1R - 401

REPORTS

DATE:

8/4/2004

Remediacon Incorporated
Geological and Engineering Services
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Facsimile: 720.528.8132

August 4, 2004

Mr Stephen Weathers
Duke Energy Field Services, LP
370 17th Street, Suite 2500
Denver, CO 80202

Re: Summary of June 2004 Groundwater Monitoring Results at the C-Line 50602 Location in Lea County New Mexico (Unit O, Section 31, Township 19 South, Range 37 East)

Dear Mr. Weathers:

This report summarizes the groundwater monitoring activities completed at the C-Line 50602 Site for Duke Energy Field Services, LP (DEFS) in June 2004. The C-Line 50602 site is located in the southwestern quarter of the southeastern quarter (Unit O) of Section 31, Township 19 South, Range 37 East (Figure 1). The approximate coordinates are 32 degrees 32.5 minutes north, 103 degrees 15.3 minutes east. The site is approximately 6.25 miles south and 1.25 miles west of the town of Monument in Lea County New Mexico. The area surrounding the release sites is uninhabited and is used for ranching. At least five pipelines traverse the study area (Figure 2). DEFS owns two of these pipelines. Rice, Dynegy and SRG own the remaining pipelines. Both current and historic exploration and production components also surround the location.

BACKGROUND INFORMATION

The monitoring system includes one free product removal well and eight monitoring wells (Figure 2). Mobile free-phase hydrocarbons are removed from MW-1 with an active product-recovery system. Wells MW-2 through MW-9 were installed to characterize the distribution of dissolved-phase hydrocarbons in the groundwater. They now comprise the groundwater monitoring network. Table 1 summarizes construction information for each well.

The free product collection system was installed in MW-1 in mid-November 2003. The system became operational on November 26, 2003. A local DEFS subcontractor monitors system operation and product recovery on a weekly basis. Approximately 1,100 gallons of free phase hydrocarbons had been removed as of July 15, 2004.

GROUNDWATER SAMPLING

Groundwater samples were collected by Trident Environmental on June 29, 2004. The depth to water in each well was measured prior to the sampling activities. Well MW-1 contained 2.66 feet of free product so it was not sampled. The remaining eight wells were purged and sampled using the standard protocols for this site.

The calculated groundwater elevations for all monitoring episodes are summarized in Table 2. The product thickness values measured in MW-1 throughout the project are summarized in Table 3 and graphed on Figure 3.

Each well (excepting MW-1) was purged using a disposable bailer until a minimum of three casing volumes of water was removed and the field parameters temperature, pH and conductivity stabilized. The well purging forms are attached. The purge water was disposed of at the DEFS Linam Ranch facility.

The samples were then collected using the disposable bailers. All samples were placed in an ice-filled chest immediately upon collection and delivered to the analytical laboratory (Environmental Labs of Texas) using standard chain-of-custody protocol. The unfiltered samples were analyzed for benzene, toluene, ethylbenzene and total xylenes (BTEX).

The laboratory analyses are summarized in Table 4 for the June 2004 sampling event. Table 5 includes the values for all of the investigative sampling episodes. The laboratory report for the June 2004 sampling episode is attached.

QUALITY ASSURANCE/QUALITY CONTROL

A field duplicate was collected from MW-4 to evaluate quality control. The field duplicate and a trip blank were both analyzed for BTEX. The RPD values for the field duplicates are summarized below:

	RPD Values
Benzene:	83%
Toluene:	85%
Ethylbenzene:	78%
o-xylene:	90%
p/m-xylene:	78%

These values indicate poor agreement between the two samples. The a,a,a-Trifluorotoluene spike was outside the quality control limits in wells MW-2, MW-4, MW-5 and MW-8.

Matrix spike and matrix spike duplicates were completed on MW-9. Those results are summarized below:

	Matrix Spike	Matrix Spike Duplicate
Benzene:	108%	105%
Toluene:	113%	112%
Ethylbenzene:	106%	106%
o-xylene:	113%	116%
p/m-xylene:	101%	107%

The matrix spike and matrix duplicates indicate that good recovery of the BTEX constituents was achieved by the laboratory. Remediacon concludes that the data is suitable based upon the agreement of the matrix spike/matrix spike duplicate samples.

RESULTS AND INTERPRETATIONS

Figure 4 shows the January 2004 calculated groundwater contours as generated using the Surfer® program with the kriging option. Groundwater flow is toward the southeast at an average gradient of 0.0047 feet per foot. Both the flow direction and gradient correspond to the historic measurements.

Figure 5 includes hydrographs for wells MW-1 to MW-6. The water table declined slightly between January and June 2004 even with the period of heavy rains in April. The relative elevations between the wells remains equivalent to the differences measured in the past.

Figure 6 depicts the aerial June benzene distribution. The changes in benzene concentrations over time are plotted for MW-3 on Figure 7 and for wells MW-2, MW-4 and MW-5 on Figure 8. The highest dissolved-phase benzene concentration was measured in well MW-3. The benzene concentrations in the other wells were a minimum of an order of magnitude lower. The benzene concentration continues to increase in MW-3 (Figure 7) while the concentrations remained within their respective historical ranges (Figure 8). Wells MW-4 and MW-5 are directly down gradient from the original release point at MW-1 while MW-3 is more cross gradient as shown on Figure 4. This relationship indicates that another source may be contributing dissolved-phase hydrocarbons to MW-3.

The next groundwater-monitoring event is scheduled for September 2004. Active free product will continue removal from MW-1. Remediacon also recommends that soil vapor extraction (SVE) in MW-1 be initiated to accelerate product removal.

Thank you for allowing Remediacon to complete this work. Do not hesitate to contact me if you have any questions or comments on the contents of this letter.

Sincerely,
REMEDIACON INCORPORATED

Michael H. Stewart

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

MHS/tbm

TABLES

Table 1 – Summary of Well Construction Information

Well	Top of Casing Elevation	Ground Elevation	Screen Diameter	Screened Interval	Sand Interval	Total Depth
MW-1	3,541.21	3,538.64	4"	82.5-97.5	81-98	98
MW-2	3,540.91	3,537.70	2"	81-101	77-102	102
MW-3	3,541.41	3,539.30	2"	80-100	78-103	103
MW-4	3,541.40	3,538.51	2"	80-100	78-103	103
MW-5	3,541.45	3,538.69	2"	80-100	78-102	102
MW-6	3,543.98	3,540.94	2"	79-99	75-102	102
MW-7	3,542.42	3,540.20	2"	82.5-97.5	77-98*	98
MW-8	3,540.29	3,538.08	2"	82.5-97.5	81-98	98
MW-9	3,539.62	3,537.33	2"	82.5-97.5	81-98	98

All units in feet except as noted

* Well MW-7 had a natural sand pack from 98 to 93 feet

Table 2 – Summary of Corrected Water Table Elevations

Well	Nov. 2002	Feb. 2003	Apr. 2003	Oct. 2003	Jan. 2004	Jun. 2004
MW-1	3,452.01	3,451.60	3,451.73	3,451.35	3,451.34	3,451.23
MW-2	3,452.11	3,451.97	3,451.96	3,451.87	3,451.84	3,451.73
MW-3	3,452.25	3,451.37	3,451.33	3,451.27	3,451.22	3,451.06
MW-4	3,451.56	3,451.32	3,451.21	3,451.25	3,451.19	3,451.02
MW-5	3,451.39	3,451.21	3,451.09	3,451.20	3,451.11	3,450.86
MW-6	3,448.77	3,448.51	3,448.38	3,448.46	3,448.37	3,448.14
MW-7	-----	-----	-----	3,450.76	3,450.72	3,450.57
MW-8	-----	-----	-----	3,450.35	3,450.22	3,450.03
MW-9	-----	-----	-----	3,450.21	3,450.03	3,449.81

Notes:

1) All units in feet.
2) The Elevation for MW-1 was corrected using a product density of 0.7
3) The groundwater elevation values for well MW-1 were corrected using the following formula (all values in feet):

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

MGWE is the actual measured groundwater elevation;
PT is the measured free-phase hydrocarbon thickness, and
PD is the free phase hydrocarbon density (assumed 0.7).

Table 3 - Historical Product Thickness Measurements for C-Line Well MW-1

Date	Product Thickness (feet)
11-2-02	3.15
2-17-03	3.62
4-16-03	2.92
10-30-03	3.21
6-29-04	2.66

Note The product thickness of 0.28 feet measured on January 29 2004 was probably measured while the product recovery system was operating and thus was not included in the Table..

Table 4 - June 29, 2004 Sample Results

	Benzene	Ethylbenzene	Toluene	Xylene (o)	Xylene (p/m)	Xylene (total)
MW-2	0.0582	0.000219J	0.00534	0.0003J	0.00035J	0.00065J
MW-3	9.84	0.0917	0.0873	0.00864J	0.0154	0.0239
MW-4	0.461	0.0202	0.352	0.0174	0.0566	0.0740
MW-4D	1.12	0.0503	0.811	0.0456	0.129	0.175
MW-5	0.249	0.00172	0.0603	0.00103	0.00297	0.004
MW-6	<0.00019	<0.00014	<0.00013	<0.00009	<0.0002	<0.0002
MW-7	0.000456J	<0.00014	<0.00013	<0.00009	<0.0002	<0.0002
MW-8	0.00248	<0.00014	0.000633J	<0.00009	<0.0002	<0.0002
MW-9	<0.00019	<0.00014	<0.00013	<0.00009	<0.0002	<0.0002
TB	<0.00019	<0.00014	<0.00013	<0.00009	<0.0002	<0.0002

Notes: All units mg/l
TB trip blank
J: Estimated value below method detection limit

Table 5 - Summary of Analytical Results

Benzene	MW-2	MW-3	MW-4	MW-4 dup	MW-5	MW-6	MW-7	MW-8	MW-9
0.01									
11/15/2002	<0.001	**0.017**	**0.114**	**0.1**	<0.001	<0.001			
2/18/2003	**0.29**	**2.52**	**1.12**		**0.328**	0.001			
4/17/2003	**0.175**	**3.18**	**0.782**		**0.128**	0.002			
10/28/2003	**0.018**	**5.01**	**0.077**		**0.164**	<0.001	<0.001	<0.001	<0.001
1/29/2004	**0.0848**	**6.06**	**0.320**	**0.232**	**0.226**	0.00382	<0.001	0.00139	<0.001
6/29/2004	**0.0582**	**9.84**	**0.461**	**1.12**	**0.249**	<0.00019	0.000456J	0.00248	<0.00019

Toluene	MW-2	MW-3	MW-4	MW-4 dup	MW-5	MW-6	MW-7	MW-8	MW-9
0.75									
11/15/2002	<0.001	0.005	0.039	0.036	<0.001	<0.001			
2/18/2003	0.014	0.634	0.436		0.056	<0.001			
4/17/2003	0.007	0.513	0.45		0.007	<0.001			
10/28/2003	0.001	0.275	0.029		0.048	<0.001	<0.001	<0.001	<0.001
1/29/2004	0.0350	0.506	0.169	0.0647	0.064	0.00140	<0.001	0.00109	<0.001
6/29/2004	0.000219J	0.0917	0.0202	0.0503	0.00172	<0.00014	<0.00014	<0.00014	<0.00014

Ethylbenzene	MW-2	MW-3	MW-4	MW-4 dup	MW-5	MW-6	MW-7	MW-8	MW-9
0.75									
11/15/2002	<0.001	<0.001	0.002	0.002	<0.001	<0.001			
2/18/2003	0.001	0.021	0.022		0.004	<0.001			
4/17/2003	<0.001	0.028	0.029		<0.001	<0.001			
10/28/2003	<0.001	0.031	0.002		0.002	<0.001	<0.001	<0.001	<0.001
1/29/2004	0.00292	0.0679	0.0203	0.00391	0.00404	0.00133	<0.001	0.00112	<0.001
6/29/2004	0.00534	0.0873	0.352	0.811	0.0603	<0.00013	<0.00013	0.000633J	<0.00013

Xylenes	MW-2	MW-3	MW-4	MW-4 dup	MW-5	MW-6	MW-7	MW-8	MW-9
0.62									
11/15/2002	<0.001	<0.001	0.003	0.003	<0.001	<0.001			
2/18/2003	0.001	0.064	0.032		0.004	<0.001			
4/17/2003	<0.001	0.1	0.055		<0.001	<0.001			
10/28/2003	<0.001	0.083	0.008		0.004	<0.001	<0.001	<0.001	<0.001
1/29/2004	0.00474	0.0849	0.053	0.00693	0.0074	0.00194	<0.001	0.00217	<0.001
6/29/2004	0.001J	0.02404	0.074	0.1746	0.004	<0.0002	<0.0002	<0.0002	<0.0002

Notes:

1) All units mg/l
2) Duplicate samples separated by a slash "/"
3) Samples that exceed the New Mexico Water Quality Control Commission Groundwater Standard are bolded.

FIGURES

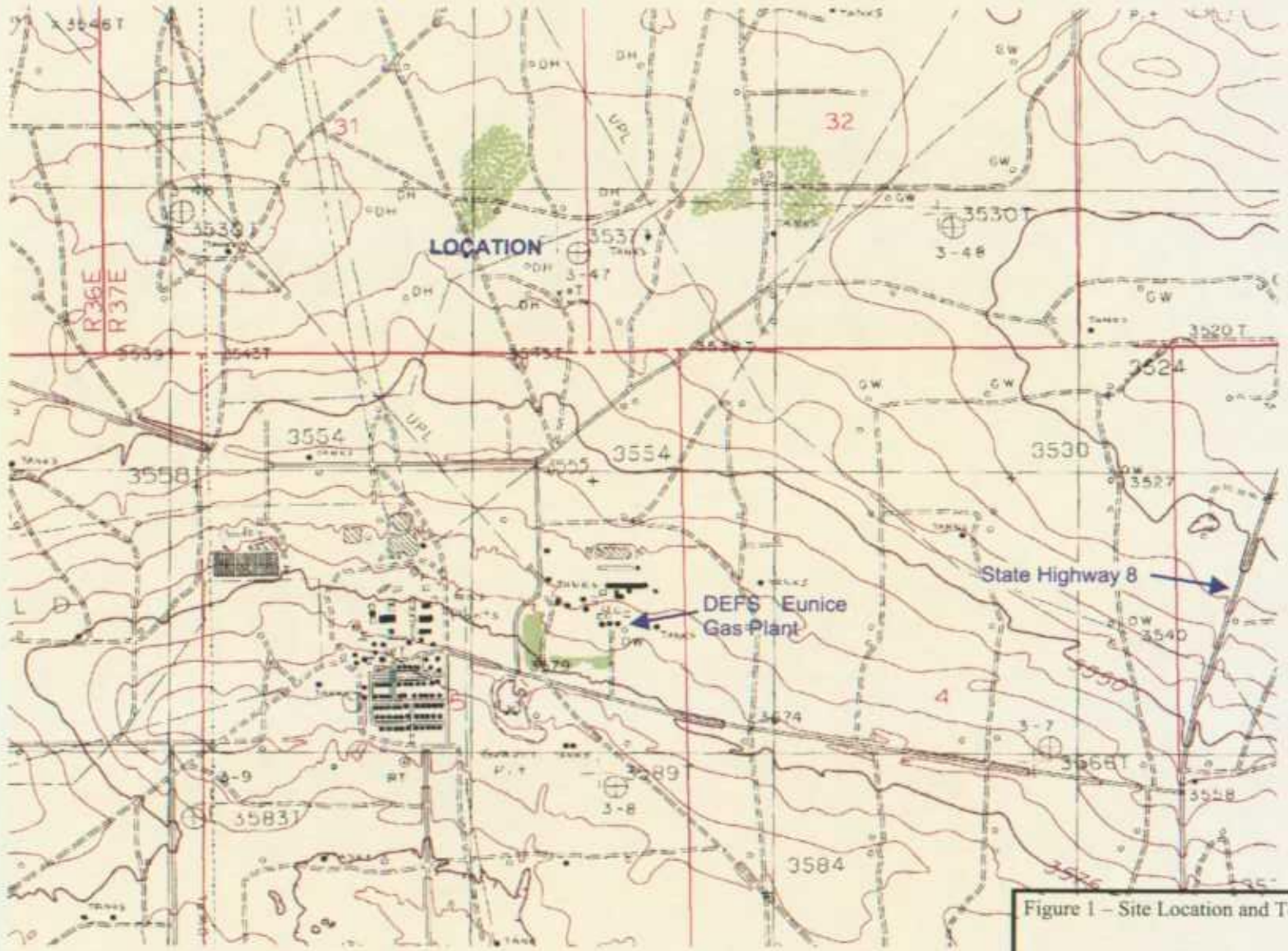

Figure 1 – Site Location and Topography

C-Line Groundwater Monitoring

Duke Energy Field Services

DRAWN BY: MHS

DATE: 7/04

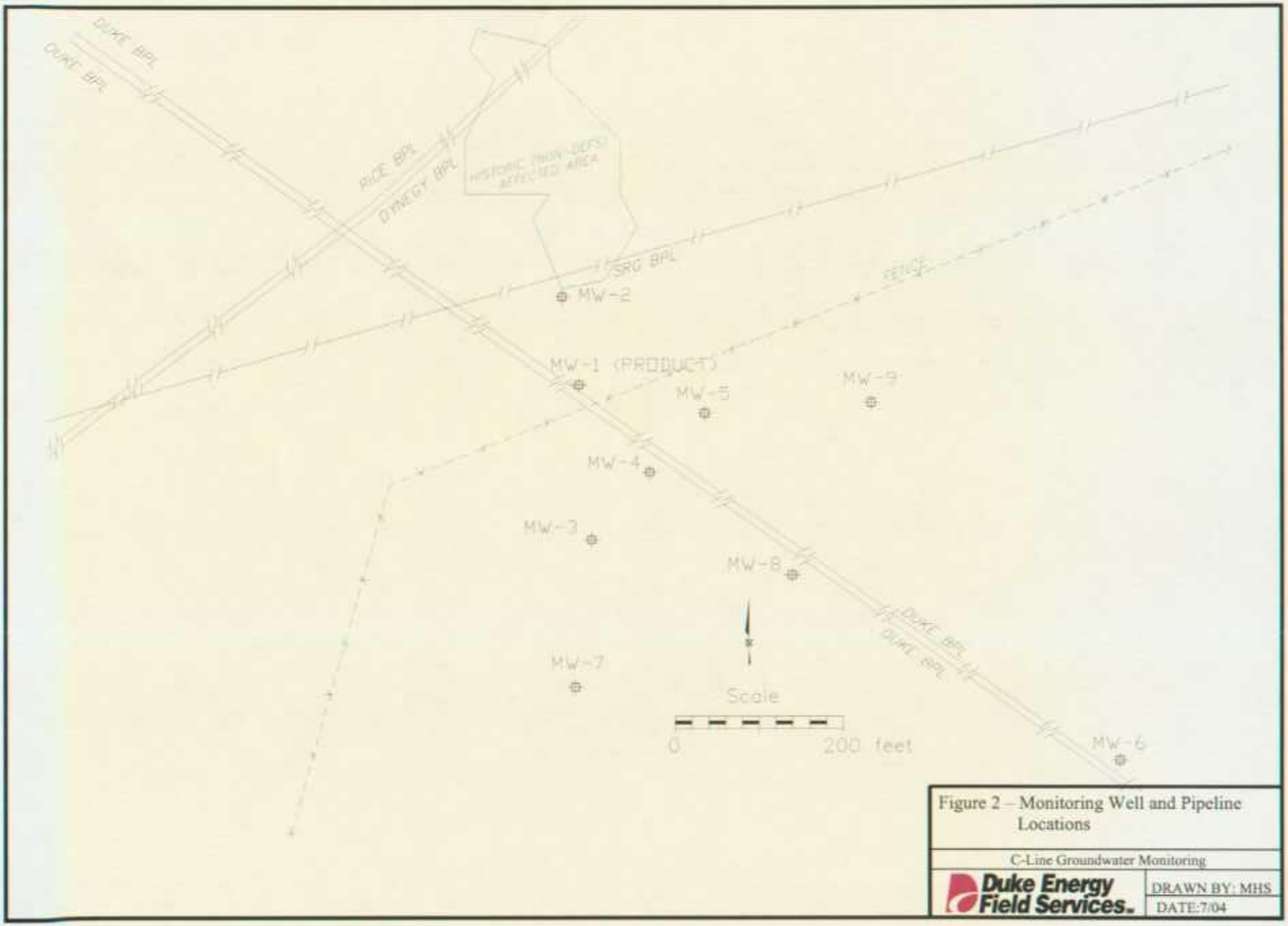

Figure 2 – Monitoring Well and Pipeline Locations

C-Line Groundwater Monitoring

Duke Energy Field Services.

DRAWN BY: MHS

DATE:7/04

Figure 3 – Summary of Measured Product Thickness Values for MW-1

C-Line Groundwater Monitoring

Duke Energy Field Services

DRAWN BY: MHS

DATE: 7/04

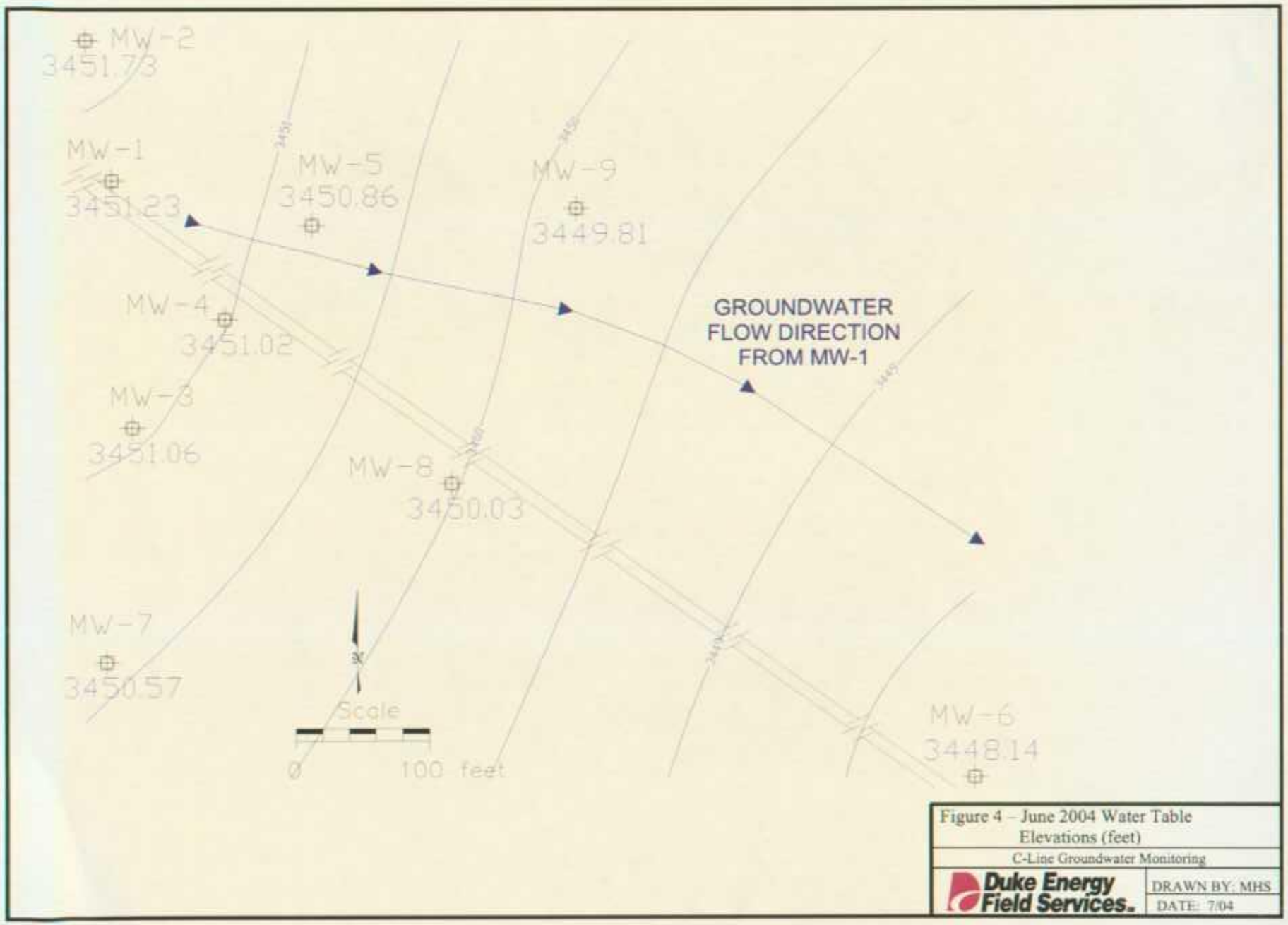

Figure 4 – June 2004 Water Table Elevations (feet)

C-Line Groundwater Monitoring

Duke Energy Field Services.

DRAWN BY: MHS

DATE: 7/04

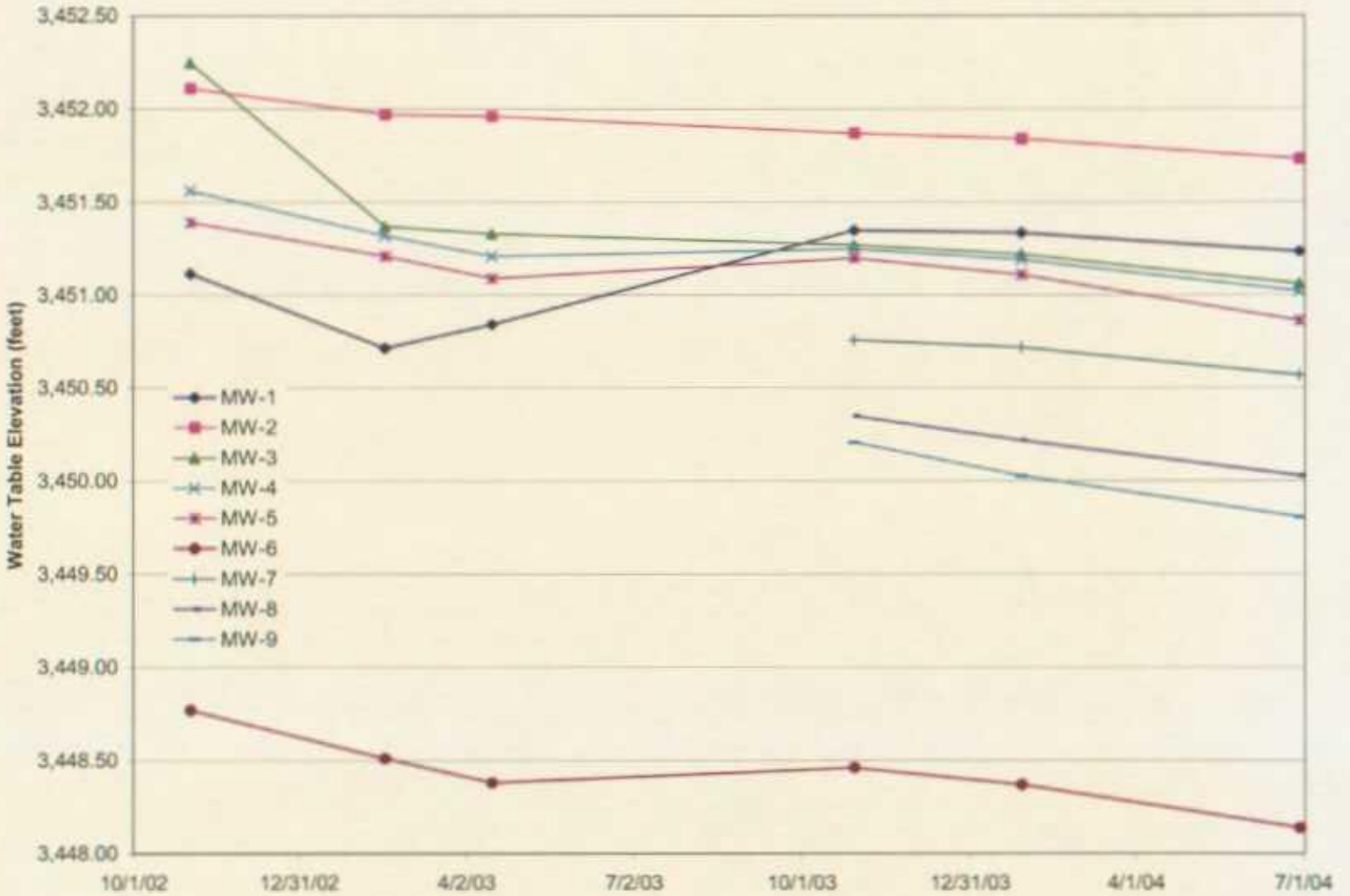

Figure 5 – Hydrograph for Wells MW-1 through MW-6

C-Line Groundwater Monitoring

Duke Energy Field Services

DRAWN BY: MHS

DATE: 7/04

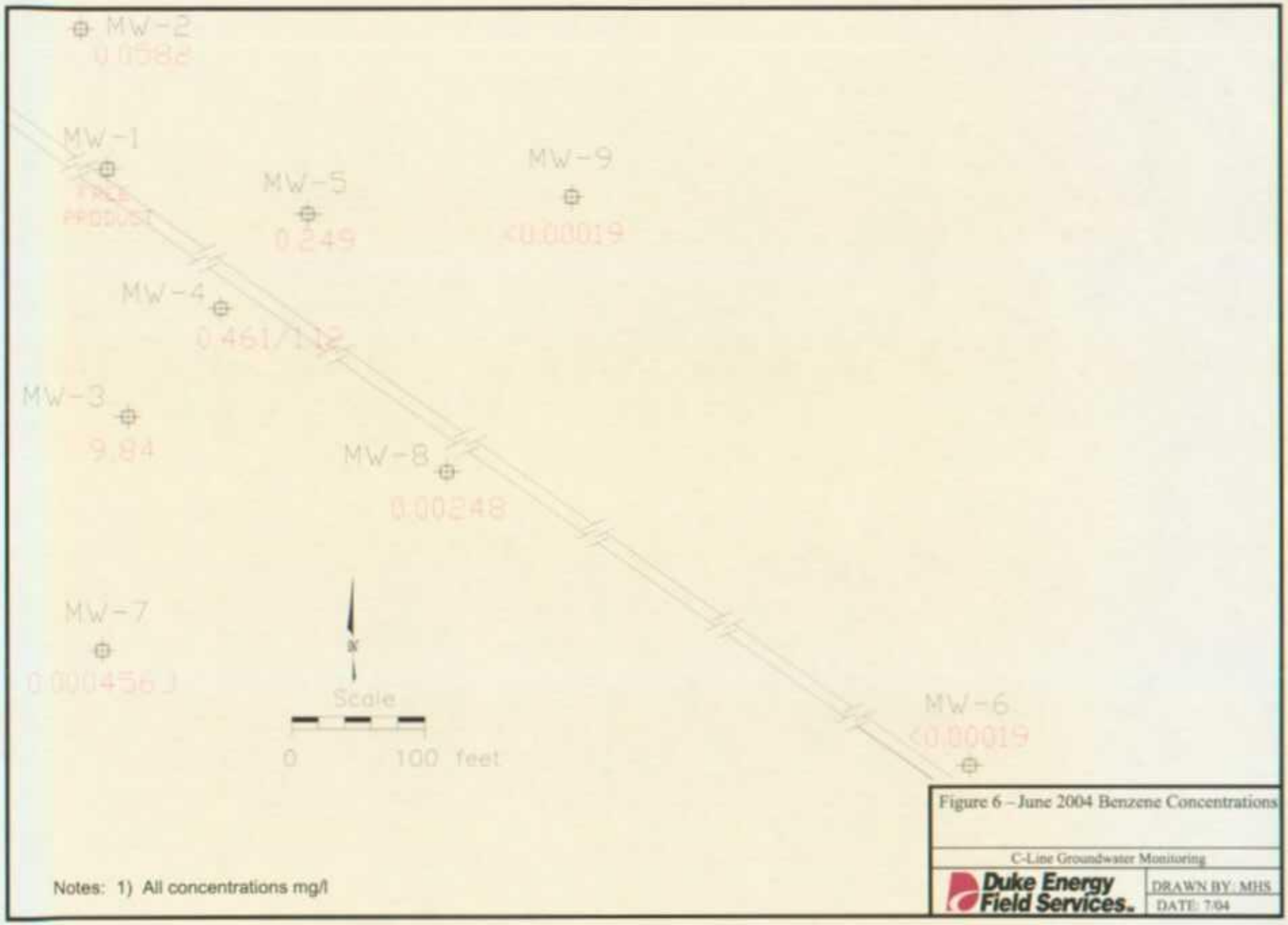

Figure 6 – June 2004 Benzene Concentrations

C-Line Groundwater Monitoring

Duke Energy Field Services.

DRAWN BY: MHS

DATE: 7/04

Notes: 1) All concentrations mg/l

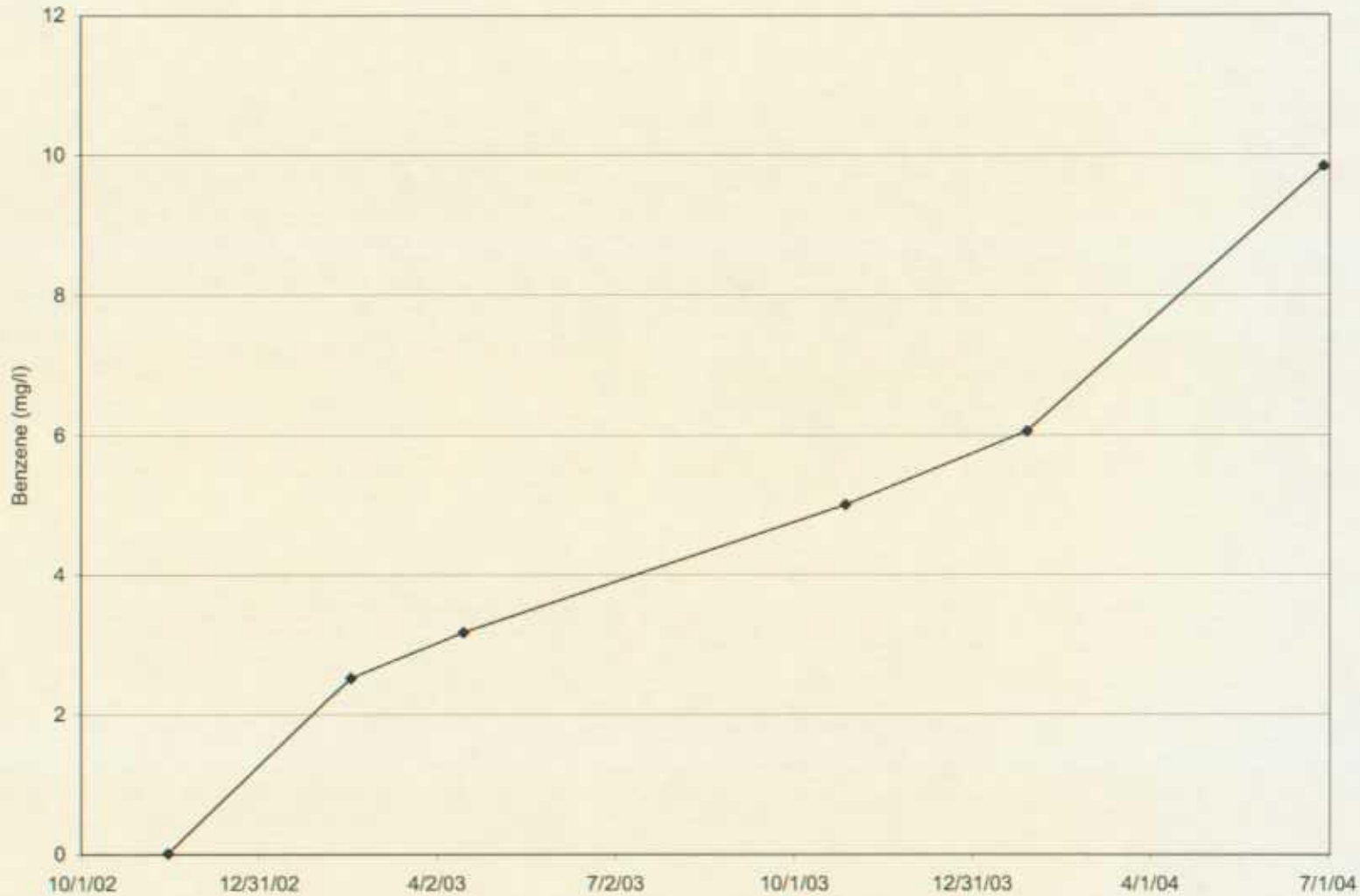

Figure 7 – Benzene Concentrations for Wells MW-3

C-Line Groundwater Monitoring

Duke Energy Field Services

DRAWN BY: MHS

DATE: 7/04

Figure 8 – Benzene Concentrations for Wells MW-2, MW-4 and MW-5

C-Line Groundwater Monitoring

Duke Energy Field Services

DRAWN BY: MHS

DATE: 7/04

FIELD SHEETS AND
ANALYTICAL LABORATORY REPORT

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **RW-1**

SITE NAME: C Line DATE: 6/29/2004

PROJECT NO. F-107 SAMPLER: J. Fergerson

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

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

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 93.05 Feet
DEPTH TO WATER: _____ Feet
HEIGHT OF WATER COLUMN: _____ Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m* S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
0:00 :Total Time (hr:min)			**0** :Total Vol (gal)			**#DIV/0!** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 040629

ANALYSES: _____

COMMENTS: DID NOT SAMPLE DUE TO FREE PHASE HYDROCARBONS IN WELL!

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-2**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 100.94 Feet
DEPTH TO WATER: 89.18 Feet
HEIGHT OF WATER COLUMN: 11.76 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
10:38	0	-	-	-	-	-	Begin Hand Bailing
10:47	2	22.2	3.56	7.00	0.3	-	
10:56	4	22.4	3.58	7.00	0.5	-	
11:08	6	22.4	3.50	7.00	0.5	-	
0:30 :Total Time (hr:min)			**6** :Total Vol (gal)			**0.20** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 040630 1110

ANALYSES: BTEX (8021-B)

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-3**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 102.44 Feet
DEPTH TO WATER: 90.35 Feet
HEIGHT OF WATER COLUMN: 12.09 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
12:14	0	-	-	-	-	-	Begin Hand Bailing
12:24	2	21.6	2.91	7.00	0.4	-	
12:33	4	21.7	3.10	7.00	0.4	-	
12:42	6	21.6	3.26	7.00	0.6	-	
12:48	7	21.5	3.34	7.00	0.5	-	
0:34	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.21**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040629 1255

ANALYSES: BTEX (8021-B)

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-4**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 103.30 Feet
DEPTH TO WATER: 90.38 Feet
HEIGHT OF WATER COLUMN: 12.92 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
15:09	0	-	-	-	-	-	Begin Hand Bailing
15:17	2	22.1	3.52	7.20	4.6	-	
15:25	4	22.1	3.52	7.30	5.0	-	
15:35	6	21.9	3.54	7.20	4.7	-	
15:39	7	21.8	3.56	7.20	5.1	-	
0:30	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.23**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040629 1545

ANALYSES: BTEX (8021-B)

COMMENTS: Collected Duplicate No.: 0406292000 for BTEX (8021-B)

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-5**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 102.05 Feet
DEPTH TO WATER: 90.59 Feet
HEIGHT OF WATER COLUMN: 11.46 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:56	0	-	-	-	-	-	Begin Hand Bailing
14:04	2	22.1	4.06	7.00	1.0	-	
14:13	4	22.2	3.98	7.10	1.5	-	
14:21	6	22.0	3.93	7.10	1.5	-	
0:25 :Total Time (hr:min)			**6** :Total Vol (gal)			**0.24** :Flow Rate (gal/min)	

SAMPLE NO.: Collected Sample No.: 040629 1425

ANALYSES: BTEX (8021-B)

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-6**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 103.20 Feet
DEPTH TO WATER: 95.84 Feet
HEIGHT OF WATER COLUMN: 7.36 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
11:19	0	-	-	-	-	-	Begin Hand Bailing
11:27	1.5	20.7	3.54	7.00	4.5	-	
11:35	3	20.7	3.60	7.00	4.6	-	
11:44	4.5	21.0	3.62	7.00	4.7	-	
0:25	:Total Time (hr:min)		**4.5**	:Total Vol (gal)		**0.18**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040629 1150

ANALYSES: BTEX (8021-B)

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-7**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 100.40 Feet
DEPTH TO WATER: 91.85 Feet
HEIGHT OF WATER COLUMN: 8.55 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
13:13	0	-	-	-	-	-	Begin Hand Bailing
13:18	2	21.9	2.76	7.20	0.6	-	
13:25	4	21.0	2.88	7.20	0.5	-	
13:31	6	21.1	2.90	7.10	0.8	-	

0:18 :Total Time (hr:min) **6** :Total Vol (gal) **0.33** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040629 1335
ANALYSES: BTEX (8021-B)
COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services WELL ID: **MW-8**

SITE NAME: C Line DATE: 6/29/2004

PROJECT NO. F-107 SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 100.50 Feet
DEPTH TO WATER: 90.26 Feet
HEIGHT OF WATER COLUMN: 10.24 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
16:10	0	-	-	-	-	-	Begin Hand Bailing
16:17	2	21.5	2.84	7.10	2.3	-	
16:28	4	21.4	3.02	7.10	3.9	-	
16:37	6	21.6	3.16	7.10	4.7	-	
16:41	7	21.3	3.19	7.10	4.9	-	
0:31	:Total Time (hr:min)		**7**	:Total Vol (gal)		**0.23**	:Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040629 1645

ANALYSES: BTEX (8021-B)

COMMENTS: _____

WELL SAMPLING DATA FORM

CLIENT: Duke Energy Field Services
WELL ID: **MW-9**
SITE NAME: C Line
DATE: 6/29/2004
PROJECT NO. F-107
SAMPLER: J. Fergerson

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

SAMPLING METHOD: ☑ Disposable Bailer ☐ Direct from Discharge Hose ☐ Other: _____

DESCRIBE EQUIPMENT DECONTAMINATION METHOD BEFORE SAMPLING THE WELL:

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

DISPOSAL METHOD OF PURGE WATER: ☐ Surface Discharge ☐ Drums ☑ Disposal Facility

TOTAL DEPTH OF WELL: 100.51 Feet
DEPTH TO WATER: 89.81 Feet
HEIGHT OF WATER COLUMN: 10.70 Feet
WELL DIAMETER: 2.0 Inch

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

TIME	VOLUME PURGED	TEMP. °C	COND. *m*S/cm	pH	DO mg\L	Turb	PHYSICAL APPEARANCE AND REMARKS
17:10	0	-	-	-	-	-	Begin Hand Bailing
17:17	2	21.0	2.63	7.10	2.5	-	
17:26	4	20.7	2.85	7.10	3.8	-	
17:37	6	20.7	2.88	7.10	5.5	-	

0:27 :Total Time (hr:min) **6** :Total Vol (gal) **0.22** :Flow Rate (gal/min)

SAMPLE NO.: Collected Sample No.: 040629 1740

ANALYSES: BTEX (8021-B)

COMMENTS: Collected MS/MSD Sample

ENVIRONMENTAL LAB OF

12600 West I-20 East - Odessa, Texas 79765

Analytical Report

Prepared for:

Michael Stewart

REMEDIACON

P.O. Box 302

Evergreen, CO 80437

Project: DEFS C-Line

Project Number: None Given

Location: oil Center, NM

Lab Order Number: 4G01008

Report Date: 07/09/04

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
(MW-6) 0406291150	4G01008-01	Water	06/29/04 11:50	07/01/04 13:35
(MW-3) 0406291255	4G01008-02	Water	06/29/04 12:55	07/01/04 13:35
(MW-7) 0406291335	4G01008-03	Water	06/29/04 13:35	07/01/04 13:35
(MW-5) 0406291425	4G01008-04	Water	06/29/04 14:25	07/01/04 13:35
(MW-4) 0406291545	4G01008-05	Water	06/29/04 15:45	07/01/04 13:35
(MW-8) 0406291645	4G01008-06	Water	06/29/04 16:45	07/01/04 13:35
(MW-9) 0406291740	4G01008-07	Water	06/29/04 17:40	07/01/04 13:35
(Duplicate) 0406292000	4G01008-08	Water	06/29/04 20:00	07/01/04 13:35
(MW-2) 0406301110	4G01008-09	Water	06/30/04 11:10	07/01/04 13:35
Trip Blank	4G01008-10	Water	06/30/04 00:00	07/01/04 13:35

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
(MW-6) 0406291150 (4G01008-01) Water									
Benzene	ND	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*112 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*111 %*	*80-120*		"	"	"	"	
(MW-3) 0406291255 (4G01008-02) Water									
Benzene	**9.84**	0.0100	mg/L	10	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	**0.0873**	0.0100	"	"	"	"	"	"	
Ethylbenzene	**0.0917**	0.0100	"	"	"	"	"	"	
Xylene (p/m)	**0.0154**	0.0100	"	"	"	"	"	"	
Xylene (o)	**J [0.00864]**	0.0100	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		*102 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*108 %*	*80-120*		"	"	"	"	
(MW-7) 0406291335 (4G01008-03) Water									
Benzene	**J [0.000456]**	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	J
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*119 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*109 %*	*80-120*		"	"	"	"	
(MW-5) 0406291425 (4G01008-04) Water									
Benzene	**0.249**	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	**0.0603**	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.00172**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	**0.00297**	0.00100	"	"	"	"	"	"	
Xylene (o)	**0.00103**	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*192 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*89.5 %*	*80-120*		"	"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
(MW-4) 0406291545 (4G01008-05) Water									
Benzene	**0.461**	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	**0.352**	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.0202**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	**0.0566**	0.00100	"	"	"	"	"	"	
Xylene (o)	**0.0174**	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*395 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*116 %*	*80-120*		"	"	"	"	
(MW-8) 0406291645 (4G01008-06) Water									
Benzene	**0.00248**	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	**J [0.000633]**	0.00100	"	"	"	"	"	"	J
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*128 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*109 %*	*80-120*		"	"	"	"	
(MW-9) 0406291740 (4G01008-07) Water									
Benzene	ND	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*118 %*	*80-120*		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*102 %*	*80-120*		"	"	"	"	
(Duplicate) 0406292000 (4G01008-08) Water									
Benzene	**1.12**	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	**0.811**	0.00100	"	"	"	"	"	"	
Ethylbenzene	**0.0503**	0.00100	"	"	"	"	"	"	
Xylene (p/m)	**0.129**	0.00100	"	"	"	"	"	"	
Xylene (o)	**0.0456**	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*650 %*	*80-120*		"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*146 %*	*80-120*		"	"	"	"	*S-04*

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

Organics by GC

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
(MW-2) 0406301110 (4G01008-09) Water									
Benzene	**0.0582**	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	**0.00534**	0.00100	"	"	"	"	"	"	
Ethylbenzene	**J [0.000219]**	0.00100	"	"	"	"	"	"	J
Xylene (p/m)	**J [0.000350]**	0.00100	"	"	"	"	"	"	J
Xylene (o)	**J [0.000300]**	0.00100	"	"	"	"	"	"	J
Surrogate: a,a,a-Trifluorotoluene		*154 %*		*80-120*	"	"	"	"	*S-04*
Surrogate: 4-Bromofluorobenzene		*91.5 %*		*80-120*	"	"	"	"	
Trip Blank (4G01008-10) Water									
Benzene	ND	0.00100	mg/L	1	EG40903	07/07/04	07/07/04	EPA 8021B	
Toluene	ND	0.00100	"	"	"	"	"	"	
Ethylbenzene	ND	0.00100	"	"	"	"	"	"	
Xylene (p/m)	ND	0.00100	"	"	"	"	"	"	
Xylene (o)	ND	0.00100	"	"	"	"	"	"	
Surrogate: a,a,a-Trifluorotoluene		*113 %*		*80-120*	"	"	"	"	
Surrogate: 4-Bromofluorobenzene		*80.5 %*		*80-120*	"	"	"	"	

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG40903 - EPA 5030C (GC)										
Blank (EG40903-BLK1)				Prepared & Analyzed: 07/07/04						
Benzene	ND	0.00100	mg/L							
Toluene	ND	0.00100	"							
Ethylbenzene	ND	0.00100	"							
Xylene (p/m)	ND	0.00100	"							
Xylene (o)	ND	0.00100	"							
Surrogate: a,a,a-Trifluorotoluene	*23.9*		*ug/l*	*20.0*		*120*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*16.5*		*"*	*20.0*		*82.5*	*80-120*			
LCS (EG40903-BS1)				Prepared & Analyzed: 07/07/04						
Benzene	86.9		ug/l	100		86.9	80-120			
Toluene	94.2		"	100		94.2	80-120			
Ethylbenzene	88.1		"	100		88.1	80-120			
Xylene (p/m)	189		"	200		94.5	80-120			
Xylene (o)	92.2		"	100		92.2	80-120			
Surrogate: a,a,a-Trifluorotoluene	*23.1*		*"*	*20.0*		*116*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*20.8*		*"*	*20.0*		*104*	*80-120*			
Calibration Check (EG40903-CCV1)				Prepared & Analyzed: 07/07/04						
Benzene	102		ug/l	100		102	80-120			
Toluene	109		"	100		109	80-120			
Ethylbenzene	103		"	100		103	80-120			
Xylene (p/m)	222		"	200		111	80-120			
Xylene (o)	95.6		"	100		95.6	80-120			
Surrogate: a,a,a-Trifluorotoluene	*23.6*		*"*	*20.0*		*118*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*19.1*		*"*	*20.0*		*95.5*	*80-120*			
Matrix Spike (EG40903-MS1)	**Source: 4G01008-07**			Prepared & Analyzed: 07/07/04						
Benzene	108		ug/l	100	ND	108	80-120			
Toluene	113		"	100	ND	113	80-120			
Ethylbenzene	106		"	100	ND	106	80-120			
Xylene (p/m)	226		"	200	ND	113	80-120			
Xylene (o)	101		"	100	ND	101	80-120			
Surrogate: a,a,a-Trifluorotoluene	*23.8*		*"*	*20.0*		*119*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*21.2*		*"*	*20.0*		*106*	*80-120*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

Organics by GC - Quality Control

Environmental Lab of Texas

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch EG40903 - EPA 5030C (GC)										
Matrix Spike Dup (EG40903-MSD1)	**Source: 4G01008-07**			Prepared & Analyzed: 07/07/04						
Benzene	105		ug/l	100	ND	105	80-120	2.82	20	
Toluene	112		"	100	ND	112	80-120	0.889	20	
Ethylbenzene	106		"	100	ND	106	80-120	0.00	20	
Xylene (p/m)	231		"	200	ND	116	80-120	2.62	20	
Xylene (o)	107		"	100	ND	107	80-120	5.77	20	
Surrogate: a,a,a-Trifluorotoluene	*21.7*		*"*	*20.0*		*108*	*80-120*			
Surrogate: 4-Bromofluorobenzene	*21.5*		*"*	*20.0*		*108*	*80-120*			

12600 West I-20 East - Odessa, Texas 79705 - (432) 563-1800 - Fax (432) 563-1713

REMEDIACON	Project: DEFS C-Line	Fax: 720-528-8132
P.O. Box 302	Project Number: None Given	**Reported:**
Evergreen CO, 80437	Project Manager: Michael Stewart	07/09/04 15:29

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
LCS	Laboratory Control Spike
MS	*Matrix Spike*
Dup	Duplicate

Report Approved By: _____ Date: _____

Raland K. Tuttle, QA Officer
Celey D. Keene, Lab Director, Org. Tech Director
Jeanne Mc Murrey, Inorg. Tech Director
James L. Hawkins, Chemist/Geologist
Sara Molina, Chemist
Sandra Biezugbe, Lab Tech.