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# SEYMOUR ENVIRONMENTAL SERVICES, INC.

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P.O. Box 398, 2531 Dyreson Road, McFarland, Wisconsin 53558  
Telephone: 608-838-9120 Fax: 608-838-9121

March 10, 2006

Mr. Joseph L. Witmer  
Mound City Bank  
25 East Pine Street  
Platteville, Wisconsin 53818  
Fax 608-348-8035

**Re: Investigation Update  
Former Highway Cleaners  
1509 Elm Street - Boscobel, Wisconsin**

Dear Mr. Witmer:

Seymour Environmental Services, Inc. recently completed a second round of groundwater monitoring at the Highway Cleaners site. Results of the groundwater monitoring are discussed herein. Additionally, a brief summary of previous findings and recommendations for additional work are included in this letter.

## **MONITORING WELL INSTALLATION AND SAMPLING**

Between October 10 and 12, 2005 five groundwater monitoring wells were installed around the site. Four of the wells were constructed so that the screened section intersects the water table and one was constructed so the screen was submerged approximately 25 feet below the water table (piezometer). Data from the wells was used to evaluate the vertical and horizontal hydraulic gradient and characterize the distribution contaminants in the groundwater.

On October 19, 2005 and February 25, 2006 water level data and groundwater samples were collected from the monitoring wells. Additionally, the well locations and top of casing elevations were surveyed during October 2005. The groundwater elevation data from the water-table monitoring wells was contoured to construct groundwater flow maps (Figure 1/1A). The data indicate that shallow groundwater flow is toward the west northwest; the horizontal gradient is approximately 0.0018 ft/ft. The vertical hydraulic gradient was calculated at the MW-1/PZ-1 well nest. The vertical gradient was slightly upward (0.00046 to 0.00138 ft/ft). Well construction details and groundwater level data are summarized in Table 1.

During both monitoring events groundwater samples were collected from the monitoring wells and analyzed for volatile organic compounds (VOCs). No VOCs were detected in the groundwater from the piezometer. Groundwater from all of the water-table monitoring wells contained PCE at levels which exceed the NR140 enforcement standard (ES). In the most upgradient well (MW-2) the PCE concentration was 10 to 15 ug/l. At the well located at the downgradient edge of the subject parcel

(MW-1) the PCE level was 18 to 25 ug/l. The PCE concentration at the well located north of the site along the east edge of Elm Street (MW-3) was 5.8 to 13 ug/l. No VOCs other than PCE were detected in these wells. At the most downgradient well (MW-4) PCE was measured at 34 and 210 ug/l; the higher level of PCE was present in the groundwater sample collected in October 2005. Additionally, trichloroethene and cis 1,2 dichloroethene were detected in the groundwater from MW-4. These compounds are metabolites of PCE. Results of the groundwater analyses are summarized in Table 2. A map showing the distribution of contaminants in groundwater during the January 2006 sampling is attached (Figure 2).

### **SUMMARY OF PREVIOUS FINDING**

Soil sampling was conducted previously at the site. Analysis of the soil samples confirmed that two VOCs are present in soil on the subject parcel, tetrachloroethene (PCE), and methylene chloride. PCE was present in soil at concentrations ranging from 37 to 5500 ug/kg. The PCE-impacted soil was generally located around the southern end of the building. A small area of soil containing PCE was identified at the north edge of the pavement near the west side of the building. The distribution of the PCE seems to indicate that, at least in part, the PCE originated from a surface spill since the concentrations of the dry cleaning compounds are higher in the shallow soils. The most severe soil contamination is present near the south end of the building where contamination has been confirmed from 4 to 10 feet below grade. Sampling shows that the soil contamination does not extend to the groundwater table (30 ft blg) in this area. No soils from depths between 10 to 30 feet have been analyzed from this area. Methylene chloride was detected in soil at concentrations between 200 and 600 ug/kg. The methylene chloride generally was present in the same areas as the PCE. However, the methylene chloride was only detected in samples collected at 8 to 10 feet below grade. A map showing the PCE distribution in soil is included as Figure 3.

### **CONCLUSIONS**

Groundwater data collected from the monitoring wells at the site indicate that the PCE release that occurred at the site has adversely impacted groundwater quality. Groundwater on the upgradient (eastern) side of the property has approximately 10 to 15 ug/l of PCE. The concentration of PCE in groundwater increases across the site; it is 18 to 25 ug/l near the northwest corner of the property. Much higher levels of PCE were present in groundwater at the most downgradient monitoring well, which is located near the intersection of Elm and Dwight Streets. The data collected thus far are not sufficient to determine whether the higher PCE levels in that area reflects the northward migration of the groundwater contamination plume or whether there is a separate source of the contaminants located to the north.

## RECOMMENDATIONS

The existing groundwater monitoring network is not sufficient to delimit the extent of the groundwater that has been impacted by the solvent release. It is our opinion that additional water table monitoring wells should be installed to the north and west. We suggest that 3 water-table monitoring wells be installed at the locations shown on Figure 4. The two wells proposed along Circle Drive should provide a better understanding of both the groundwater flow in the area and the migration of PCE from the subject parcel. The proposed well along Dwight Street to the east of Elm Street will provide information as to whether an additional source of the PCE contamination lies to the north of the property.

Please call me at 608-838-9120 if you have any questions or would like additional information.

Sincerely,  
**Seymour Environmental Services, Inc.**



Robyn Seymour, P.G.  
Hydrogeologist

Enc. Tables (2)  
Figures (4)

cc: Mr. Jeff Miesen

TABLE 1  
SUMMARY OF WELL DETAILS AND GROUNDWATER LEVEL DATA  
Mound City Bank Property - 1509 Elm Street - Boscobel, Wisconsin

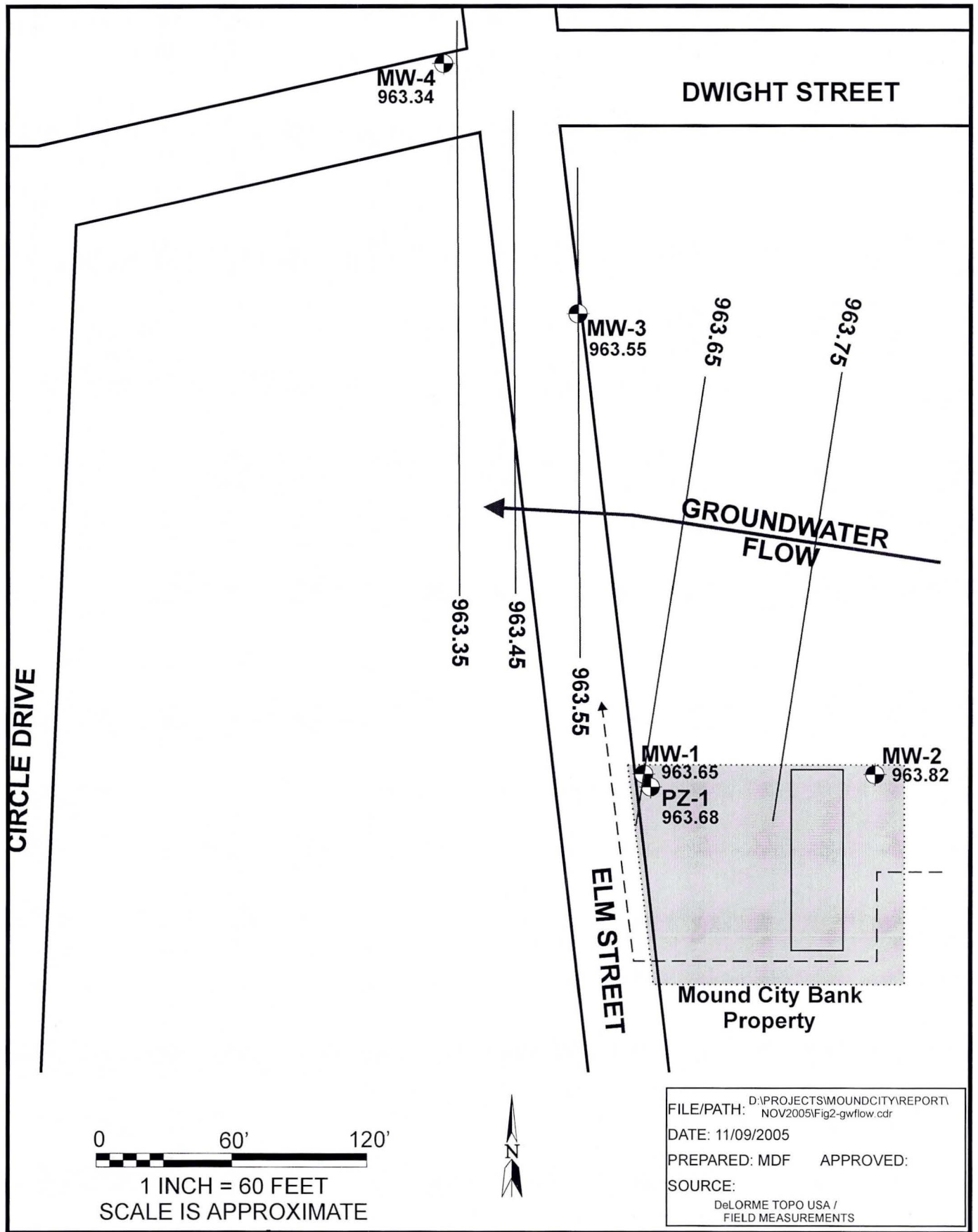
WELL Date	Installed TOC	MONITORING WELL CONSTRUCTION INFORMATION					WATER LEVEL DATA			
		Depth Screen	Length Top of Screen	Elevation	Base of Screen	Elevation	10/19/05		01/25/06	
							Depth	Elevation	Depth	Elevation
MW-1	10/10/05	993.99	38.41	15	970.58	955.58	30.34	963.65	30.52	963.47
MW-2	10/11/05	994.52	38.45	15	971.07	956.07	30.70	963.82	30.92	963.60
MW-3	10/11/05	994.76	39.45	15	970.31	955.31	31.21	963.55	31.39	963.37
MW-4	10/12/05	994.83	39.42	15	970.41	955.41	31.49	963.34	31.63	963.20
PZ-1	10/10/05	994.09	58.70	5	940.39	935.39	30.41	963.68	30.61	963.48
						Vertical Gradient	0.001381		0.000462	

- All data is listed in feet  
- Vertical gradient is for MW1/PZ1 well nest. Value listed in ft/ft. Positive value indicates upward gradient.

TABLE 2  
SUMMARY OF GROUNDWATER CHEMISTRY  
Mound City Bank Property - 1509 Elm Street - Boscobel, Wisconsin

WELL	Date	Select VOCs					
		Tetrachloroethene	Trichloroethene	cis 1,2 dichloroethene	trans 1,2 dichloroethene	Vinyl chloride	Toluene
MW-1	10/19/05	<b>25</b>	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	<b>18</b>	<0.20	<0.50	<0.50	<0.20	<0.20
MW-2	10/19/05	<b>10</b>	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	<b>15</b>	<0.20	<0.50	<0.50	<0.20	<0.20
MW-3	10/19/05	<b>13</b>	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	<b>5.8</b>	<0.20	<0.50	<0.50	<0.20	<0.20
MW-4	10/19/05	<b>210</b>	<b>1.9</b>	3.4	<2.5	<1.0	<1.0
	1/25/06	<b>34</b>	0.39	0.89	<0.50	<0.20	<0.20
PZ-1	10/19/05	<0.50	<0.20	<0.50	<0.50	<0.20	<0.20
	1/25/06	<0.50	<0.20	<0.50	<0.50	<0.20	<0.20
NR140 PAL		0.5	0.5	7	20	0.02	200
NR140 ES		5	5	70	100	0.2	1000

- All concentrations are listed in ug/l
- NR140 PAL = Preventative action level (bold)
- NR140 ES = Enforcement standard (shaded)

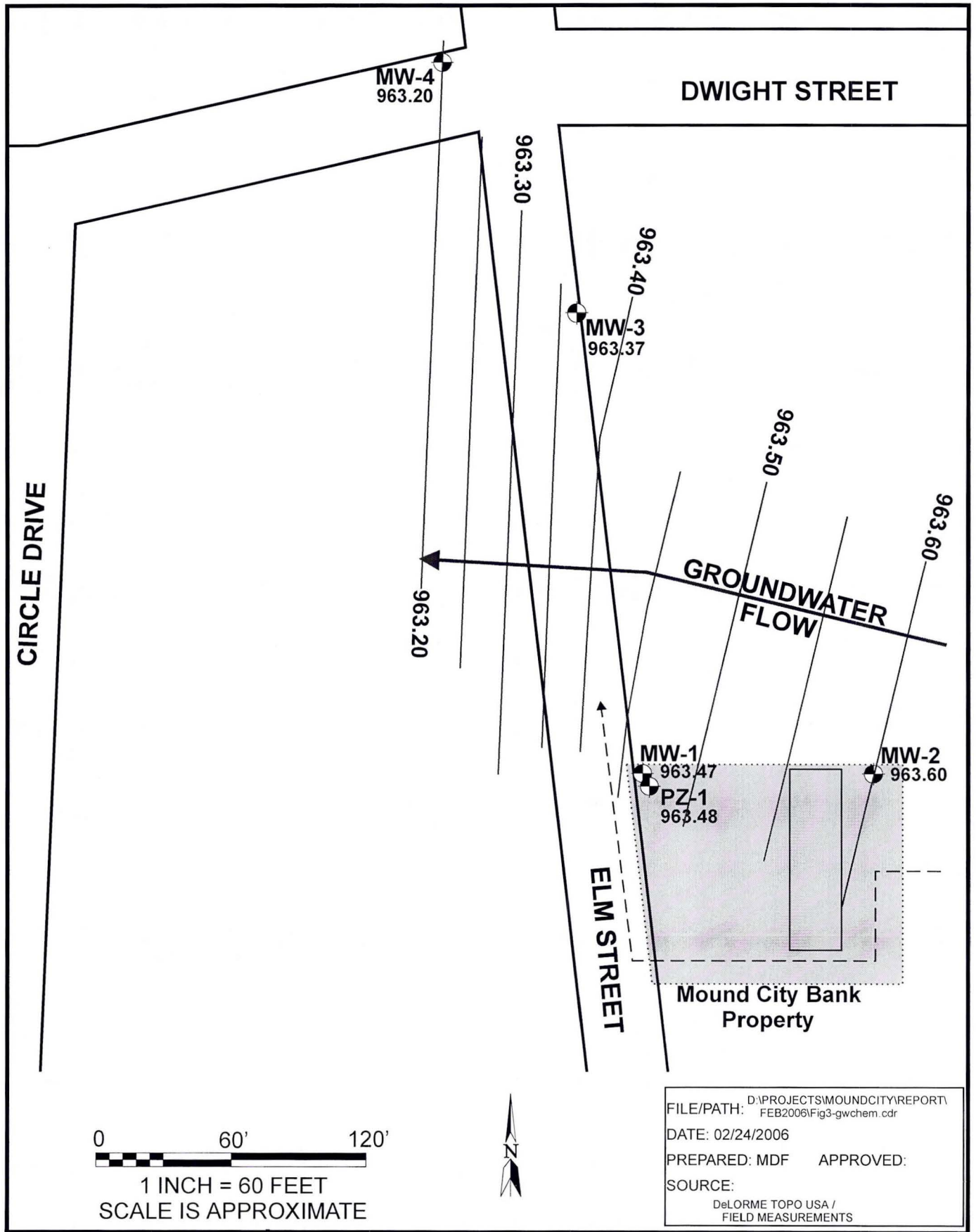


FILE/PATH: D:\PROJECTS\MOUNDCITY\REPORT\NOV2005\Fig2-gwflow.cdr  
 DATE: 11/09/2005  
 PREPARED: MDF      APPROVED:  
 SOURCE:  
 DeLORME TOPO USA /  
 FIELD MEASUREMENTS

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Groundwater Flow (October 2005)  
 Mound City Bank Property  
 1509 Elm Street  
 Boscobel, Wisconsin

**FIGURE**  
**1**

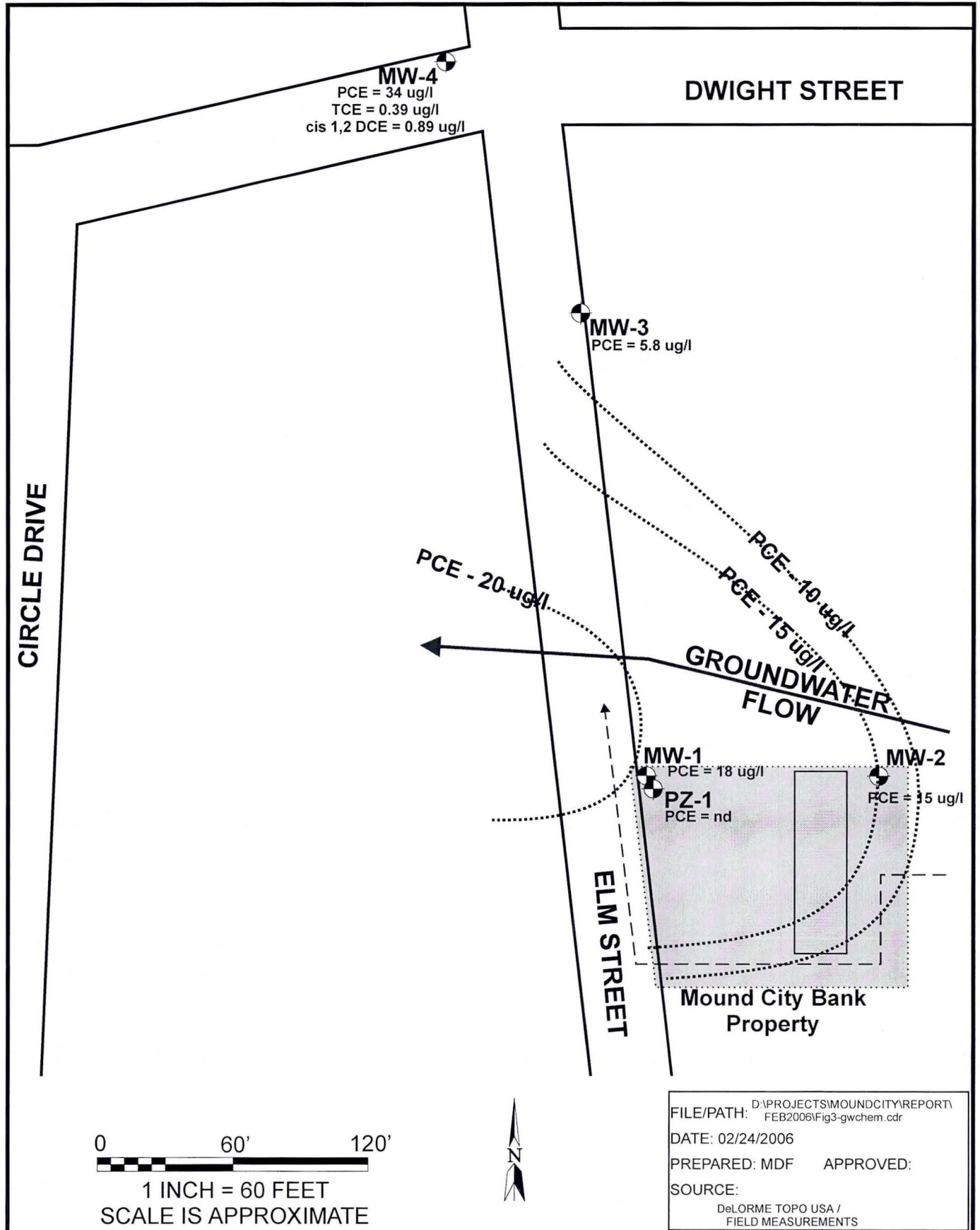


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WATER TABLE CONTOUR MAP (January 2006)  
Mound City Bank Property  
1509 Elm Street  
Boscobel, Wisconsin

FIGURE

1A



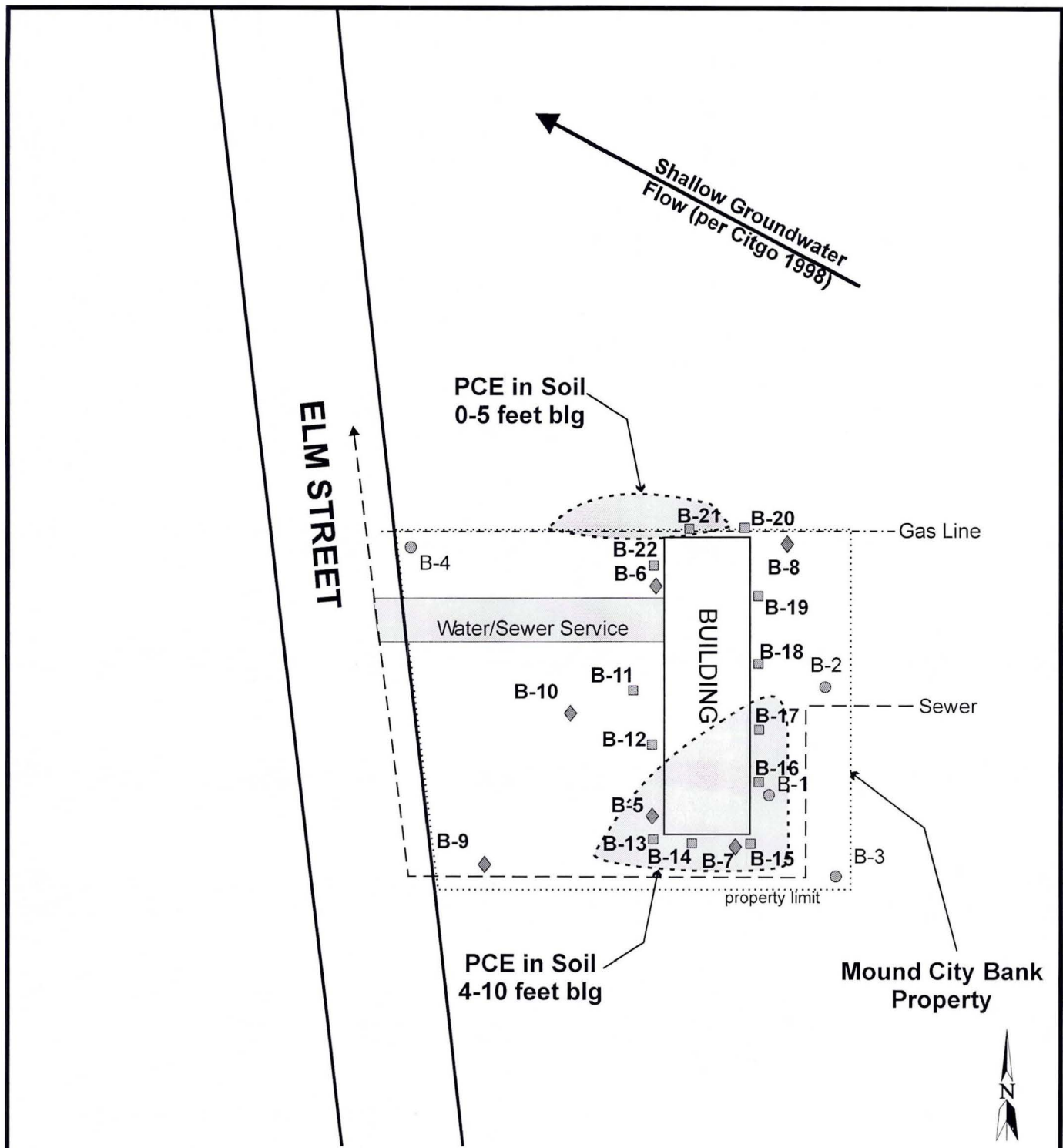
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Contaminants in Groundwater (January 2006)  
Mound City Bank Property  
1509 Elm Street  
Boscobel, Wisconsin

FIGURE

2





**LEGEND**

- B-1 ● - Geoprobe (Jan. 2005)
- B-5 ◆ - Geoprobe (Feb. 2005)
- B-11 ■ - Geoprobe (Sept. 2005)

0 40' 80'

1 INCH = 40 FEET  
SCALE IS APPROXIMATE

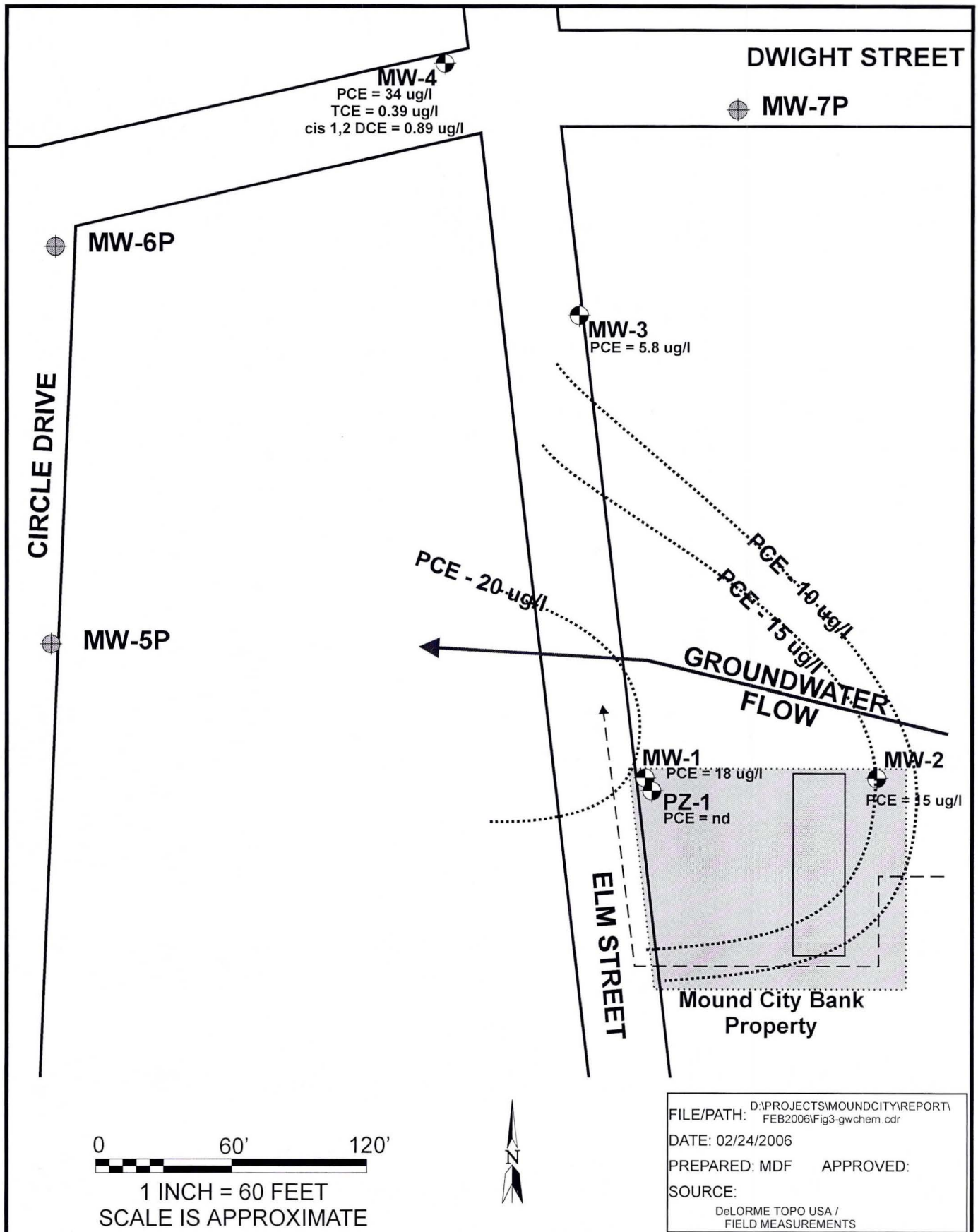
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 DATE: 10/11/2005  
 PREPARED: MDF APPROVED:  
 SOURCE: DeLORME TOPO USA

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Extent of PCE-Impacted Soil  
Mound City Bank Property  
1509 Elm Street  
Boscobel, Wisconsin

FIGURE

**3**



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Proposed Monitoring Wells  
Mound City Bank Property  
1509 Elm Street  
Boscobel, Wisconsin

FIGURE

4