

# **GW-175**

**1<sup>st</sup> QTR 2010 GW monitoring  
results**

**DATE:  
August 18, 2010**



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

August 18, 2010

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

**RE: 1st 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 1st 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](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



# FIRST 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 17<sup>th</sup> Street, Suite 2500  
Denver, Colorado 80202

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Senior Project Geologist

**AUGUST 2, 2010**  
**REF. NO. 059097(4)**  
This report is printed on recycled paper.

**Prepared by:**  
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**CONESTOGA-ROVERS  
& ASSOCIATES**

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## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *First Quarter 2010 Groundwater Monitoring Report* to DCP Midstream, LP (DCP) for the Hobbs Gas Plant in Lea County, New Mexico. This report summarizes the March 24 and 25, 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 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) and 62.44 ft below ground surface (bgs)(MW-F). Static groundwater depths ranged from 60.40 (MW-A) to 62.02 ft bgs (MW-F) on March 24, 2010. Groundwater flow was to the southeast with a gradient of 0.0043 ft/ft (Figure 2).

## 2.0 GROUNDWATER MONITORING AND SAMPLING

CRA gauged groundwater monitoring wells MW-A through MW-F on March 24, 2010 and collected samples from MW-A through MW-F on March 25, 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. Groundwater data and field parameters are summarized in Table 1.



### **Purged Groundwater**

Purged groundwater from all site monitoring wells was stored in a sealed United States Department of Transportation polydrum. The drum was transported to the DCP Linam Ranch Facility; where purged groundwater was disposed in the onsite sump. The drum was labeled with contents, date of generation, generator identification and consultant contact information.

## **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.

### **Constituents of Concern and Cleanup Levels**

The New Mexico Oil Conservation Division (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:

| <b>Analyte</b> | <b>NMWQCC Standard for Groundwater<br/>micrograms per liter (<math>\mu\text{g/l}</math>)</b> |
|----------------|--|
| Benzene        | 10   |
| Toluene        | 750  |
| Ethylbenzene   | 750  |
| Total Xylenes  | 620  |

**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. Benzene was detected at 199 micrograms per liter ( $\mu\text{g/l}$ ) in sample MW-B and 48.2  $\mu\text{g/l}$  in sample MW-C (Figure 3). Groundwater analytical results are summarized in Table 1. The laboratory analytical report is presented as Appendix C.



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#### 4.0 CONCLUSIONS

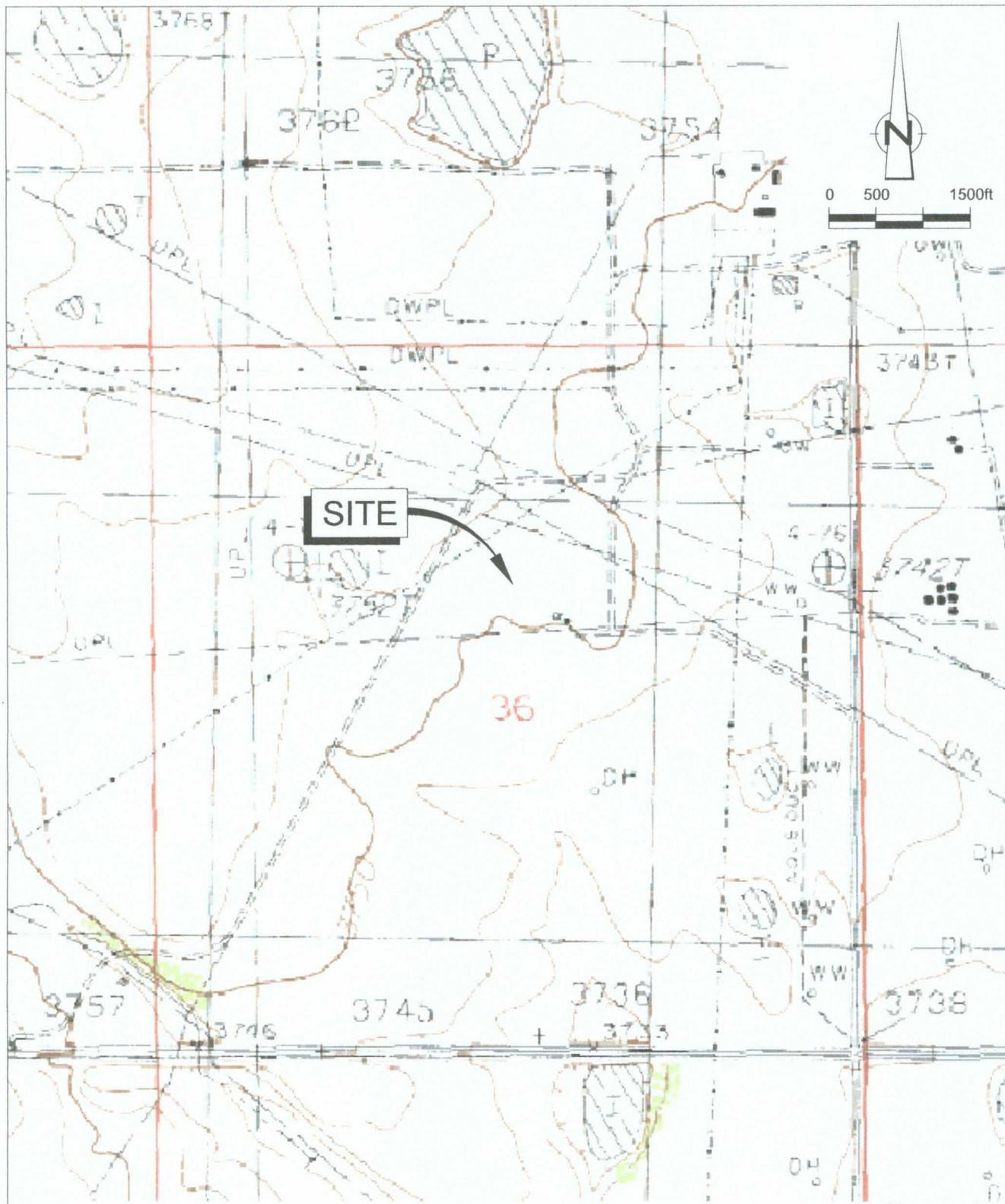
No petroleum hydrocarbons have been detected in quarterly groundwater samples collected from wells MW-A, MW-D, MW-E and MW-F since June 2008. DCP will continue quarterly monitoring and sampling during 2010 to evaluate site groundwater conditions.

FIGURES

FIGURE 1: VICINITY MAP

FIGURE 2: GROUNDWATER ELEVATION CONTOUR MAP

FIGURE 3: GROUNDWATER BTEX ANALYTICAL RESULTS



QUAD: USGS MONUMENT NORTH

Figure 1

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







TABLES

TABLE 1: GROUNDWATER ANALYTICAL RESULTS

# CONESTOGA-ROVERS & ASSOCIATES

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

| Well ID              | Date       | TOC<br>(ft. msl) | DTW<br>(ft. bgs) | CWE<br>(ft. msl) | pH<br>s.u. | Conductivity<br>µS/cm | Temperature<br>°C | DO<br>mg/l | ORP<br>mV | Benzene | Toluene<br>Concentrations in µg/l | Ethyl-<br>benzene | Total Xylenes |
|----------------------|------------|------------------|------------------|------------------|------------|-----------------------|-------------------|------------|-----------|---------|-----------------------------------|-------------------|---------------|
| 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-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    | 195     | 2.9                               | 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-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                   | 19.2              | --         | --        | 48.2    | 3.0                               | 16.9              | 141           |
| MW-C(d)              | 3/25/2010  | 3755.59          | 61.27            | 3694.32          | 7.13       | 686                   | 19.2              | --         | --        | 52.2    | 2.9                               | 20.3              | 123           |
| NMOCD Cleanup Levels |            |                  |                  |                  |            |                       |                   |            |           |         |                                   |                   |               |
|                      |            |                  |                  |                  |            |                       |                   |            |           | 10      | 750                               | 750               | 620           |



APPENDIX A  
WELL SAMPLING FORMS



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& ASSOCIATES

### Groundwater Monitoring Field Sheet

| Well ID | Time<br><i>Control Time</i> | DTP | DTW   | Depth to Bottom | Product Thickness | Amount of Product Removed | Casing Diam. | Comments  |
|---------|-----------------------------|-----|-------|-----------------|-------------------|---------------------------|--------------|-----------|
| MW-D    | 1210                        | --- | 60.89 | 69.55           | ---               | ---                       | 2"           |           |
| MW-F    | 1218                        | --- | 62.02 | 73.80           | ---               | ---                       | 2"           |           |
| MW-A    | 1226                        | --- | 60.40 | 70.60           | ---               | ---                       | 2"           |           |
| MW-E    | 1235                        | --- | 60.82 | 71.30           | ---               | ---                       | 2"           |           |
| MW-C    | 1242                        | --- | 61.27 | 73.65           | ---               | ---                       | 2"           | Dup 32510 |
| MW-B    | 1250                        | --- | 61.70 | 70.61           | ---               | ---                       | 2"           |           |
|         |                             |     |       |                 |                   |                           |              |           |
|         |                             |     |       |                 |                   |                           |              |           |
|         |                             |     |       |                 |                   |                           |              |           |
|         |                             |     |       |                 |                   |                           |              |           |
|         |                             |     |       |                 |                   |                           |              |           |
|         |                             |     |       |                 |                   |                           |              |           |
|         |                             |     |       |                 |                   |                           |              |           |

Project Name: **HOBBS GAS PLANT**      Project Number/Task: **059097-11-02**  
 Field Staff: Joe Kowandowski / Joe Mireles      Date: 3-24-10



## WELL SAMPLING FORM

|                                      |                               |                           |
|--------------------------------------|-------------------------------|---------------------------|
| Project Name: <b>Hobbs Gas Plant</b> | CRA Mgr: John Riggi           | Well ID: MW-A             |
| Project Number: 059097               | Date: 3-25-10                 | Well Yield: 6             |
| Site Address:                        | Sampling Method: Hand Bailing | Well Diameter 2"          |
|                                      |                               | Field Staff: JM JL        |
| Initial Depth to Water: 60.40        | Total Well Depth: 70.60       | Water Column Height: 10.2 |
| Volume/ft: 0.16                      | 1 Casing Volume: 1.632        | 3 Casing Volumes: 4.89    |
| Purging Device: Bailor               | Did Well Dewater?: NO         | Total Gallons Purged: 6   |
| Start Purge Time: 1225               | Stop Purge Time: 1245         | Total Time: 20 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. (°F) | pH   | Cond. (uS) | Comments |
|------|-------------------------|------------|------|------------|----------|
| 1237 | 0.25                    | 74.4       | 7.46 | 573        |          |
| 1240 | 0.25                    | 70.3       | 7.57 | 540        |          |
| 1242 | 0.25                    | 70.1       | 7.51 | 567        |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |

| Sample ID | Date    | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|----------|-----------------|
| MW-A      | 3-25-10 | 1245 | VOA            | HCl          | VOCs     | 8260B SW 846    |
|           |         |      |                |              |          |                 |
|           |         |      |                |              |          |                 |
|           |         |      |                |              |          |                 |



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## WELL SAMPLING FORM

|                                      |                               |                            |
|--------------------------------------|-------------------------------|----------------------------|
| Project Name: <b>Hobbs Gas Plant</b> | CRA Mgr: John Riggi           | Well ID: MW-B              |
| Project Number: 059097               | Date: 03-25-10                | Well Yield: 5.25           |
| Site Address:                        | Sampling Method: Hand Bailing | Well Diameter 2"           |
|                                      |                               | Field Staff: JL, JM        |
| Initial Depth to Water: 61.70        | Total Well Depth: 70.61       | Water Column Height: 8.91  |
| Volume/ft: .16                       | 1 Casing Volume: 1.43         | 3 Casing Volumes: 4.28     |
| Purging Device: Bailer               | Did Well Dewater?: NO         | Total Gallons Purged: 5.25 |
| Start Purge Time: 1417               | Stop Purge Time:              | Total Time:                |

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

| <u>Well Diam.</u> | <u>Volume/ft (gallons)</u> |
|-------------------|----------------------------|
| 2"                | 0.16                       |
| 4"                | 0.65                       |
| 6"                | 1.47                       |

| Time | Volume Purged (gallons) | Temp. (°C) | pH   | Cond. (uS) | Comments |
|------|-------------------------|------------|------|------------|----------|
| 1425 | .25                     | 76.6       | 6.95 | 936        |          |
| 1427 | .25                     | 72.6       | 6.96 | 973        |          |
| 1429 | .25                     | 69.4       | 6.99 | 1007       |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |

| Sample ID | Date    | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|----------|-----------------|
| MW-B      | 3/25/10 | 1435 | 40 ml VOA      | HCl          | VOC's    | 8260 B          |
|           |         |      |                |              |          |                 |
|           |         |      |                |              |          |                 |
|           |         |      |                |              |          |                 |



## WELL SAMPLING FORM

|                                      |                                |   |
|--------------------------------------|--------------------------------|---|
| Project Name: <b>Hobbs Gas Plant</b> | CRA Mgr: John Riggi            | Well ID: MW-C - <i>DUP32510</i>         |
| Project Number: 059097               | Date: <i>3-25-10</i>           | Well Yield: <i>7.50/s</i>               |
| Site Address:                        | Sampling Method: Hand Bailing  | Well Diameter: <i>2"</i>                |
|                                      |                                | Field Staff: <i>J.L. JM<sub>i</sub></i> |
| Initial Depth to Water: <i>61.27</i> | Total Well Depth: <i>73.65</i> | Water Column Height: <i>12.38</i>       |
| Volume/ft: <i>0.14</i>               | 1 Casing Volume: <i>1.98</i>   | 3 Casing Volumes: <i>5.94</i>           |
| Purging Device: <i>Bailer</i>        | Did Well Dewater?: <i>NO</i>   | Total Gallons Purged: <i>7.</i>         |
| Start Purge Time: <i>1340</i>        | Stop Purge Time: <i>1402</i>   | Total Time: <i>22 min</i>               |

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. (°F)  | pH          | Cond. (uS) | Comments |
|-------------|-------------------------|-------------|-------------|------------|----------|
| <i>1355</i> | <i>0.25</i>             | <i>73.4</i> | <i>7.05</i> | <i>717</i> |          |
| <i>1357</i> | <i>0.25</i>             | <i>67.6</i> | <i>7.15</i> | <i>671</i> |          |
| <i>1400</i> | <i>0.25</i>             | <i>66.5</i> | <i>7.13</i> | <i>686</i> |          |
|             |                         |             |             |            |          |
|             |                         |             |             |            |          |
|             |                         |             |             |            |          |
|             |                         |             |             |            |          |

| Sample ID   | Date           | Time        | Container Type | Preservative | Analytes     | Analytic Method          |
|-------------|----------------|-------------|----------------|--------------|--------------|--------------------------|
| <i>MW-C</i> | <i>3-25-10</i> | <i>1402</i> | <i>VOA</i>     | <i>HCl</i>   | <i>Voc's</i> | <i>8260 B<br/>SW 846</i> |
| <i>DUP</i>  | <i>3-25-10</i> | <i>1402</i> | <i>VOA</i>     | <i>HCl</i>   | <i>Voc's</i> | <i>8260 B<br/>SW 846</i> |
|             |                |             |                |              |              |                          |
|             |                |             |                |              |              |                          |



## WELL SAMPLING FORM

|                                      |                               |                                      |
|--------------------------------------|-------------------------------|--------------------------------------|
| Project Name: <b>Hobbs Gas Plant</b> | CRA Mgr: John Riggi           | Well ID: MW-D                        |
| Project Number: 059097               | Date: 3-25-10                 | Well Yield: <del>4.25</del> 4.25     |
| Site Address:                        | Sampling Method: Hand Bailing | Well Diameter 2"                     |
|                                      |                               | Field Staff: J.M. JL.                |
| Initial Depth to Water: 60.89        | Total Well Depth: 69.55       | Water Column Height: 8.66            |
| Volume/ft: 0.16                      | 1 Casing Volume: 1.386        | 3 Casing Volumes: 4.2                |
| Purging Device: Bailor               | Did Well Dewater?: NO         | Total Gallons Purged: <del>5</del> 5 |
| Start Purge Time: 1105               | Stop Purge Time: 1130         | Total Time: 25 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)<br>°F | pH   | Cond. (uS) | Comments |
|------|-------------------------|------------------|------|------------|----------|
| 1123 | 0.25                    | 71.0             | 7.19 | 738        |          |
| 1124 | <del>4.50</del> 0.25    | 67.8             | 7.11 | 780        |          |
| 1127 | <del>4.75</del> 0.25    | 67.1             | 7.18 | 706        |          |
|      |                         |                  |      |            |          |
|      |                         |                  |      |            |          |
|      |                         |                  |      |            |          |
|      |                         |                  |      |            |          |

| Sample ID | Date | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|------|------|----------------|--------------|----------|-----------------|
| MW-D      | 3-25 | 1135 | VOA            | HCL          | VOC's    | SW 84/6 8260B   |
|           |      |      |                |              |          |                 |
|           |      |      |                |              |          |                 |
|           |      |      |                |              |          |                 |



## WELL SAMPLING FORM

|                                      |                               |                            |
|--------------------------------------|-------------------------------|----------------------------|
| Project Name: <b>Hobbs Gas Plant</b> | CRA Mgr: John Riggi           | Well ID: MW-E              |
| Project Number: 059097               | Date: 3-25-10                 | Well Yield: 6              |
| Site Address:                        | Sampling Method: Hand Bailing | Well Diameter 2"           |
|                                      |                               | Field Staff: JL, JM        |
| Initial Depth to Water: 60.82        | Total Well Depth: 71.30       | Water Column Height: 10.48 |
| Volume/ft: .16                       | 1 Casing Volume: 1.68         | 3 Casing Volumes: 5.03     |
| Purging Device: Bailer               | Did Well Dewater?: NO         | Total Gallons Purged: 6    |
| Start Purge Time: 1258               | Stop Purge Time: 1314         | Total Time:                |

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 |
|------|-------------------------|------------|------|------------|----------|
| 1308 | .25                     | 71.4       | 7.24 | 628        |          |
| 1311 | .25                     | 68.5       | 7.27 | 645        |          |
| 1314 | .25                     | 67.1       | 7.14 | 654        |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |
|      |                         |            |      |            |          |

| Sample ID | Date    | Time | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|------|----------------|--------------|----------|-----------------|
| MW-E      | 3/25/10 | 1318 | 40ml VOA       | HCl          | VOC's    | 8260B           |
|           |         |      |                |              |          |                 |
|           |         |      |                |              |          |                 |
|           |         |      |                |              |          |                 |



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## WELL SAMPLING FORM

|                                      |                               |                            |
|--------------------------------------|-------------------------------|----------------------------|
| Project Name: <b>Hobbs Gas Plant</b> | CRA Mgr: John Riggi           | Well ID: MW-F              |
| Project Number: 059097               | Date: 03-25-10                | Well Yield: 5.65           |
| Site Address:                        | Sampling Method: Hand Bailing | Well Diameter 2"           |
|                                      |                               | Field Staff: JL JM         |
| Initial Depth to Water: 62.02        | Total Well Depth: 73.80       | Water Column Height: 11.78 |
| Volume/ft: 0.16                      | 1 Casing Volume: 1.88         | 3 Casing Volumes: 5.65     |
| Purging Device: Bailor               | Did Well Dewater?: NO         | Total Gallons Purged: 6.25 |
| Start Purge Time: 1147               | Stop Purge Time: 1204         | Total Time:                |

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

| <u>Well Diam.</u> | <u>Volume/ft (gallons)</u> |
|-------------------|----------------------------|
| 2"                | 0.16                       |
| 4"                | 0.65                       |
| 6"                | 1.47                       |

| Time  | Volume Purged (gallons) | Temp.<br>°F | pH   | Cond. (uS) | Comments |
|-------|-------------------------|-------------|------|------------|----------|
| 11:59 | 0.25                    | 68.5        | 6.89 | 1057       |          |
| 12:02 | 0.25                    | 66.3        | 7.01 | 1056       |          |
| 12:04 | 0.25                    | 66.2        | 6.94 | 1053       |          |
|       |                         |             |      |            |          |
|       |                         |             |      |            |          |
|       |                         |             |      |            |          |
|       |                         |             |      |            |          |
|       |                         |             |      |            |          |

| Sample ID | Date    | Time  | Container Type | Preservative | Analytes | Analytic Method |
|-----------|---------|-------|----------------|--------------|----------|-----------------|
| MW-F      | 3-25-10 | 12:10 | 40ml VOA       | HCl          | VOC's    | 8260B           |
|           |         |       |                |              |          |                 |
|           |         |       |                |              |          |                 |
|           |         |       |                |              |          |                 |

APPENDIX B

STANDARD OPERATING PROCEDURES FOR GROUNDWATER  
MONITORING AND SAMPLING



**CONESTOGA-ROVERS  
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## **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.

\\DEN-S1\Shared\Denver\Alaska\AK SOP\CRA Alaska SOP\AK Groundwater Monitoring and Sampling SOP - CRA.doc

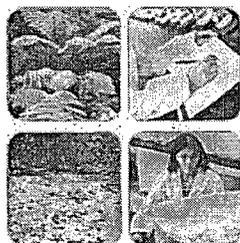
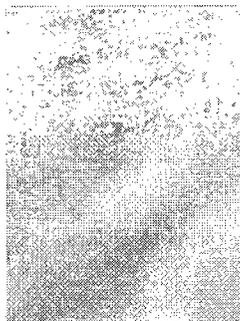
APPENDIX C

LABORATORY ANALYTICAL REPORT



IT'S ALL IN THE CHEMISTRY

04/06/10



Technical Report for

DCP Midstream, LLC

CRA: Hobbs

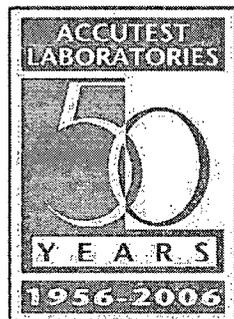
Accutest Job Number: T49985

Sampling Date: 03/25/10

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: 25



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 (T104704220-09C-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004)  
OK (9103) UT(7132714700)

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Test results relate only to samples analyzed.

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### Sample Summary

DCP Midstream, LLC

Job No: T49985

CRA: Hobbs

| Sample Number | Collected |          | Received | Matrix |                  | Client Sample ID |
|---------------|-----------|----------|----------|--------|------------------|------------------|
|               | Date      | Time By  |          | Code   | Type             |                  |
| T49985-1      | 03/25/10  | 12:45 JM | 03/30/10 | AQ     | Ground Water     | MW-A             |
| T49985-2      | 03/25/10  | 14:35 JM | 03/30/10 | AQ     | Ground Water     | MW-B             |
| T49985-3      | 03/25/10  | 14:02 JM | 03/30/10 | AQ     | Ground Water     | MW-C             |
| T49985-4      | 03/25/10  | 11:35 JM | 03/30/10 | AQ     | Ground Water     | MW-D             |
| T49985-5      | 03/25/10  | 13:18 JM | 03/30/10 | AQ     | Ground Water     | MW-E             |
| T49985-6      | 03/25/10  | 12:10 JM | 03/30/10 | AQ     | Ground Water     | MW-F             |
| T49985-7      | 03/25/10  | 00:00 JM | 03/30/10 | AQ     | Ground Water     | DUPLICATE        |
| T49985-8      | 03/25/10  | 00:00 JM | 03/30/10 | AQ     | Trip Blank Water | TRIP BLANK       |



**Sample Results**

**Report of Analysis**

Report of Analysis

2.1  
2

|                           |                         |
|---------------------------|-------------------------|
| Client Sample ID: MW-A    | Date Sampled: 03/25/10  |
| Lab Sample ID: T49985-1   | Date Received: 03/30/10 |
| 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 | C0007931.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |
| 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  | 111%   |        | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102%   |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 94%    |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 83%    |        | 80-133% |

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

Report of Analysis

|                           |                         |
|---------------------------|-------------------------|
| Client Sample ID: MW-B    | Date Sampled: 03/25/10  |
| Lab Sample ID: T49985-2   | Date Received: 03/30/10 |
| 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 | C0007947.D | 1  | 04/05/10 | RR | n/a       | n/a        | VC369            |
| Run #2 | C0007949.D | 10 | 04/05/10 | RR | n/a       | n/a        | VC369            |

| Run #  | Purge Volume |
|--------|--------------|
| Run #1 | 5.0 ml       |
| Run #2 | 5.0 ml       |

Purgeable Aromatics

| CAS No.   | Compound       | Result             | RL     | MDL     | Units | Q |
|-----------|----------------|--------------------|--------|---------|-------|---|
| 71-43-2   | Benzene        | 0.199 <sup>a</sup> | 0.020  | 0.0050  | mg/l  |   |
| 108-88-3  | Toluene        | 0.0078             | 0.0020 | 0.00043 | mg/l  |   |
| 100-41-4  | Ethylbenzene   | 0.112              | 0.0020 | 0.00055 | mg/l  |   |
| 1330-20-7 | Xylene (total) | 0.375              | 0.0060 | 0.0017  | mg/l  |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 1868-53-7  | Dibromofluoromethane  | 94%    | 99%    | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90%    | 90%    | 75-121% |
| 2037-26-5  | Toluene-D8            | 107%   | 99%    | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 84%    | 94%    | 80-133% |

(a) Result is from Run# 2

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

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

### Report of Analysis

|                           |                         |
|---------------------------|-------------------------|
| Client Sample ID: MW-C    | Date Sampled: 03/25/10  |
| Lab Sample ID: T49985-3   | Date Received: 03/30/10 |
| 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 | C0007932.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |
| 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        | 0.0482 | 0.0020 | 0.00050 | mg/l  |   |
| 108-88-3  | Toluene        | 0.0030 | 0.0020 | 0.00043 | mg/l  |   |
| 100-41-4  | Ethylbenzene   | 0.0169 | 0.0020 | 0.00055 | mg/l  |   |
| 1330-20-7 | Xylene (total) | 0.141  | 0.0060 | 0.0017  | mg/l  |   |

| CAS No.    | Surrogate Recoveries  | Run# 1           | Run# 2 | Limits  |
|------------|-----------------------|------------------|--------|---------|
| 1868-53-7  | Dibromofluoromethane  | 98%              |        | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98%              |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 106%             |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 77% <sup>a</sup> |        | 80-133% |

(a) Outside control limits biased low. There are no target compounds associated with this surrogate.

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: 03/25/10  |
| Lab Sample ID: T49985-4   | Date Received: 03/30/10 |
| 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 | C0007933.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |
| 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  | 110%   |        | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100%   |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 95%    |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 83%    |        | 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: 03/25/10  |
| Lab Sample ID: T49985-5   | Date Received: 03/30/10 |
| 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 | C0007934.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |
| 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  | 111%   |        | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 105%   |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 95%    |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 80%    |        | 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:   | 03/25/10 |
| Lab Sample ID:    | T49985-6          | Date Received:  | 03/30/10 |
| 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 | C0007946.D | 1  | 04/05/10 | RR | n/a       | n/a        | VC369            |
| 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  | 111%   |        | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 105%   |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 95%    |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 89%    |        | 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: DUPLICATE

Lab Sample ID: T49985-7

Date Sampled: 03/25/10

Matrix: AQ - Ground Water

Date Received: 03/30/10

Method: SW846 8260B

Percent Solids: n/a

Project: CRA: Hobbs

| Run #  | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------|-----------|----|----------|----|-----------|------------|------------------|
| Run #1 | F024965.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |
| 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        | 0.0522 | 0.0020 | 0.00050 | mg/l  |   |
| 108-88-3  | Toluene        | 0.0029 | 0.0020 | 0.00043 | mg/l  |   |
| 100-41-4  | Ethylbenzene   | 0.0203 | 0.0020 | 0.00055 | mg/l  |   |
| 1330-20-7 | Xylene (total) | 0.123  | 0.0060 | 0.0017  | mg/l  |   |

| CAS No.    | Surrogate Recoveries  | Run# 1 | Run# 2 | Limits  |
|------------|-----------------------|--------|--------|---------|
| 1868-53-7  | Dibromofluoromethane  | 103%   |        | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 96%    |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 101%   |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 98%    |        | 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: | TRIP BLANK            | Date Sampled:   | 03/25/10 |
| Lab Sample ID:    | T49985-8              | Date Received:  | 03/30/10 |
| 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 | F024966.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |
| 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 | 98%    |        | 75-121% |
| 2037-26-5  | Toluene-D8            | 104%   |        | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 101%   |        | 80-133% |

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

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



## Misc. Forms

### Custody Documents and Other Forms

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Includes the following where applicable:

- Chain of Custody



SAMPLE INSPECTION FORM

Accutest Job Number: T49985 Client: Conestoga Powers and Associates Date/Time Received: 07/30/10 0730

# of Coolers Received: 1 Thermometer #: 2110 Temperature Adjustment Factor: -0.5

Cooler Temps: #1: 2.4 #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
Analysis 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 rcvd 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] 07/30/10

INFORMATION AND SAMPLE LABELING VERIFIED BY: [Signature] 3/30/10

CORRECTIVE ACTIONS

Client Representative Notified: Date:

By Accutest Representative: Via: Phone Email

Client Instructions:





## GC/MS Volatiles

### 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**

Job Number: T49985  
 Account: DUKE DCP Midstream, LLC  
 Project: CRA: Hobbs

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| VF3815-MB | F024949.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |

4.1.1  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-7, T49985-8

| 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 | 96% 75-121%  |
| 2037-26-5  | Toluene-D8            | 104% 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 99% 80-133%  |

Method Blank Summary

Job Number: T49985
Account: DUKE DCP Midstream, LLC
Project: CRA: Hobbs

Table with 8 columns: Sample, File ID, DF, Analyzed, By, Prep Date, Prep Batch, Analytical Batch. Row 1: VC369-MB, C0007945.D 1, 04/05/10, RR, n/a, n/a, VC369

4.1.2
4

The QC reported here applies to the following samples: Method: SW846 8260B

T49985-2, T49985-6

Table with 6 columns: CAS No., Compound, Result, RL, MDL, Units Q. Rows include Benzene, Ethylbenzene, Toluene, Xylene (total) with results ND and various RL/MDL values.

Table with 3 columns: CAS No., Surrogate Recoveries, Limits. Rows include Dibromofluoromethane, 1,2-Dichloroethane-D4, Toluene-D8, 4-Bromofluorobenzene with recovery percentages and limits.

# Blank Spike Summary

Job Number: T49985  
 Account: DUKE DCP Midstream, LLC  
 Project: CRA: Hobbs

| Sample   | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|----------|------------|----|----------|----|-----------|------------|------------------|
| VC368-BS | C0007914.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |

4.2.1  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-1, T49985-3, T49985-4, T49985-5

| CAS No.   | Compound       | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|-----------|----------------|---------------|-------------|----------|--------|
| 71-43-2   | Benzene        | 25            | 24.9        | 100      | 76-118 |
| 100-41-4  | Ethylbenzene   | 25            | 23.0        | 92       | 75-112 |
| 108-88-3  | Toluene        | 25            | 24.5        | 98       | 77-114 |
| 1330-20-7 | Xylene (total) | 75            | 66.6        | 89       | 75-111 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 1868-53-7  | Dibromofluoromethane  | 95%  | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 96%  | 75-121% |
| 2037-26-5  | Toluene-D8            | 101% | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 91%  | 80-133% |

# Blank Spike Summary

Job Number: T49985  
 Account: DUKE DCP Midstream, LLC  
 Project: CRA: Hobbs

| Sample    | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-----------|-----------|----|----------|----|-----------|------------|------------------|
| VF3815-BS | F024947.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |

4.2.2  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-7, T49985-8

| CAS No.   | Compound       | Spike<br>ug/l | BSP<br>ug/l | BSP<br>% | Limits |
|-----------|----------------|---------------|-------------|----------|--------|
| 71-43-2   | Benzene        | 25            | 22.6        | 90       | 76-118 |
| 100-41-4  | Ethylbenzene   | 25            | 21.8        | 87       | 75-112 |
| 108-88-3  | Toluene        | 25            | 22.4        | 90       | 77-114 |
| 1330-20-7 | Xylene (total) | 75            | 67.7        | 90       | 75-111 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 1868-53-7  | Dibromofluoromethane  | 102% | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 97%  | 75-121% |
| 2037-26-5  | Toluene-D8            | 104% | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 98%  | 80-133% |

# Blank Spike Summary

Job Number: T49985  
Account: DUKE DCP Midstream, LLC  
Project: CRA: Hobbs

| Sample   | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|----------|------------|----|----------|----|-----------|------------|------------------|
| VC369-BS | C0007943.D | 1  | 04/05/10 | RR | n/a       | n/a        | VC369            |

4.2.3  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-2, T49985-6

| CAS No.   | Compound       | Spike ug/l | BSP ug/l | BSP % | Limits |
|-----------|----------------|------------|----------|-------|--------|
| 71-43-2   | Benzene        | 25         | 25.7     | 103   | 76-118 |
| 100-41-4  | Ethylbenzene   | 25         | 23.9     | 96    | 75-112 |
| 108-88-3  | Toluene        | 25         | 25.1     | 100   | 77-114 |
| 1330-20-7 | Xylene (total) | 75         | 67.9     | 91    | 75-111 |

| CAS No.    | Surrogate Recoveries  | BSP  | Limits  |
|------------|-----------------------|------|---------|
| 1868-53-7  | Dibromofluoromethane  | 98%  | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94%  | 75-121% |
| 2037-26-5  | Toluene-D8            | 100% | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 90%  | 80-133% |

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T49985  
 Account: DUKE DCP Midstream, LLC  
 Project: CRA: Hobbs

| Sample       | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|--------------|------------|----|----------|----|-----------|------------|------------------|
| T49684-17MS  | C0007922.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |
| T49684-17MSD | C0007923.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |
| T49684-17    | C0007921.D | 1  | 04/04/10 | RR | n/a       | n/a        | VC368            |

4.3.1  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-1, T49985-3, T49985-4, T49985-5

| CAS No.   | Compound       | T49684-17<br>ug/l | Spike<br>Q | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|-------------------|------------|------------|---------|-------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND                | 25         | 27.9       | 112     | 26.3        | 105      | 6   | 76-118/16         |
| 100-41-4  | Ethylbenzene   | ND                | 25         | 24.0       | 96      | 23.0        | 92       | 4   | 75-112/12         |
| 108-88-3  | Toluene        | ND                | 25         | 25.1       | 100     | 24.7        | 99       | 2   | 77-114/12         |
| 1330-20-7 | Xylene (total) | ND                | 75         | 68.0       | 91      | 66.5        | 89       | 2   | 75-111/12         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | T49684-17 | Limits  |
|------------|-----------------------|------|------|-----------|---------|
| 1868-53-7  | Dibromofluoromethane  | 102% | 97%  | 111%      | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99%  | 95%  | 103%      | 75-121% |
| 2037-26-5  | Toluene-D8            | 100% | 101% | 96%       | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 82%  | 83%  | 80%       | 80-133% |

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T49985  
 Account: DUKE DCP Midstream, LLC  
 Project: CRA: Hobbs

| Sample      | File ID   | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|-----------|----|----------|----|-----------|------------|------------------|
| T49684-1MS  | F024954.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |
| T49684-1MSD | F024955.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |
| T49684-1    | F024953.D | 1  | 04/04/10 | RR | n/a       | n/a        | VF3815           |

4.3.2  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-7, T49985-8

| CAS No.   | Compound       | T49684-1<br>ug/l | Spike<br>Q<br>ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|------------------|--------------------|------------|---------|-------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | ND               | 25                 | 23.9       | 96      | 24.0        | 96       | 0   | 76-118/16         |
| 100-41-4  | Ethylbenzene   | ND               | 25                 | 23.4       | 94      | 23.4        | 94       | 0   | 75-112/12         |
| 108-88-3  | Toluene        | ND               | 25                 | 23.6       | 94      | 23.7        | 95       | 0   | 77-114/12         |
| 1330-20-7 | Xylene (total) | ND               | 75                 | 71.5       | 95      | 71.3        | 95       | 0   | 75-111/12         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | T49684-1 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 1868-53-7  | Dibromofluoromethane  | 102% | 101% | 101%     | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98%  | 98%  | 96%      | 75-121% |
| 2037-26-5  | Toluene-D8            | 103% | 104% | 104%     | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 98%  | 97%  | 100%     | 80-133% |

# Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T49985  
 Account: DUKE DCP Midstream, LLC  
 Project: CRA: Hobbs

| Sample      | File ID    | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|-------------|------------|----|----------|----|-----------|------------|------------------|
| T50047-1MS  | C0007953.D | 1  | 04/05/10 | RR | n/a       | n/a        | VC369            |
| T50047-1MSD | C0007954.D | 1  | 04/05/10 | RR | n/a       | n/a        | VC369            |
| T50047-1    | C0007952.D | 1  | 04/05/10 | RR | n/a       | n/a        | VC369            |

4.3.3  
4

The QC reported here applies to the following samples:

Method: SW846 8260B

T49985-2, T49985-6

| CAS No.   | Compound       | T50047-1<br>ug/l | Spike<br>Q<br>ug/l | MS<br>ug/l | MS<br>% | MSD<br>ug/l | MSD<br>% | RPD | Limits<br>Rec/RPD |
|-----------|----------------|------------------|--------------------|------------|---------|-------------|----------|-----|-------------------|
| 71-43-2   | Benzene        | 67.3             | 25                 | 108        | 163* a  | 101         | 135* a   | 7   | 76-118/16         |
| 100-41-4  | Ethylbenzene   | ND               | 25                 | 27.3       | 109     | 26.9        | 108      | 1   | 75-112/12         |
| 108-88-3  | Toluene        | ND               | 25                 | 27.8       | 111     | 26.8        | 107      | 4   | 77-114/12         |
| 1330-20-7 | Xylene (total) | ND               | 75                 | 76.7       | 102     | 75.8        | 101      | 1   | 75-111/12         |

| CAS No.    | Surrogate Recoveries  | MS   | MSD  | T50047-1 | Limits  |
|------------|-----------------------|------|------|----------|---------|
| 1868-53-7  | Dibromofluoromethane  | 97%  | 92%  | 95%      | 79-122% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86%  | 73%* | 80%      | 75-121% |
| 2037-26-5  | Toluene-D8            | 103% | 102% | 98%      | 87-119% |
| 460-00-4   | 4-Bromofluorobenzene  | 81%  | 84%  | 82%      | 80-133% |

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



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

August 18, 2010

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

**RE: Supplemental Site Assessment Workplan  
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 Supplemental Site Assessment Work Plan for the DCP Hobbs Gas Plant located in Lea County, New Mexico (Unit G, Section 36, Township 18 South, Range 36 East).

Upon your approval of the work plan, DCP will schedule the drilling activities. DCP will notify the OCD at least 48 hours before field activities start.

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



## SUPPLEMENTAL SITE ASSESSMENT WORKPLAN

**DCP HOBBS GAS PLANT**

**GWf175**

**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**

**AUGUST 2, 2010**

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## 1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) is submitting this *Supplemental Site Assessment Workplan* to DCP Midstream, LP (DCP) for the Hobbs Gas Plant in Lea County, New Mexico. Additional site characterization is required to delineate the benzene plume to the southeast. CRA proposes to install two groundwater monitoring wells.

This workplan was prepared in accordance with the New Mexico Oil Conservation Division's (NMOCD) August 13, 1993 *Guidelines for Remediation of Leaks, Spills, and Releases*. The site background, proposed scope of work and schedule are described below.

## 2.0 SITE BACKGROUND

### 2.1 SITE CHARACTERIZATION

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 (Figure 2).

### 2.2 PREVIOUS INVESTIGATIONS

Maxim Technologies Incorporated conducted a subsurface investigation in 2000. No petroleum hydrocarbons were detected above cleanup levels in any collected soil sample. In 2004, Arcadis completed six monitoring wells MW-A through MW-F to determine if petroleum hydrocarbons were present in groundwater. The maximum benzene concentration detected in groundwater was 47 micrograms per liter ( $\mu\text{g}/\text{l}$ ).

No total petroleum hydrocarbons as gasoline range organics (TPH-GRO) or benzene, toluene, ethylbenzene or xylenes (BTEX) were detected in soil above NMOCD regulatory cleanup levels.



### 2.3 CONSTITUENTS OF CONCERN AND CLEANUP LEVELS

The NMOCD guidelines require groundwater to be analyzed for potential constituents of concern (COC) as defined by the NMWQCC regulations. The COC in site groundwater is benzene. NMWQCC human health standards for groundwater (*Title 20, Chapter 6, Part 2, Section 3103, Subsection A*) are:

| Analyte       | NMWQCC Standard for Groundwater<br>(µg/l) |
|---------------|---|
| Benzene       | 10  |
| Toluene       | 750                                       |
| Ethylbenzene  | 750                                       |
| Total Xylenes | 620                                       |

### 2.4 REGIONAL GEOLOGY

Bedrock in the Hobbs area consists primarily of the Tertiary Ogallala Formation. The Ogallala Formation is generally composed of unconsolidated and poorly sorted gravel, sand, silt and clay deposited by ancient streams flowing east out of the Rocky Mountains. The local Tertiary Ogallala Formation is underlain by less permeable Jurassic and Triassic sedimentary rocks, primarily shale and sandstone.

### 2.5 SITE LITHOLOGY

Subsurface sediments are dominated by the Amarillo-Arvana association, which is composed of sandy alluvium and wind-deposited sediments. These sediments include a fine sandy loam or loamy fine sand underlain by sandy clay loam. The Amarillo-Arvana association overlies sand, silt, clay and gravel, which overlies a caliche layer associated with the Ogallala Formation.

### 2.6 HYDROGEOLOGY

Historical static groundwater depths have ranged between 60.18 (MW-A) and 62.44 ft below ground surface (ft bgs) (MW-F). Groundwater flows to the southeast with a general gradient of 0.0043 ft/ft.



## 2.7 SURFACE WATER BODIES

An unnamed intermittent watercourse is located approximately 1/2 mile crossgradient southwest of the site. Based on distance and local topography it is unlikely that the watercourse has been affected by site activities.

## 2.8 SENSITIVE RECEPTORS

One onsite water production well (Well Number L07843) supplies water for the gas plant. The onsite well was sampled in 2004; no benzene was detected in groundwater above cleanup levels. There are 20 registered wells within one mile of the site. The nearest well is approximately 900 ft south of the site (Well Number L03079). This well is used for prospecting or development of natural resources. Based on distance and local topography it is unlikely that this well has been affected by site activities. Wells within one mile radius are presented on Table 1.

## 2.9 PETROLEUM HYDROCARBON DISTRIBUTION

### Soil

The 2004 soil sample contained no TPH-GRO or BTEX above regulatory cleanup levels.

### Groundwater

Groundwater data from site monitoring wells MW-A, MW-D, MW-E, and MW-F have delineated petroleum hydrocarbon impact to the northwest, west, south, and east, respectively. The site has not been delineated to the southeast. Benzene has historically been above cleanup levels in monitoring wells MW-B and MW-C. Xylenes have exceeded groundwater cleanup levels in well MW-B

## 3.0 PROPOSED SCOPE OF WORK

### 3.1 WELL INSTALLATION RATIONALE

Petroleum hydrocarbon concentrations in monitoring wells MW-A, MW-D, MW-E and MW-F have been below NMWQCC groundwater cleanup levels since June 2008. Groundwater samples collected from wells MW-B and MW-C have historically contained benzene and/or xylene concentrations above cleanup levels since March 2008. CRA proposes to install two groundwater monitoring wells to delineate the southeast extent of petroleum hydrocarbon impact (Figure 2).



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One monitoring well will be installed near the northeast corner of the computer building to assess groundwater downgradient of MW-C. Groundwater quality downgradient of MW-B will be assessed by installing a well south-southwest of the computer building.

### **3.2 PRE-FIELD COORDINATION**

CRA will coordinate site activities with all associated laboratories, contractors, and DCP. CRA will conduct a pre-field safety meeting with DCP and all appropriate parties prior to the start of field work.

#### **Underground Utility Location**

CRA will notify New Mexico One Call prior to drilling to clear boring locations with utility companies. A hydrovac truck will clear monitoring well locations to 5 ft bgs.

#### **Site Health and Safety Plan (HASP)**

CRA will prepare a HASP to inform all site workers of known hazards and provide health and safety guidance. CRA will review DCP and CRA safety protocols at daily tailgate meetings. A journey management plan will be prepared to address any safety concerns associated with traffic routes and onsite parking.

### **3.3 DRILLING AND SAMPLING**

A trained geologist will supervise the drilling. One boring will be logged continuously to the total explored depth; the remaining borings will be logged in 5 ft intervals. Soil samples will be collected for analyses based on lithological changes, signs of subsurface impact, and the capillary fringe. Soil samples will be screened with a photoionization detector (PID) and described using the Unified Soil Classification System.

#### **Monitoring Well Installation**

The boring will be advanced to approximately 10 ft below first encountered groundwater and completed as a 2 inch well, screened from 5 ft above to 10 ft below the potentiometric surface. The well will be constructed of Schedule 40 PVC with a 0.010 inch slotted screen. The well annulus will have a filter pack of clean silica sand from 1 ft below the screen bottom to 2 ft above the screen top. Above the filter pack the well annulus will have a 3 ft thick bentonite seal covered by bentonite grout to within 3 inches of the ground surface. The monitoring well will be sealed in a flush mount well vault and completed with a concrete well pad to match the existing grade.



### **Monitoring Well Development**

The groundwater monitoring well will be developed by surge block agitation and submersible groundwater pump evacuation. Turbidity, pH, dissolved oxygen, temperature, and specific conductivity will be measured during evacuation. CRA will develop the wells no sooner than 24 hours following installation.

### **Soil Analytical Methods**

Select soil samples will be analyzed for:

- TPH by SW-846 8015B
- BTEX by SW-846 8021B

### **Investigation Derived Waste Disposal**

Soil cuttings produced during drilling will be temporarily stored onsite in 55-gallon United States Department of Transportation (USDOT) approved drums with appropriate labeling. Soil cuttings will be transported to a treatment and disposal facility following review of laboratory analytical results and disposal approval from DCP. Groundwater purged during well development will be temporarily stored in a USDOT approved polydrum. Purged groundwater will be transported and disposed of at the DCP Linam Ranch facility. Drums will be labeled with contents, date of generation, generator identification and consultant contact information.

## **3.4 REPORTING**

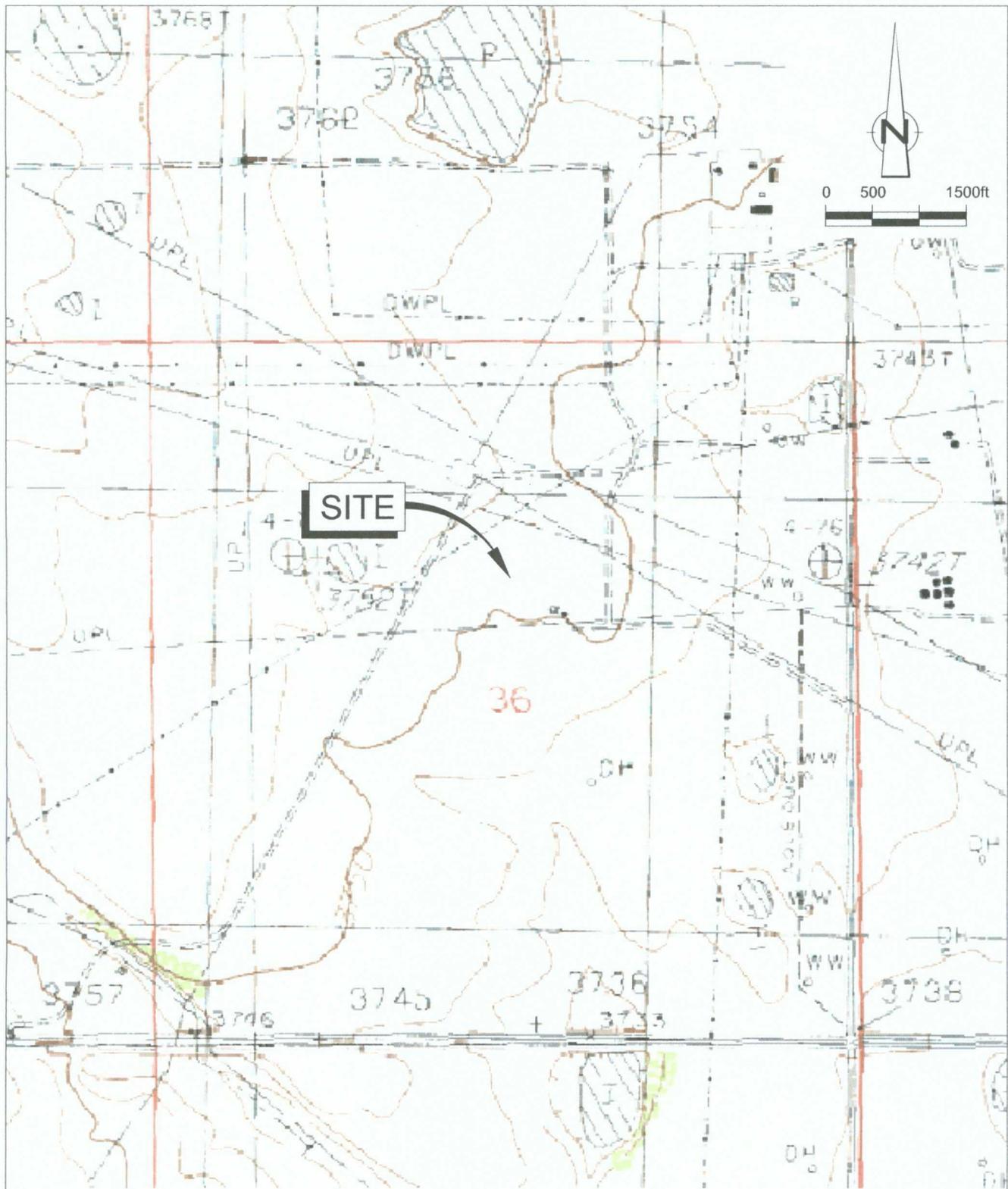
CRA will prepare a Supplemental Site Assessment Report presenting the investigation results and recommendations. The report, at a minimum, will contain:

- Summary of the site background and history
- Descriptions of drilling and soil sampling methods
- Descriptions of well installation methods
- Boring logs
- Figures and tables
- Analytical reports and chain-of-custody forms
- Soil and groundwater disposal methods
- Discussion of petroleum hydrocarbon distribution in soil
- Conclusions

FIGURES

FIGURE 1: VICINITY MAP

FIGURE 2: PROPOSED BORING LOCATION MAP



QUAD: USGS MONUMENT NORTH

Figure 1

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





TABLES

TABLE 1: WELLS WITHIN ONE MILE RADIUS

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Table 1. Wells Within a One-Mile Radius - Hobbs Gas Plant, Lea County, New Mexico

| Well Number     | Use | Township | Range | Section | Easting | Northing | Start Date | Finish Date | Well Depth<br>ft. bgs | Depth to Water<br>ft. bgs |
|-----------------|-----|----------|-------|---------|---------|----------|------------|-------------|-----------------------|---------------------------|
| L03079          | PRO | 18S      | 36E   | 36      | 658865  | 3619347  | 1/10/1956  | 1/11/1956   | 122                   | 65                        |
| L03079 APPRO    | PRO | 18S      | 36E   | 36      | 658865  | 3619347  | 1/10/1956  | 1/11/1956   | 122                   | 65                        |
| L 03153         | PRO | 18S      | 37E   | 31      | 660281  | 3619562  | 3/29/1956  | 3/30/1956   | 140                   | 70                        |
| L 03153 APPRO   | PRO | 18S      | 37E   | 31      | 660281  | 3619562  | 3/29/1956  | 3/30/1956   | 140                   | 70                        |
| L 03166         | PRO | 18S      | 37E   | 31      | 660066  | 3619769  | 4/8/1956   | 4/9/1956    | 108                   | 35                        |
| L 03166 APPRO   | PRO | 18S      | 37E   | 31      | 660066  | 3619769  | 4/8/1956   | 4/9/1956    | 108                   | 35                        |
| L 03792         | PRO | 18S      | 36E   | 1       | 659289  | 3618146  | 2/6/1958   | 2/7/1958    | 106                   | 47                        |
| L 0379 APPRO    | PRO | 18S      | 36E   | 1       | 659289  | 3618146  | 2/6/1958   | 2/7/1958    | 106                   | 47                        |
| L 04665         | PRO | 18S      | 36E   | 25      | 658830  | 3621358  | 6/23/1961  | 6/23/1961   | 125                   | 60                        |
| L 04665 (1) EXP | PRO | 18S      | 36E   | 25      | 658830  | 3621358  | NR         | NR          | 0                     | 0                         |
| L 04665 (2) EXP | PRO | 18S      | 36E   | 25      | 658830  | 3621358  | NR         | NR          | 0                     | 0                         |
| L 04665 (3) EXP | PRO | 18S      | 36E   | 25      | 658830  | 3621358  | NR         | NR          | 0                     | 0                         |
| L 04665 (4) EXP | PRO | 18S      | 36E   | 25      | 658830  | 3621358  | NR         | NR          | 0                     | 0                         |
| L 04665 APPRO   | PRO | 18S      | 36E   | 25      | 658830  | 3621358  | 6/23/1961  | 6/23/1961   | 125                   | 60                        |
| L 05176         | IND | 18S      | 36E   | 25      | 659045  | 3620754  | 2/1/1965   | 2/10/1965   | 206                   | 84                        |
| L 05189         | PRO | 18S      | 37E   | 31      | 659657  | 3620165  | 7/12/1963  | 7/13/1963   | 120                   | 65                        |
| L 05189 (1)     | PRO | 18S      | 37E   | 31      | 659657  | 3620165  | NR         | NR          | 0                     | 0                         |
| L 05189 (2) EXP | PRO | 18S      | 37E   | 31      | 659657  | 3620165  | NR         | NR          | 0                     | 0                         |
| L 05509         | PRO | 18S      | 36E   | 25      | 659247  | 3620560  | 12/4/1964  | 12/5/1964   | 103                   | 45                        |
| L 07843         | SAN | 18S      | 36E   | 36      | 658757  | 3619648  | 7/25/1978  | 8/1/1978    | 181                   | 55                        |

**Notes and Abbreviations:**

- ft bgs = feet below ground surface
- PRO = 72-12-1 Prospecting or development of nature.
- IND = Industrial
- SAN = 72-12-0 Sanitary in conjunction with a commercial use
- NR = Not reported
- Information source: New Mexico State Engineer Office W.A.T.E.R.S. program
- Table based on information from Arcadis Sarge 1 Abatement Plan, November 2004
- \\denver\Shared\Project Files\059097-HOBBS\059097-REPORTS\059097-RPTS-SITE ASSESSMENT WORKPLAN\059097-5-TI.xls\Groundwater Analytical Results