	--	--	< 2.0	< 2.0	< 2.0	< 6.0
MW-A	9/21/2010	3755.87	60.13	3695.74	7.11	585.2	20.30	--	--	<0.5	<0.43	<0.55	<1.7
MW-B	3/5/2008	3755.94	61.66	3694.28	6.67	836	16.99	2.49	-214.1	550	64	130	730
MW-B	6/2/2008	3755.94	61.69	3694.25	7.08	868	19.99	1.09	-150.1	444	86.5	155	716
MW-B	9/15/2008	3755.94	62.04	3693.90	6.60	902	19.63	0.56	-151.6	398	36.6	157	947
MW-B(d)	9/15/2008	3755.94	62.04	3693.90	6.60	902	19.63	0.56	-151.6	488	46.0	200	1,210
MW-B	12/3/2008	3755.94	61.93	3694.01	6.93	889	18.39	1.57	-161.4	25.6	0.56 J	7.1	29.2
MW-B	2/27/2009	3755.94	61.68	3694.26	6.87	921	18.83	0.96	-115.7	592	86.3	176	1,230
MW-B	6/25/2009	3755.94	61.63	3694.31	6.60	130	19.80	2.50	-131.0	1,490	270	411	2,750
MW-B	9/1/2009	3755.94	61.81	3694.13	6.60	130	20.36	1.92	-206.0	1,420	195	380	2,930
MW-B	11/17/2009	3755.94	61.85	3694.09	6.99	822	17.50	--	--	199	2.9	68.5	159
MW-B	3/25/2010	3755.94	61.70	3694.24	6.99	1007	20.80	--	--	199	7.8	112	375
MW-B	6/8/2010	3755.94	61.77	3694.17	6.98	866	21.56	--	--	438	20.2	161	836
MW-B(d)	6/8/2010	3755.94	61.77	3694.17	6.98	866	21.56	--	--	631	26.8	191	1,230
MW-B	9/21/2010	3755.94	61.58	3694.36	6.73	981.4	19.70	--	--	**572 a**	21.7	167	**885**
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
NMWQCC Cleanup Levels										**10**	**750**	**750**	**620**

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

Well ID	Date	TOC (ft msl)	DTW (ft bgs)	GWE (ft msl)	pH s.u.	Conductivitiy µS/cm	Temperature °C	DO mg/l	ORP mV	Benzene ←	Toluene Concentrations in µg/l	Ethyl - benzene	Total Xylenes →
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	658	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	22.28	--	--	< 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	--	--	<0.5	<0.43	<0.55	<1.7
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	--	--	<0.5	<0.43	<0.55	<1.7
MW-E(d)	9/21/2010	3754.36	60.65	3693.71	6.72	730	19.40	--	--	<0.5	<0.43	<0.55	<1.7
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	1030	18.67	--	--	< 2.0	< 2.0	< 2.0	< 6.0
MW-F	3/25/2010	3756.13	62.02	3694.11	6.94	1053	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	1003	19.10	--	--	<0.5	<0.43	<0.55	<1.7
NMWQCC Cleanup Levels										10	750	750	620

Notes and Abbreviations:
ID = Identification
TOC = Top of casing
DTW = Depth to water
GWE = Groundwater elevation
DO = Dissolved oxygen
ORP = Oxidation reduction potential
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
s.u. = Standard unit
µS/cm = Microsiemens per centimeter
°C = Degrees Celcius
mg/l = Milligrams per liter
mV = Millivolts
µg/l = Micrograms per liter
<x = Not detected above x µg/l
-- = Not measured/not analyzed
(d) = Duplicate sample
a = Result is from run # 2
J = Estimated value
NMWQCC = New Mexico Water Quality Control Commission

APPENDIX A

WELL SAMPLING FORMS

...e 6-8-10
DCP
JP/BL

... GWS
/ sal
...

...tion
... safety
... could
...t.
...nt and

Location HOBBS

Project / Client 059097 Date 20SEPT10 15

GWS

DCP

JP/BM

1339 - ARRIVED ON SITE
90000

1340 - REVIEWED ALL
HEALTH & SAFETY
ITEMS HAST, BO,
WALKING, H2S, HOT
WEATHER, FRC'S,
LIFTING, TRAFFIC &
WIND.

1350 - STARTED GAUGING
WELLS

1418 - FINISHED GAUGING

1419 - LEFT SITE FOR
APEX TO COMPLETE
OBM 9001

1500 - SIGNED OUT AT FRONT
OFFICE AND LEFT
FOR MIDLAND
OFFICE

16

Location Hobbs Date 9-21-22

Project / Client 059097 IDCN

G.W. ~~J.B. J.H. JM~~

1028 sign in 9211
TBSM, HASP, SWA, BIK/WORKER
1030 start sampling
~~1726 hand dpox~~
1031 - SAMPLING AT MW-1
AND COMPLETED
GWS EVENT @ 1225
1226 - DEMOB AND DECON
ALL EQUIPT. AND
HANDED OVER TO
APEX -
9213

17

Location _____ Date _____

Project / Client _____

HERON IP 06565
MP-6 METER. 06578

CONESTOGA-ROVERS & ASSOCIATES

Groundwater Monitoring Field Sheet

Well ID	Time	DTP	DTW	Depth to Bottom	Product Thickness	Amount of Product Removed	Casing Diam.	Comments
MW-D	1351	–	60.66	69.66	—	—	2,N	
MW-F	1353	–	61.82	73.84	—	–	2,N	
MW-A	1355	—	60.13	70.73	—	–	2,N	
MW-E	1401	–	60.65	71.40	–	–	2,N	
MW-C	1405	–	61.10	73.85	–	–	2,N	
MW-B	1413	—	61.58	70.75	–	–	2,N	

Project Name: **HOBBS GAS PLANT**

Project Number/Task: **059097-11-02**

Field Staff: JP/JM

Date: 20500722010

CONESTOGA-ROVERS
& ASSOCIATES

WELL SAMPLING FORM

Project Name: **Hobbs Gas Plant**	CRA Mgr: John Riggi	Well ID: MW-D
Project Number: 059097	Date: 09-21-2010	Well Yield: 5.0 gal
Site Address: Hobbs, NM	Sampling Method: Hand Bailing	Well Diameter 2"
		Field Staff: JP/JM
Initial Depth to Water: 60.66	Total Well Depth: 69.66	Water Column Height: 9.00
Volume/ft: .16	1 Casing Volume: 1.44	3 Casing Volumes: 4.32
Purging Device: Bailer	Did Well Dewater?: NO	Total Gallons Purged: 5.0 gal
Start Purge Time: 1036	Stop Purge Time: 1044	Total Time: 8 min

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Volume Purged (gallons)	Temp. (°C)	pH	Cond. (uS)	Comments
1045	.25	19.8	6.67	911.7	
1046	.25	19.4	6.97	678.4	
1047	.25	19.2	6.83	724.0	
1048	.25	19.3	6.84	730.5	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-D	9-21-10	1049	40ml	HCL		

CONESTOGA-ROVERS
& ASSOCIATES

WELL SAMPLING FORM

Project Name: **Hobbs Gas Plant**	CRA Mgr: John Riggi	Well ID: MW-F
Project Number: 059097	Date: 09-21-2010	Well Yield: 5-1 gal
Site Address: HOBBS, NM	Sampling Method: Hand Bailing	Well Diameter 2"
		Field Staff: JP/JM
Initial Depth to Water: 61.92	Total Well Depth: 73.84	Water Column Height: 11.92
Volume/ft: .16	1 Casing Volume: 1.90	3 Casing Volumes: 5.72
Purging Device: BAILER	Did Well Dewater?: No	Total Gallons Purged: 5.1 gal
Start Purge Time: 1057	Stop Purge Time: 1104	Total Time: 7 min

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Volume Purged (gallons)	Temp. (°C)	pH	Cond. (uS)	Comments
1105	.25	19.2	6.67	993.9	
1106	.25	19.0	6.66	1001	
1107	.25	19.1	6.67	1003	
~~1108~~	~~.25~~				

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-F	9-21-10	1108	40ml	HCL		

CONESTOGA-ROVERS
& ASSOCIATES

WELL SAMPLING FORM

Project Name: **Hobbs Gas Plant**	CRA Mgr: John Riggi	Well ID: MW-A
Project Number: 059097	Date: 09-21-2010	Well Yield: 5.75
Site Address: Hobbs, NM	Sampling Method: Hand Bailing	Well Diameter 2"
		Field Staff: JP/JM
Initial Depth to Water: 60.13	Total Well Depth: 70.73	Water Column Height: 10.60
Volume/ft: .16	1 Casing Volume: 1.70	3 Casing Volumes: 5.08
Purging Device: Bailer	Did Well Dewater?: NO	Total Gallons Purged: 5.00
Start Purge Time: 1111	Stop Purge Time: 1121	Total Time: 10

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Volume Purged (gallons)	Temp. (°C)	pH	Cond. (uS)	Comments
1122	0.25	20.4	6.78	591.2	
1123	0.25	19.8	7.09	609.1	
1124	0.25	20.3	7.11	585.2	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-A	9-21-10	1125	40ml	HCL		

DUP

DUP

CONESTOGA-ROVERS & ASSOCIATES

WELL SAMPLING FORM

Project Name: **Hobbs Gas Plant**	CRA Mgr: John Riggi	Well ID: MW-E
Project Number: 059097	Date: 09-21-2010	Well Yield: 5.25
Site Address: Hobbs, NM	Sampling Method: Hand Bailing	Well Diameter 2"
		Field Staff: JP/JM
Initial Depth to Water: 60.65	Total Well Depth: 71.40	Water Column Height: 10.75
Volume/ft: .16	1 Casing Volume: 1.72	3 Casing Volumes: 5.16
Purging Device: BAILER	Did Well Dewater?: NO	Total Gallons Purged: 5.16
Start Purge Time: 1131	Stop Purge Time: 1140	Total Time: 9min

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Volume Purged (gallons)	Temp. (°C)	pH	Cond. (uS)	Comments
1140	.25	19.6	6.73	726.4	
1141	.25	19.5	6.73	729.0	
1142	.25	19.4	6.72	730.0	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-E	9-21-10	1143	40ml	HCL	DUP	

CONESTOGA-ROVERS
& ASSOCIATES

WELL SAMPLING FORM

Project Name: **Hobbs Gas Plant**	CRA Mgr: John Riggi	Well ID: MW-C
Project Number: 059097	Date: 09-21-2010	Well Yield: 6.20
Site Address: Hobbs, NM	Sampling Method: Hand Bailing	Well Diameter 2"
		Field Staff: JP/JM
Initial Depth to Water: 61.10	Total Well Depth: 73.85	Water Column Height: 12.75
Volume/ft: .16	1 Casing Volume: 2.04	3 Casing Volumes: 6.12
Purging Device: Bailer	Did Well Dewater?: NO	Total Gallons Purged: 6.12
Start Purge Time: 1148	Stop Purge Time: 1157	Total Time: 19 min

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Volume Purged (gallons)	Temp. (°C)	pH	Cond. (uS)	Comments
1157	.25	19.6	6.60	738.4	
1158	.25	19.2	6.59	719.2	
1159	.25	19.2	6.58	741.8	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-C	9-21-10	1159	40ml	HCL		

CONESTOGA-ROVERS
& ASSOCIATES

WELL SAMPLING FORM

Project Name: **Hobbs Gas Plant**	CRA Mgr: John Riggi	Well ID: MW-B
Project Number: 059097	Date: 09-21-2010	Well Yield: 5.10
Site Address: HOBBS, NM	Sampling Method: Hand Bailing	Well Diameter 2"
		Field Staff: JP/JM
Initial Depth to Water: 61.58	Total Well Depth: 70.75	Water Column Height: 9.17
Volume/ft: .16	1 Casing Volume: 1.46	3 Casing Volumes: 4.40
Purging Device: BAILER	Did Well Dewater?: NO	Total Gallons Purged: 5.0
Start Purge Time: 1203	Stop Purge Time: 1213	Total Time: 13

1 Casing Volume = Water column height x Volume/ ft.

Well Diam.	Volume/ft (gallons)
2"	0.16
4"	0.65
6"	1.47

Time	Volume Purged (gallons)	Temp. (°C)	pH	Cond. (uS)	Comments
1214	0.25	20.1	6.67	1001	
1215	0.25	19.6	6.75	951.3	
1216	0.25	19.7	6.73	981.4	

Sample ID	Date	Time	Container Type	Preservative	Analytes	Analytic Method
MW-B	9-21-10	1217	40ml	HCL		

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

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.

APPENDIX C

LABORATORY ANALYTICAL REPORT