GIS REGISTRY INFORMATION

SITE NAME:	Bridges & Public Bldgs Div-Field Headquarters		
BRRTS #:	03-41-004307	**FID #** (if appropriate):	
COMMERCE # (if appropriate):	53203-3202-42		
CLOSURE DATE:	February 17, 2006		
STREET ADDRESS:	142 N. 6th St.		
CITY:	Milwaukee		

SOURCE PROPERTY GPS COORDINATES (meters in WTM91 projection):	X =	689801		Y =	286532	
CONTAMINATED MEDIA:	Groundwater		Soil		Both	X
OFF-SOURCE GW CONTAMINATION >ES:		Yes			No	X
• **IF YES, STREET ADDRESS:**						
• **GPS COORDINATES** (meters in WTM91 projection):	X =			Y =		
OFF-SOURCE SOIL CONTAMINATION >Generic or Site-Specific RCL (SSRCL):		Yes		No	X	
• **IF YES, STREET ADDRESS 1:**						
• **GPS COORDINATES** (meters in WTM91 projection):	X =			Y =		
CONTAMINATION IN RIGHT OF WAY:		Yes		No	X	

DOCUMENTS NEEDED

Closure Letter, and any conditional closure letter issued or denial letter issued.	X
Copy of most recent deed, including legal description, for all affected properties	X
Certified survey map or relevant portion of the recorded plat map (*if referenced in the legal description*) for all affected properties	X
County Parcel ID number, *if used for county*, for all affected properties	X
Location Map which outlines all properties within contaminated site boundaries on USGS topographic map or plat map in sufficient detail to permit the parcels to be located easily (8.5x14" if paper copy). If groundwater standards are exceeded, the map must also include the location of all municipal and potable wells within 1200' of the site.	X
Detailed Site Map(s) for all affected properties, showing buildings, roads, property boundaries, contaminant sources, utility lines, monitoring wells and potable wells. (8.5x14", if paper copy) This map shall also show the location of all contaminated public streets, highway and railroad rights-of-way in relation to the source property and in relation to the boundaries of groundwater contamination exceeding ch. NR 140 ESs and soil contamination exceeding ch. NR 720 generic or SSRCLs.	X
Tables of Latest Groundwater Analytical Results (no shading or cross-hatching)	X
Tables of Latest Soil Analytical Results (no shading or cross-hatching)	X
Isoconcentration map(s), *if required for site investigation (SI)* (8.5x14" if paper copy). The isoconcentration map should have flow direction and extent of groundwater contamination defined. **If not available, include the latest extent of contaminant plume map.**	X
GW: Table of water level elevations, with sampling dates, and free product noted if present	X
GW: Latest groundwater flow direction/monitoring well location map (should be 2 maps if maximum variation in flow direction is greater than 20 degrees)	X
SOIL: Latest horizontal extent of contamination exceeding generic or SSRCLs, with one contour	X
Geologic cross-sections, *if required for SI.* (8.5x14' if paper copy)	X
RP certified statement that legal descriptions are complete and accurate.	X
Copies of off-source notification letters (if applicable)	
Letter informing ROW owner of residual contamination (if applicable)(public, highway or railroad ROW)	
Copy of (soil or land use) deed restriction (s) or deed notice if any required as a condition of closure	
Copy of any maintenance plan referenced in the deed restriction	

commerce.wi.gov
Wisconsin
Department of Commerce

ENVIRONMENTAL & REGULATORY SERVICES DIVISION
BUREAU OF PECFA
101 West Pleasant Street, Suite 100A
Milwaukee, Wisconsin 53212-3963
TDD #: (608) 264-8777
Fax #: (414) 220-5374
Jim Doyle, Governor
Mary P. Burke, Secretary

February 17, 2006

Mr. Dennis Nelson
City of Milwaukee
DPW-Operations Div.
841 N. Broadway St., Rm. 602
Milwaukee, WI 53202-3613

RE: **Final Closure**

Commerce # 53203-3202-42 WDNR BRRTS # 03-41-004307
Bridges & Public Bldgs Div-Field Headquarters, 142 N. 6th St., Milwaukee

Dear Mr. Nelson:

The Wisconsin Department of Commerce (Commerce) has received all items required as conditions for closure of the site referenced above. This case is now listed as "closed" on the Commerce database and will be included on the Wisconsin Department of Natural Resources (WDNR) Geographic Information System (GIS) Registry of Closed Remediation Sites to address residual contamination. It is in your best interest to keep all documentation related to the environmental activities that were conducted.

If residual contamination is encountered in the future, it must be managed in accordance with all applicable state and federal regulations. If it is determined that any remaining contamination poses a threat, the case may be reopened and further investigation or remediation may be required.

Thank you for your efforts to bring this case to closure. If you have any questions, please contact me in writing at the letterhead address or by telephone at (414) 220-5403.

Sincerely,

Lee R. Delcore

Lee R. Delcore
Hydrogeologist
Site Review Section

cc: Sigma Environmental Services, Inc.

commerce.wi.gov
Wisconsin
Department of Commerce

ENVIRONMENTAL & REGULATORY SERVICES DIVISION
BUREAU OF PECFA
101 West Pleasant Street, Suite 100A
Milwaukee, Wisconsin 53212-3963
TDD #: (608) 264-8777
Fax #: (414) 220-5374
Jim Doyle, Governor
Mary P. Burke, Secretary

August 19, 2005

Mr. Dennis Nelson
City of Milwaukee
DPW-Operations Div.
841 N. Broadway, Rm. 602
Milwaukee, WI 53202-3613

RE: **Conditional Case Closure**

Commerce # 53203-3202-42 WDNR BRRTS # 03-41-004307
Bridges & Public Bldgs Div-Field Headquarters, 142 N. 6th St., Milwaukee

Dear Mr. Nelson:

The Wisconsin Department of Commerce (Commerce) has reviewed the request for case closure prepared by your consultant, Sigma Environmental Services, Inc., for the site referenced above. It is understood that residual soil and groundwater contamination remains on site. Commerce has determined that this site does not pose a significant threat to the environment and human health. No further investigation or remedial action is necessary.

The following condition must be satisfied to obtain final closure:

- All monitoring wells must be properly abandoned and the appropriate documentation must be forwarded to the letterhead address.

This letter serves as your written notice of "no further action". Timely filing of your final PECFA claim (if applicable) is encouraged. If your claim is not received within 120 days of the date of this letter, interest costs incurred after 60 days of the date of this letter will not be eligible for PECFA reimbursement.

Thank you for your efforts to protect Wisconsin's environment. If you have any questions, please contact me in writing at the letterhead address or by telephone at (414) 220-5403.

Sincerely,

Lee R. Delcore

Lee R. Delcore
Hydrogeologist
Site Review Section

cc: Sigma Environmental Services, Inc.
Case File

WARRANTY DEED

THIS INDENTURE, Made this 6th day of MARCH, 1952, between MARLAN INVESTMENT CO., a corporation duly organized and existing under and by virtue of the laws of the State of Wisconsin, located at Milwaukee, Wisconsin, party of the first part, and CITY OF MILWAUKEE, a municipal corporation, duly organized and existing under and by virtue of the laws of the State of Wisconsin, located at Milwaukee, Wisconsin, party of the second part,

WITNESSETH, That the said party of the first part, for and in consideration of the sum of One ($1.00) Dollar and other good and valuable considerations to it paid by the said party of the second part, the receipt whereof is hereby confessed and acknowledged, has given, granted, bargained, sold, remised, released, aliened, conveyed and confirmed, and by these presents does give, grant, bargain, sell, remise, release, alien, convey and confirm unto the said party of the second part, its successors and assigns forever, the following described real estate, situated in the County of Milwaukee, State of Wisconsin, to-wit:

Lots 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15 in Block 202 in the Subdivision of Lots 1 to 21, both inclusive in Plat of Lot 6 in Fractional Section 29-7-22 in the 5th Ward; also that portion of the N½ of East Street vacated adjoining the above described premises.

The East 115 feet of that certain strip of land 500 feet in length and 132.50 feet in width extending along the North side of that certain land known as the Bagnoll Slip, running through Block 204 and the East ½ of Block 203 in the 5th Ward, being part of fractional Lot 6 in Section 29-7-22; also that portion of the South ½ of East Street vacated adjoining the above described premises.

The West 135 feet of the East ½ of a strip of land 500 feet in length and 132½ feet, more or less, in width extending along the North side of a certain Canal running East and West through Block 204 and the East ½ of Block 203 all in Fractional Lot 6 of Sec. 29-7-22 in the 5th Ward, fronting 135 feet on East Street on the North and fronting 135 feet on said Canal on the South; also the South ½ of that portion of East Street vacated adjoining the above described premises.

The W½ of the N½ of Block 204 in the 5th Ward, all in Fractional Lot 6 of Sec. 29-7-22. This property has a fronting on East Street of 250 feet and runs back to the Bagnoll Canal so called; also the S½ of that portion of East Street vacated adjoining the above described premises.

The East 125 feet of the W½ of that part of Block 204 lying South of the Canal in the 5th Ward, all in Fractional Lot 6 of Sec. 29-7-22.

The West 125 feet of the W½ of that part of Block 204 lying South of the Canal in the 5th Ward, all in Fractional Lot 6 of Sec. 29-7-22.

Lots 1, 2 and 3, in Block 203, all in Fractional Lot 6 of Sec. 29-7-22 in the 5th Ward.

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging or in any wise appertaining; and all the estate, right, title, interest, claim or demand whatsoever, of the said party of the first part, either in law or equity, either in possession or expectancy of, in and to the above bargained premises, and their hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises as above described with the hereditaments and appurtenances unto the said party of the second part, and to its successors and assigns forever.

AND THE SAID MARLAN INVESTMENT CO., party of the first part, for itself and its successors, does covenant, grant, bargain and agree to and with the said party of the second part, its successors and assigns, that at the time of the ensealing and delivery of these presents it is well seized of the premises above described, as of a good, sure, perfect, absolute and indefeasible estate of inheritance in the law, in fee simple, and that the same are free and clear from all incumbrances whatever, except easement agreement with the Wisconsin Electric Power Company dated August 15, 1950, and also subject to the terms and conditions of a certain freight track agreement with the Chicago, Milwaukee, St. Paul & Pacific Railroad Company dated January 18, 1951, and that the above bargained premises in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against all and every person or

persons lawfully claiming the whole or any part thereof, it will forever WARRANT and DEFEND.

IN WITNESS WHEREOF, the said MARLAN INVESTMENT CO., party of the first part, has caused these presents to be signed by MARJORIE MASCHMAN, its Vice-President, and countersigned by ERNEST H. BERGER, its Secretary, at Milwaukee, Wisconsin, and its corporate seal to be hereunto affixed, this 6th day of March, 1952.

Signed and Sealed
in Presence of

Arthur Magidson

Oscar Brachman, Jr.

MARLAN INVESTMENT CO.

By Marjorie Maschman
Marjorie Maschman, Vice-President

Countersigned

By Ernest H. Berger
Ernest H. Berger, Secretary

STATE OF WISCONSIN)
)SS
MILWAUKEE COUNTY)

Personally came before me, this 6th day of March, A.D., 1952, MARJORIE MASCHMAN, Vice-President, and ERNEST H. BERGER, Secretary of the above named Corporation, to me known to be the persons who executed the foregoing instrument, and to me known to be such Vice-President and Secretary of said Corporation, and acknowledged that they executed the foregoing instrument as such officers as the deed of said Corporation, by its authority.

(Arthur Magidson)

Arthur Magidson
Notary Public, Milwaukee County, Wisconsin.
My commission expires July 5, 1953

APPROVED AS TO FORM
AND EXECUTION THIS 7th
DAY OF March 1952

Assistant City Attorney

MAR-11-52 4 3 2 4 2 2 68952 D Rec 2.

3093952

MARLAN INVESTMENT CO.

to

CITY OF MILWAUKEE

WARRANTY DEED

REGISTER'S OFFICE } ss.
Milwaukee County, Wis. }
RECEIVED
to record MAR 11 1952 at 3:15
P. M. and recorded in vol. 2990 Deeds
Page 394
Phillip G. Wasserfahl
REGISTER DEEDS

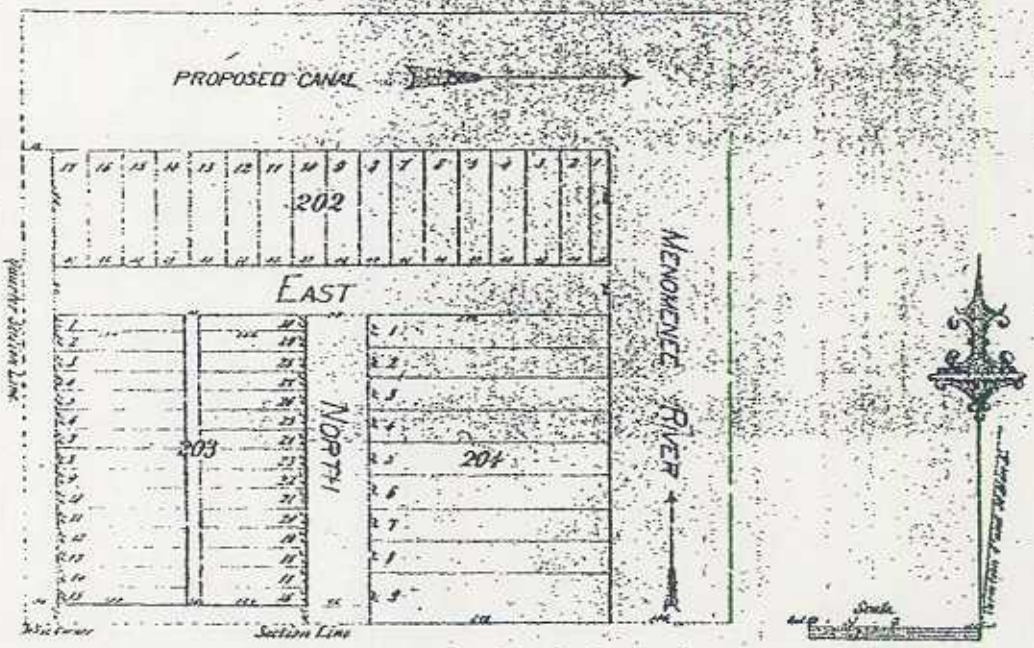
RETURN TO
COMPTROLLER'S OFFICE
City of Milwaukee

HERSH & MAGIDSON
ATTORNEYS AT LAW
135 WEST WELLS STREET
MILWAUKEE 3, WISCONSIN

250

DEED 2990 PAGE 397

B-1 P-112


PROPOSED CANAL
202
EAST
NORTH
203
204
MENOMENEE RIVER
Section Line
Scale

[illegible]

[illegible]

[illegible]

[illegible]

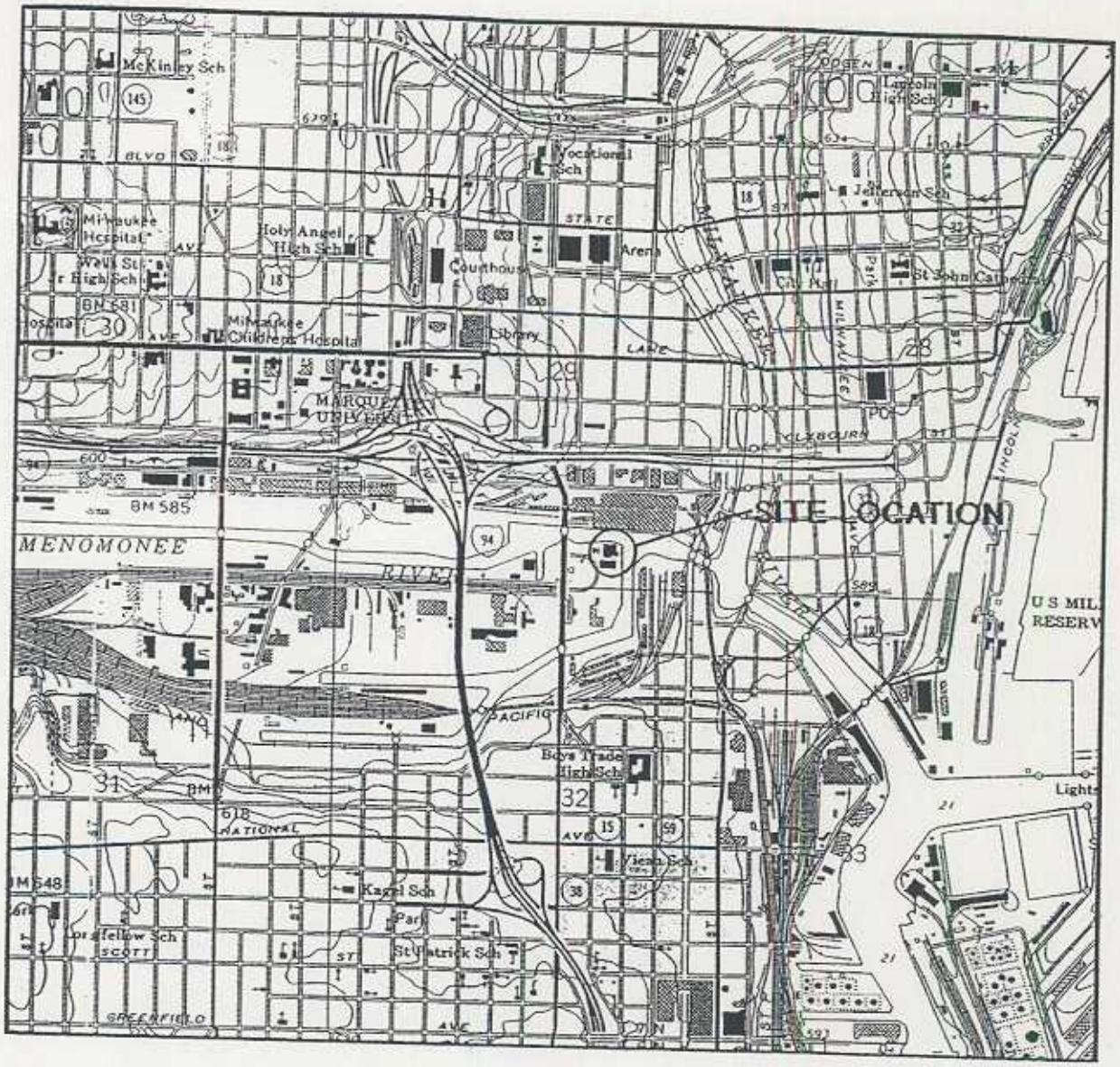
[illegible]

[illegible]

[illegible]

Parcel Identification Number

The parcel identification number for the City of Milwaukee Bridges and Public Buildings Field Headquarters located at 142 North Sixth Street, Milwaukee, Wisconsin is **397-0001-112-0**.



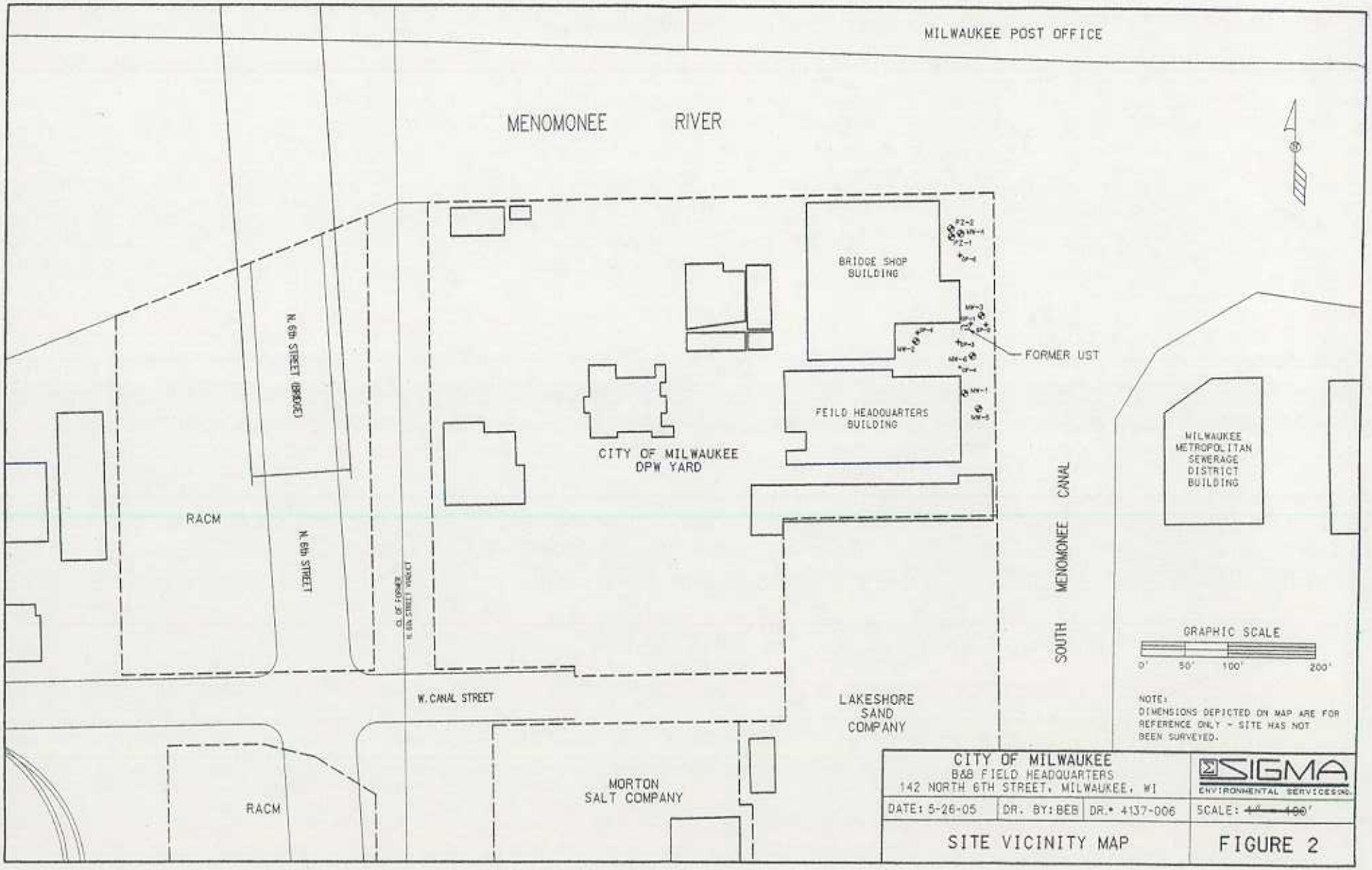
1 ½ 0 1 MILE

1 ½ 0 1 KILOMETER

ADAPTED FROM U.S.G.S. 7.5 MINUTE SERIES, MILWAUKEE, WISCONSIN QUADRANGLE

N

CITY OF MILWAUKEE B&B FIELD HEADQUARTERS 142 NORTH 6TH STREET, MILWAUKEE, WI			SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 7-6-95	DR. BY: JWH	DR.# 2442-001	SCALE: SEE ABOVE
SITE LOCATION MAP			FIGURE 1


MILWAUKEE POST OFFICE
MENOMONEE RIVER
BRIDGE SHOP BUILDING
FORMER UST
FEILD HEADQUARTERS BUILDING
CITY OF MILWAUKEE DPW YARD
MILWAUKEE METROPOLITAN SEWERAGE DISTRICT BUILDING
SOUTH MENOMONEE CANAL
N. 6th STREET (BRIDGE)
N. 6th STREET
RACM
W. CANAL STREET
LAKESHORE SAND COMPANY
MORTON SALT COMPANY
RACM
GRAPHIC SCALE
0' 50' 100' 200'
NOTE:
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED.
CITY OF MILWAUKEE
B&B FIELD HEADQUARTERS
142 NORTH 6TH STREET, MILWAUKEE, WI
SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 5-26-05
DR. BY: BEB
DR.# 4137-006
SCALE: ~~1" = 100'~~
SITE VICINITY MAP
FIGURE 2

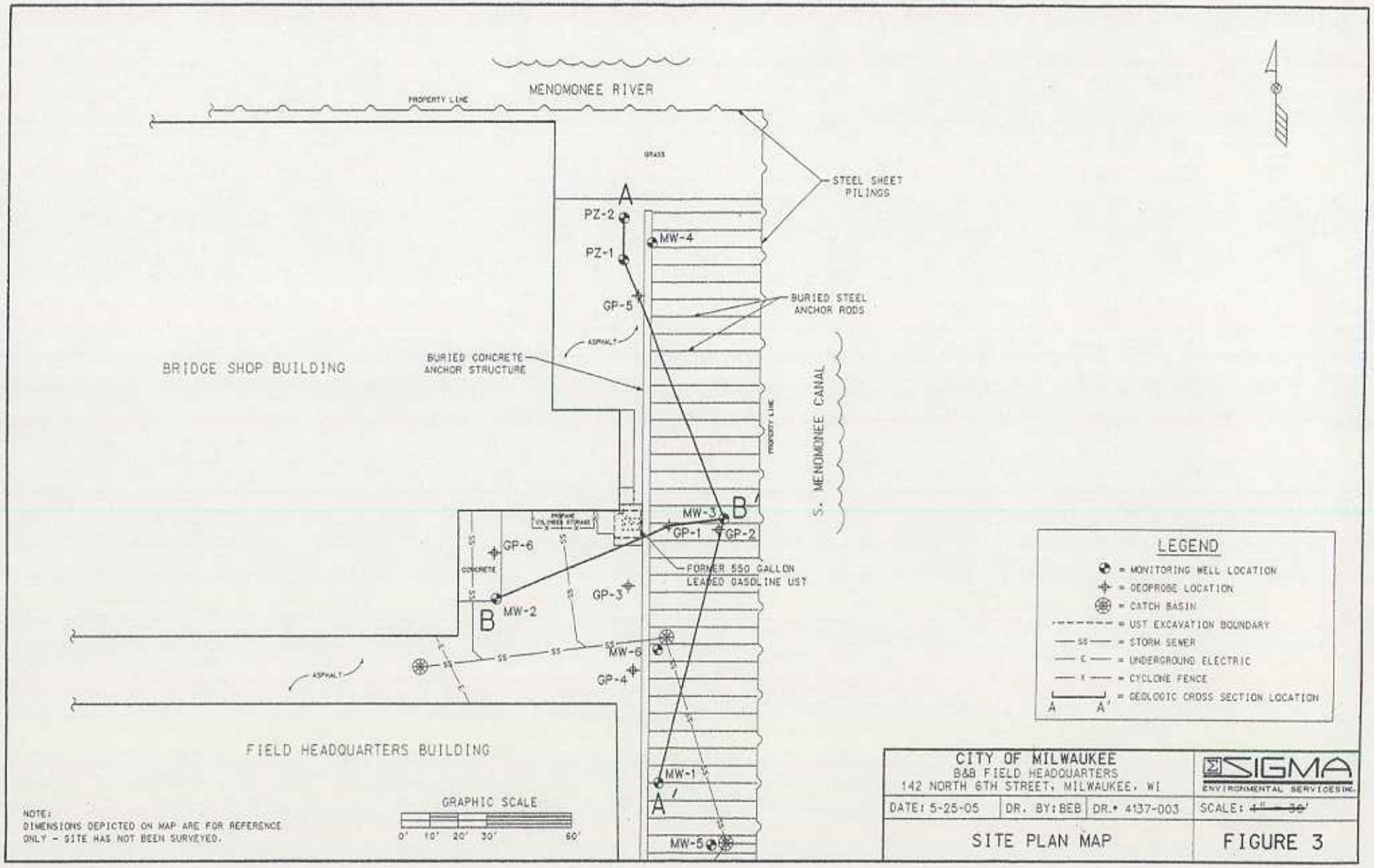

MENOMONEE RIVER
PROPERTY LINE
GRASS
STEEL SHEET PILINGS
A
PZ-2
PZ-1
MW-4
GP-5
BURIED STEEL ANCHOR RODS
ASPHALT
BRIDGE SHOP BUILDING
BURIED CONCRETE ANCHOR STRUCTURE
S. MENOMONEE CANAL
PROPERTY LINE
MW-3
B'
GP-1
GP-2
GP-6
CONCRETE
FORMER 550 GALLON LEADED GASOLINE UST
GP-3
B
MW-2
MW-6
GP-4
ASPHALT
FIELD HEADQUARTERS BUILDING
MW-1
A'
MW-5
GRAPHIC SCALE
0' 10' 20' 30' 60'
NOTE:
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED.
LEGEND
= MONITORING WELL LOCATION
= GEOPROBE LOCATION
= CATCH BASIN
= UST EXCAVATION BOUNDARY
= STORM SEWER
= UNDERGROUND ELECTRIC
= CYCLONE FENCE
= GEOLOGIC CROSS SECTION LOCATION
A A'
CITY OF MILWAUKEE
B&B FIELD HEADQUARTERS
142 NORTH 6TH STREET, MILWAUKEE, WI
SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 5-25-05
DR. BY: BEB
DR.# 4137-003
SCALE: 1" = 30'
SITE PLAN MAP
FIGURE 3

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - DETECTED COMPOUNDS

City of Milwaukee - Bridges & Public Buildings Field Headquarters
142 North 6th Street
Milwaukee, Wisconsin
Project # 4137

Analyte	Sample Location/Date														ES	PAL
	GP-1	GP-2	GP-4	GP-5	GP-6	MW-1										
	07/18/94	07/18/94	05/24/94	06/24/94	06/24/94	10/12/94	11/17/97	02/24/98	05/27/98	11/09/98	03/23/99	06/29/99	11/08/99	02/10/00		
Depth to Groundwater (ft)	---	---	---	---	---	2.56	2.50	2.65	2.05	3.50	4.32	3.68	4.81	5.11	NS	NS
GRO (mg/l)	7.2	<0.1	2.3	0.92	<0.10	<0.10	0.021	<0.014	<0.028	<0.014	<0.014	---	---	---	NS	NS
Volatile Organic Compounds																
Benzene	**2,000**	<0.3	**65**	<1.5	<0.3	2.3	<0.7	<0.7	<0.7	<0.4	<0.4	<0.42	<0.42	<0.42	5	0.5
Toluene	**1,100**	<0.4	310	<2.0	<0.4	1.5	<0.7	<0.7	<0.7	<0.7	<0.7	<0.68	<0.68	<0.68	1,000	200
Ethylbenzene	470	<0.4	170	<2.0	<0.4	1.6	<0.7	<0.7	<0.7	<0.7	<0.7	<0.66	<0.66	<0.66	700	140
Total Xylenes	1,850	<1.3	680	<6.5	<1.3	3.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.01	<2.01	<2.01	10,000	1,000
MTBE	**82**	<0.5	**110**	**130**	<0.5	10	<0.4	24	14	19	15	16	16	32	60	12
Trimethylbenzenes (Total)	**700**	<1.2	228	<6.0	<1.2	1.6	<1.4	<1.4	<1.4	<1.4	<1.4	<1.34	<1.34	<1.34	480	96
Naphthalene	**95**	<0.7	25	<3.5	<0.7	2.8	---	---	---	---	---	---	---	---	40	8
Di-isopropyl ether	<35	<0.7	<18	<3.5	<0.7	<0.7	---	---	---	---	---	---	---	---	NS	NS
n-Butylbenzene	86	<0.7	33	<3.5	<0.7	<0.7	---	---	---	---	---	---	---	---	NS	NS
Methylene Chloride	<2.0	<0.4	<10	**25***	<0.4	2.2*	---	---	---	---	---	---	---	---	5	0.5
n-Propylbenzene	84	<0.4	41	<2.0	<0.4	<0.4	---	---	---	---	---	---	---	---	NS	NS
Polynuclear Aromatic Hydrocarbons																
Acenaphthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	NS	NS
Anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	3000	600
Benzo (a) anthracene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	NS	NS
Benzo (b) fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	0.02
Benzo (a) pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	0.02
Chrysene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.2	0.02
Fluoranthene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	400	80
Fluorene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.4	0.08
1-Methylnaphthalene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	NS	NS
Phenanthrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	NS	NS
Pyrene	---	---	---	---	---	---	---	---	---	---	---	---	---	---	250	50
Metals																
Arsenic, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.005
Barium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	2	0.4
Cadmium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.005	0.0005
Chromium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.1	0.01
Lead, Dissolved (mg/l)	<0.001	<0.001	0.004	<0.001	0.002	0.010	---	---	---	---	---	---	---	---	0.015	0.0015
Selenium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	---	---	---	---	---	0.05	0.01
Natural Attenuation Indicator Parameters																
Manganese (mg/l)	---	---	---	---	---	---	2.8	1.3	2.7	2.0	1.8	1.6	1.6	1.9	NS	NS
Nitrates (mg/l)	---	---	---	---	---	---	<0.04	0.06	<0.04	<0.041	<0.04	<0.04	<0.04	<0.03	10	2
Sulfate (mg/l)	---	---	---	---	---	---	60	37	6.2	<10	<10	<10	<10	<10	NS	NS
Ferrous Iron** (mg/l)	---	---	---	---	---	---	5.0	3.0	4.2	6.0	4.0	6.0	2.8	2.2	NS	NS
Dissolved Oxygen (mg/l)	---	---	---	---	---	---	0.5	0.38	0.22	0.54	0.76	0.2	1.00	0.77	NS	NS
Redox Potential (mV)	---	---	---	---	---	---	33.8	233.3	41.3	6.2	-19.9	-79.0	-43.3	-67.9	NS	NS
Alkalinity (mg/l)	---	---	---	---	---	---	1,140	812	888	1,220	960	---	---	---	NS	NS
Total Organic Carbon (mg/l)	---	---	---	---	---	---	88	29	150	52	28	---	---	---	NS	NS
Methane	---	---	---	---	---	---	7,100	---	---	---	---	---	---	---	NS	NS
Heterotrophic Bacterial Plate Count (CFU/ml)	---	---	---	---	---	---	1,200	---	---	---	---	---	---	---	NS	NS
Hydrocarbon Degraders Bacterial Plate Count (CFU/m	---	---	---	---	---	---	150	---	---	---	---	---	---	---	NS	NS

KEY: L = Common laboratory solvent and contaminant
Results expressed in micrograms per liter (µg/l) unless noted
mg/l = milligrams per liter
--- = Not analyzed for this parameter.
MW-5 is a temporary 1 inch diameter monitoring well installed on 11-19-99 in the gravel backfill surrounding the storm sewer. Wisconsin Unique Well #JY542.
GRO = Gasoline Range Organics
MTBE = Methyl-Tert-Butyl Ether
ES = NR 140 Enforcement Standard
PAL = NR 140 Preventive Action Limit
NS = No Standard Established
BOLD = Concentrations above NR 140 ES
CFU/ml = Colony Forming Units per milliliter
** Ferrous Iron was measured in the field using a Hach Kit.
mV = millivolts
* = May be associated with method blank or laboratory background

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - DETECTED COMPOUNDS

City of Milwaukee - Bridges & Public Buildings Field Headquarters
142 North 6th Street
Milwaukee, Wisconsin
Project # 4137

Analyte	Sample Location/Date																			ES	PAL
	MW-2										MW-3										
	10/12/94	11/17/97	02/24/98	05/27/98	11/09/98	03/23/99	06/29/99	11/08/99	02/10/00	08/15/01	10/12/94	11/17/97	02/24/98	05/27/98	11/09/98	03/23/99	06/29/99	11/08/99	02/10/00		
Depth to Groundwater (ft)	3.26	2.99	3.21	2.66	3.98	4.67	4.28	5.10	5.45	5.15	1.98	2.00	2.00	1.91	3.02	3.95	3.23	4.44	4.87		
GRO (mg/l)	0.7	0.044	<0.014	<0.014	<0.014	<0.014	---	---	---	---	0.13	0.143	0.242	0.186	<0.014	0.123	---	---	---	NS	NS
Volatile Organic Compounds																				NS	NS
Benzene	<0.3	<0.7	<0.7	<0.7	<0.4	<0.4	<0.42	<0.42	<0.42	<0.1	1.3	3.8	**107**	**81**	<0.4	**11**	<0.42	<0.42	0.49	5	0.5
Toluene	<0.4	<0.7	<0.7	<0.7	<0.7	<0.7	<0.68	<0.68	<0.68	<0.1	<0.4	<0.7	20	1.4	<0.7	<0.7	<0.68	<0.68	<0.68	1,000	200
Ethylbenzene	<0.4	<0.7	<0.7	<0.7	<0.7	<0.7	<0.66	<0.66	<0.66	<0.25	<0.4	<0.7	0.9	<0.7	<0.7	<0.7	<0.66	<0.66	<0.66	700	140
Total Xylenes	<1.3	<2.0	<2.0	<2.0	<2.0	<2.0	<2.01	<2.01	<2.01	<0.25	1.7	5.9	7.4	10.6	<2.0	<2.0	<2.01	<2.01	<2.01	10,000	1,000
MTBE	<0.5	<0.4	<0.4	<0.4	<0.4	<0.4	0.77	0.89	2.1	6.6	<0.5	<0.4	1.9	<0.4	<0.4	<0.4	2.0	1.8	2.9	60	12
Trimethylbenzenes (Total)	<0.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.34	<1.34	<1.34	<0.2	1.0	1.1	<1.4	<1.4	<1.4	<1.4	<1.34	<1.34	<1.34	480	96
Naphthalene	<0.7	---	---	---	---	---	---	---	---	<0.25	<0.7	---	---	---	---	---	---	---	---	40	8
Di-isopropyl ether	<0.7	---	---	---	---	---	---	---	---	<0.25	<0.7	---	---	---	---	---	---	---	---	NS	NS
n-Butylbenzene	<0.7	---	---	---	---	---	---	---	---	<0.25	<0.7	---	---	---	---	---	---	---	---	NS	NS
Methylene Chloride	1.1*	---	---	---	---	---	---	---	---	<0.25	1.5*	---	---	---	---	---	---	---	---	5	0.5
n-Propylbenzene	<0.4	---	---	---	---	---	---	---	---	<0.25	<0.4	---	---	---	---	---	---	---	---	NS	NS
Polynuclear Aromatic Hydrocarbons																					
Acenaphthene	---	---	---	---	---	---	---	---	---	<0.42	---	---	---	---	---	---	---	---	---	NS	NS
Anthracene	---	---	---	---	---	---	---	---	---	0.08	---	---	---	---	---	---	---	---	---	3000	600
Benzo (a) anthracene	---	---	---	---	---	---	---	---	---	0.08	---	---	---	---	---	---	---	---	---	NS	NS
Benzo (b) fluoranthene	---	---	---	---	---	---	---	---	---	0.048	---	---	---	---	---	---	---	---	---	0.2	0.02
Benzo (a) pyrene	---	---	---	---	---	---	---	---	---	0.08	---	---	---	---	---	---	---	---	---	0.2	0.02
Chrysene	---	---	---	---	---	---	---	---	---	0.055	---	---	---	---	---	---	---	---	---	0.2	0.02
Fluoranthene	---	---	---	---	---	---	---	---	---	0.2	---	---	---	---	---	---	---	---	---	400	80
Fluorene	---	---	---	---	---	---	---	---	---	<0.081	---	---	---	---	---	---	---	---	---	0.4	0.08
1-Methylnaphthalene	---	---	---	---	---	---	---	---	---	<0.63	---	---	---	---	---	---	---	---	---	NS	NS
Phenanthrene	---	---	---	---	---	---	---	---	---	0.12	---	---	---	---	---	---	---	---	---	NS	NS
Pyrene	---	---	---	---	---	---	---	---	---	0.12	---	---	---	---	---	---	---	---	---	250	50
Metals																					
Arsenic, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	<0.0018	---	---	---	---	---	---	---	---	---	0.05	0.005
Barium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	0.42	---	---	---	---	---	---	---	---	---	2	0.4
Cadmium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	0.000076	---	---	---	---	---	---	---	---	---	0.005	0.0005
Chromium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	<0.0022	---	---	---	---	---	---	---	---	---	0.1	0.01
Lead, Dissolved (mg/l)	0.003	---	---	---	---	---	---	---	---	<0.0012	0.004	---	---	---	---	---	---	---	---	0.015	0.0015
Selenium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	<0.0010	---	---	---	---	---	---	---	---	---	0.05	0.01
Natural Attenuation Indicator Parameters																					
Manganese (mg/l)	---	1.9	1.2	1.5	1.3	1.2	1.2	1.3	1.1	1.1	---	1.0	0.4	0.5	0.3	0.5	0.31	0.53	0.6	NS	NS
Nitrates (mg/l)	---	<0.04	0.05	<0.04	<0.04	0.05	<0.04	<0.04	<0.03	2.7	---	0.05	0.05	<0.04	0.034	0.04	<0.04	<0.04	<0.03	10	2
Sulfate (mg/l)	---	62	47	8.9	<10	<10	<10	<10	<10	60	---	64	39	<0.04	<10	0.9	<10	<10	<10	NS	NS
Ferrous Iron** (mg/l)	---	3.0	4.0	4.0	7.0	3.2	5.0	3.2	3.0	8.0	---	2.6	3.0	2.5	2.0	3.0	5.0	2.4	1.0	NS	NS
Dissolved Oxygen (mg/l)	---	0.4	0.37	0.29	0.47	0.98	0.19	0.58	0.45	0.28	---	0.3	0.28	0.28	0.3	1.02	0.19	0.44	0.41	NS	NS
Redox Potential (mV)	---	6.3	197.4	-62.9	35.9	-72.5	-73.4	-60.4	-89.7	-77.6	---	-31.9	249.3	-115.5	-89.2	-129.7	-119.9	-53.8	-116.4	NS	NS
Alkalinity (mg/l)	---	1,150	1,140	1,140	980	1,350	---	---	---	---	---	680	742	764	1,380	924	---	---	---	NS	NS
Total Organic Carbon (mg/l)	---	85	96	64	31	48	---	---	---	---	---	38	54	55	21	260	---	---	---	NS	NS
Methane	---	6,200	---	---	---	---	---	---	---	---	---	9,100	---	---	---	---	---	---	---	NS	NS
Heterotrophic Bacterial Plate Count (CFU/ml)	---	500	---	---	---	---	---	---	---	---	---	30,000	---	---	---	---	---	---	---	NS	NS
Hydrocarbon Degraders Bacterial Plate Count (CFU/ml	---	300	---	---	---	---	---	---	---	---	---	1,800	---	---	---	---	---	---	---	NS	NS

KEY:
L = Common laboratory solvent and contaminant
Results expressed in micrograms per liter (µg/l) unless noted
mg/l = milligrams per liter
--- = Not analyzed for this parameter.
MW-5 is a temporary 1 inch diameter monitoring well installed on 11-19-99 in the gravel backfill surrounding the storm sewer. Wisconsin Unique Well #JY542.
GRO = Gasoline Range Organics
MTBE = Methyl-Tert-Butyl Ether
ES = NR 140 Enforcement Standard
PAL = NR 140 Preventive Action Limit
NS = No Standard Established
BOLD = Concentrations above NR 140 ES
CFU/ml = Colony Forming Units per milliliter
** Ferrous iron was measured in the field using a Hach Kit.
mV = millivolts
* = May be associated with method blank or laboratory background

TABLE 3
SUMMARY OF GROUNDWATER ANALYTICAL RESULTS - DETECTED COMPOUNDS

City of Milwaukee - Bridges & Public Buildings Field Headquarters
142 North 8th Street
Milwaukee, Wisconsin
Project # 4137

Analyte	Sample Location/Date													ES	PAL
	MW-4										MW-5	PZ-1	PZ-2		
	10/12/94	11/17/97	02/24/98	05/27/98	11/09/98	03/23/99	08/29/99	11/08/99	02/10/00	08/15/01	02/10/00	08/15/01	08/15/01		
Depth to Groundwater (ft)	2.80	2.52	2.70	1.36	3.59	4.40	3.80	5.01	5.34	4.98	4.87			NS	NS
GRO (mg/l)	0.51	6.82	10.1	5.4	8.1	3.48	---	---	---	---	---	---	---	NS	NS
Volatile Organic Compounds															
Benzene	**4,200**	**2,450**	**3,250**	**2,540**	**6,790**	**1,630**	**3,830**	**2,130**	**1,950**	**250**	<0.42	**19**	<0.10	5	0.5
Toluene	<40	25	500	11	175	17	82	<17	<6.8	<0.4	<0.68	<0.10	<0.10	1,000	200
Ethylbenzene	580	150	350	51	286	105	317	<17	<6.6	<1.0	<0.66	<0.25	<0.25	700	140
Total Xylenes	1,670	167	325	<20.1	349	78	294	<50	<20.1	<1.0	<2.01	<0.25	<0.25	10,000	1,000
MTBE	<50	33	<18	<3.5	<18	<1.6	35	45	61	13	0.99	27	<0.25	60	12
Trimethylbenzenes (Total)	**900**	277	**615**	54	**638**	129	400	<34	<13.4	3.2	<1.34	<0.20	<0.20	480	96
Naphthalene	**240**	---	---	---	---	---	---	---	---	<1.0	---	<0.25	<0.25	40	8
Di-isopropyl ether	<70	---	---	---	---	---	---	---	---	<1.0	---	0.42	<0.25	NS	NS
n-Butylbenzene	170	---	---	---	---	---	---	---	---	<1.0	---	<0.25	<0.25	NS	NS
Methylene Chloride	<40	---	---	---	---	---	---	---	---	<1.0	---	0.71L	0.64L	5	0.5
n-Propylbenzene	140	---	---	---	---	---	---	---	---	4.5	---	<0.25	<0.25	NS	NS
Polynuclear Aromatic Hydrocarbons															
Acenaphthene	---	---	---	---	---	---	---	---	---	0.48	---	<0.41	<0.42	NS	NS
Anthracene	---	---	---	---	---	---	---	---	---	0.087	---	<0.031	<0.032	3000	600
Benzo (a) anthracene	---	---	---	---	---	---	---	---	---	<0.034	---	<0.034	<0.035	NS	NS
Benzo (b) fluoranthene	---	---	---	---	---	---	---	---	---	<0.057	---	<0.057	<0.059	0.2	0.02
Benzo (a) pyrene	---	---	---	---	---	---	---	---	---	<0.023	---	<0.023	<0.024	0.2	0.02
Chrysene	---	---	---	---	---	---	---	---	---	<0.030	---	<0.030	<0.031	0.2	0.02
Fluoranthene	---	---	---	---	---	---	---	---	---	0.24	---	<0.079	<0.082	400	80
Fluorene	---	---	---	---	---	---	---	---	---	0.15	---	<0.08	<0.083	0.4	0.08
1-Methylnaphthalene	---	---	---	---	---	---	---	---	---	0.54	---	<0.52	<0.54	NS	NS
Phenanthrene	---	---	---	---	---	---	---	---	---	0.11	---	<0.080	<0.083	NS	NS
Pyrene	---	---	---	---	---	---	---	---	---	0.24	---	<0.062	<0.065	250	50
Metals															
Arsenic, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	0.0066	---	<0.0018	<0.0018	0.05	0.005
Barium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	0.46	---	0.28	0.25	2	0.4
Cadmium, Dissolved (mg/l	---	---	---	---	---	---	---	---	---	<0.00042	---	0.000087	0.00005	0.005	0.0005
Chromium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	0.00037	---	0.0048	0.00033	0.1	0.01
Lead, Dissolved (mg/l)	0.007	---	---	---	---	---	---	---	---	<0.0012	---	0.0038	<0.0012	0.015	0.0015
Selenium, Dissolved (mg/l)	---	---	---	---	---	---	---	---	---	0.0068	---	0.0014	0.0013	0.05	0.01
Natural Attenuation Indicator Parameters															
Manganese (mg/l)	---	0.3	0.2	0.0	2	0.4	0.21	0.37	0.47	0.3	---	1.0	0.05	NS	NS
Nitrates (mg/l)	---	0.05	0.1	<0.04	<0.041	0.1	0.35	<0.04	<0.03	<5.0	---	1.2	<0.50	10	2
Sulfate (mg/l)	---	57	62	21	<10	88	<10	<10	<10	260	---	49	33	NS	NS
Ferrous Iron** (mg/l)	---	3.4	2.0	2.0	7.5	3.8	2.0	4.0	0.8	5.0	1.5	---	---	NS	NS
Dissolved Oxygen (mg/l)	---	0.25	0.24	0.26	0.19	0.82	0.19	0.37	0.38	0.24	3.0	---	---	NS	NS
Redox Potential (mV)	---	-10.7	309.4	-62.8	-35	-46.6	-127.4	-39.6	-56.5	86	-26.4	---	---	NS	NS
Alkalinity (mg/l)	---	626	614	652	1,220	844	---	---	---	---	0	---	---	NS	NS
Total Organic Carbon (mg/l)	---	21	43	23	78	39	---	---	---	---	---	---	---	NS	NS
Methane	---	11,000	---	---	---	---	---	---	---	---	---	---	---	NS	NS
Heterotrophic Bacterial Plate Count (CFU/ml)	---	6,000	---	---	---	---	---	---	---	---	---	---	---	NS	NS
Hydrocarbon Degraders Bacterial Plate Count (CFU/m	---	260	---	---	---	---	---	---	---	---	---	---	---	NS	NS

KEY: L = Common laboratory solvent and contaminant
Results expressed in micrograms per liter (µg/l) unless noted
mg/l = milligrams per liter
--- = Not analyzed for this parameter.
MW-5 is a temporary 1 inch diameter monitoring well installed on 11-19-99 in the gravel backfill surrounding the storm sewer. Wisconsin Unique Well #JY642.
GRO = Gasoline Range Organics
MTBE = Methyl-Tert-Butyl Ether
ES = NR 140 Enforcement Standard
PAL = NR 140 Preventive Action Limit
NS = No Standard Established
BOLD = Concentrations above NR 140 ES
CFU/ml = Colony Forming Units per milliliter
** Ferrous Iron was measured in the field using a Hach Kit.
mV = millivolts
* = May be associated with method blank or laboratory background

TABLE 1
SUMMARY OF SOIL ANALYTICAL RESULTS

City of Milwaukee
Bridges and Buildings Field Headquarters
142 North Sixth Street
Milwaukee, Wisconsin

Sample Location	UST/EB	GP-1		GP-2		GP-3		GP-4		GP-5		GP-6		MW-1	MW-2		MW-3	MW-4	NR 720	NR 746	
Depth	7	(5-7)	(13-15)	(5-7)	(9-11)	(3-5)	(13-15)	(5-7)	(11-13)	(3-5)	(9-11)	(3-5)	(9-11)	(6-8)	(2-4)	(6-8)	(4-6)	(4-6)	RCL	Table 1[1]	Table 2[2]
Date Collected	6/6/1994	07/18/94		07/18/94		07/18/94		07/18/94		07/18/94		07/18/94		09/26/94	09/26/94		09/26/94	09/26/94			
PID (i.u.i)	2,107	881	5	2	1	>2,500	2	NA	4	35	4	2	0	4.2	1,270	1.4	5.2	87.6	NS	NS	NS
Analytes																					
GRO (mg/kg)	**>1,500**	12	<10	<6.1	<6.7	**1,100**	<8.6	<6.1	<8.5	<5.6	<8.2	<6.5	<6.5	<5.0	<5.0	<5.0	12	12	100	NS	NS
Lead (mg/kg)	NA	**200**	10	**66**	**63**	32	7.6	8.8	22	8.6	8	15	6.3	**84**	**167**	18	**56**	**70**	50/500	NS	NS
Benzene	NA	<48	**12**	<0.34	<1.5	**700**	1.8	1.1	1.8	**22**	<0.48	<0.40	<0.39	<0.34	<0.37	<0.44	**6.0**	**45**	5.5	8,500	1,100
Toluene	NA	250	5.9	<0.46	<2.0	**5,000**	6.4	<0.47	<0.63	1.9	1.5	2.1	<0.52	<0.45	<0.49	<0.59	<0.58	1.0	1,500	38,000	NS
Ethylbenzene	NA	380	3.2	<0.46	<2.0	2,500	2.1	1.9	<0.63	1.9	<0.65	<0.53	<0.52	<0.45	<0.49	<0.59	<0.58	1.0	2,900	4,600	NS
Total Xylenes	NA	1,670	11.1	<1.49	<6.5	**10,700**	401	10.1	2.7	9.3	<2.07	1.6	<1.69	<1.46	<1.6	<1.88	<1.87	7.0	4,100	42,000	NS
1, 2, 4-Trimethylbenzene	NA	1,100	<0.83	<0.46	<2.0	5,100	2.8	6.2	0.63	<1.9	<0.65	<0.53	<0.52	<0.45	1.1	<0.59	<0.58	<0.45	NS	83,000	NS
1, 3 ,5 -Trimethylbenzene	NA	320	<1.7	<0.92	<4.0	1,500	<1.4	4.6	<1.3	<3.9	<1.3	<1.1	<1.0	<0.90	<0.99	<1.2	<1.2	<0.91	NS	11,000	NS
Methyl Tert Butyl ether	NA	<80	<1.0	<0.57	<2.5	<82	<0.85	4.7	<0.79	<2.4	17	<0.66	<0.65	<0.56	<0.62	<0.73	<0.72	1.6	NS	NS	NS
n-Butylbenzene	NA	380	<1.5	<0.80	<3.5	1,300	<1.2	4.9	1.8	59	<1.1	<0.92	<0.91	<0.79	<0.86	<1.0	<1.0	<0.79	NS	NS	NS
sec-Butylbenzene	NA	<80	<1.0	<0.57	<2.5	170	<0.85	<0.59	<0.79	<2.4	<0.81	<0.06	<0.65	<0.56	<0.62	<0.73	<0.72	<0.57	NS	NS	NS
tert-Butylbenzene	NA	<64	4.6	<0.46	<2.0	<65	<0.68	5.9	<0.63	<1.9	<0.65	<0.53	<0.52	<0.45	<0.49	<0.59	<0.58	<0.45	NS	NS	NS
Isopropyltoluene	NA	<48	<0.62	<0.34	<1.5	350	<0.51	9.8	<0.48	20	<0.48	<0.40	<0.39	<0.34	22	<0.44	<0.43	4.4	NS	NS	NS
P-Isopropyltoluene	NA	<140	<1.9	<1.0	<4.5	<150	<1.5	<1.1	<1.4	<4.3	<1.5	<1.2	<1.2	<1.0	26	<1.3	<1.3	<1.0	NS	NS	NS
Methylene Chloride	NA	<64	*45	*13	*110	<65	<0.68	<0.47	*27	*100	<0.65	<0.53	*17	*29	*99	*40	*3.4	*32	NS	NS	NS
Naphthalene	NA	<110	<1.5	<3.5	<3.5	930	<1.2	<0.83	<1.1	<3.4	<1.1	<0.92	33	<0.79	<0.86	<1.0	<1.0	<0.79	NS	2,700	NS
n-Propylbenzene	NA	170	<0.83	<20	<2.0	920	<0.68	<0.47	<0.63	54	<0.65	<0.53	<0.52	<0.45	<0.49	<0.59	<0.58	<0.45	NS	NS	NS
1, 1, 1-Trichloroethane	NA	<80	<1.0	<2.5	<2.5	<82	6.7	1.9	<0.79	<2.4	<0.81	<0.66	<0.65	<0.56	<0.62	<0.73	<0.72	<0.57	NS	NS	NS

Notes: Concentrations in micrograms per kilogram(ug/kg) except where noted.

ft bgs = feet below ground surface
mg/kg = milligrams per kilogram
i.u.i = instrument units as isobutylene
* = Values likely attributable to laboratory contamination.
NA = Not Analyzed for this parameter
BOLD = Concentrations in bold exceed NR 720 Residual Contaminant Levels.
NS = No Standard Established

1 = Indicators of Residual Petroleum Products in Soil Pores.
2 = Values for Protection of Human Health from Direct Contact

50/500 = Non-Industrial / Industrial NR 720 residual contaminant levels.

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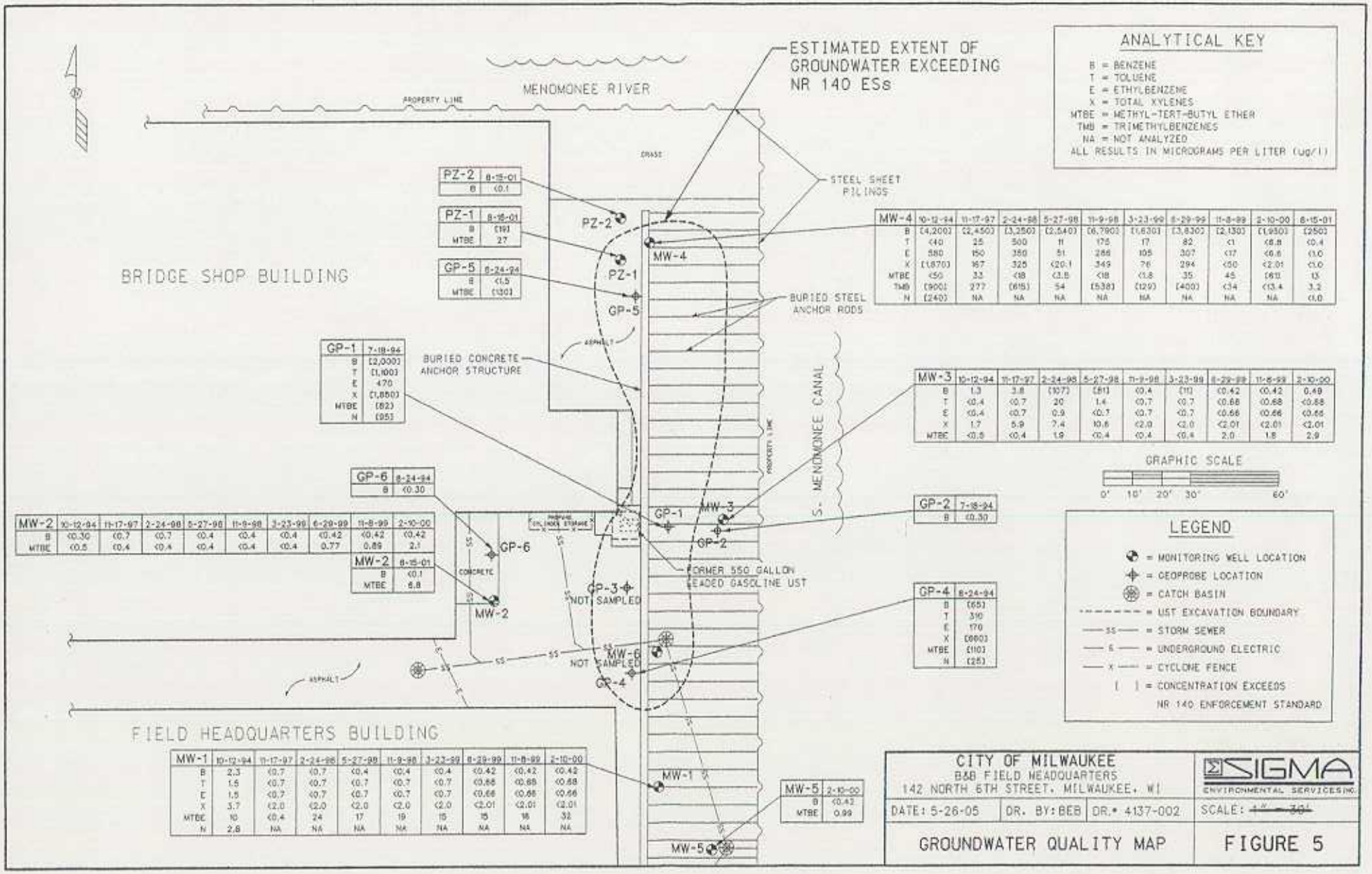


ANALYTICAL KEY

B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = TOTAL XYLENES
MTBE = METHYL-TERT-BUTYL ETHER
TMB = TRIMETHYLBENZENES
NA = NOT ANALYZED
ALL RESULTS IN MICROGRAMS PER LITER (ug/l)

PZ-2	8-15-01
B	<0.1

PZ-1	8-15-01
B	[19]
MTBE	27

GP-5	8-24-94
B	<1.5
MTBE	[130]

GP-1	7-18-94
B	[2,000]
T	[1,100]
E	470
X	[1,850]
MTBE	[82]
N	[95]

GP-6	8-24-94
B	<0.30

MW-2	10-12-94	11-17-97	2-24-98	5-27-98	11-9-98	3-23-99	6-29-99	11-8-99	2-10-00
B	<0.30	<0.7	<0.7	<0.4	<0.4	<0.4	<0.42	<0.42	<0.42
MTBE	<0.5	<0.4	<0.4	<0.4	<0.4	<0.4	0.77	0.89	2.1

MW-2	8-15-01
B	<0.1
MTBE	6.8

MW-4	10-12-94	11-17-97	2-24-98	5-27-98	11-9-98	3-23-99	6-29-99	11-8-99	2-10-00	8-15-01
B	[4,200]	[2,450]	[3,250]	[2,540]	[6,790]	[1,630]	[3,830]	[2,130]	[1,950]	[250]
T	<40	25	500	11	175	17	82	<1	<6.8	<0.4
E	580	150	350	51	288	105	307	<17	<6.6	<1.0
X	[1,670]	167	325	<20.1	349	76	294	<50	<2.01	<1.0
MTBE	<50	33	<18	<3.8	<18	<1.8	35	45	[61]	13
TMB	[900]	277	[615]	54	[538]	[129]	[400]	<34	<13.4	3.2
N	[240]	NA	NA	NA	NA	NA	NA	NA	NA	<1.0

MW-3	10-12-94	11-17-97	2-24-98	5-27-98	11-9-98	3-23-99	6-29-99	11-8-99	2-10-00
B	1.3	3.8	[107]	[61]	<0.4	[11]	<0.42	<0.42	0.49
T	<0.4	<0.7	20	1.4	<0.7	<0.7	<0.66	<0.66	<0.66
E	<0.4	<0.7	0.9	<0.7	<0.7	<0.7	<0.66	<0.66	<0.66
X	1.7	5.9	7.4	10.6	<2.0	<2.0	<2.01	<2.01	<2.01
MTBE	<0.5	<0.4	1.9	<0.4	<0.4	<0.4	2.0	1.8	2.9

GP-2	7-18-94
B	<0.30

GP-4	8-24-94
B	[65]
T	310
E	170
X	[890]
MTBE	[110]
N	[25]

MW-1	10-12-94	11-17-97	2-24-98	5-27-98	11-9-98	3-23-99	6-29-99	11-8-99	2-10-00
B	2.3	<0.7	<0.7	<0.4	<0.4	<0.4	<0.42	<0.42	<0.42
T	1.5	<0.7	<0.7	<0.7	<0.7	<0.7	<0.66	<0.66	<0.66
E	1.5	<0.7	<0.7	<0.7	<0.7	<0.7	<0.66	<0.66	<0.66
X	3.7	<2.0	<2.0	<2.0	<2.0	<2.0	<2.01	<2.01	<2.01
MTBE	10	<0.4	24	17	19	15	15	16	32
N	2.8	NA	NA	NA	NA	NA	NA	NA	NA

MW-5	2-10-00
B	<0.42
MTBE	0.99

LEGEND

= MONITORING WELL LOCATION
= GEOPROBE LOCATION
= CATCH BASIN
= UST EXCAVATION BOUNDARY
= STORM SEWER
= UNDERGROUND ELECTRIC
= CYCLONE FENCE
[ ] = CONCENTRATION EXCEEDS NR 140 ENFORCEMENT STANDARD

CITY OF MILWAUKEE
B&B FIELD HEADQUARTERS
142 NORTH 6TH STREET, MILWAUKEE, WI

SIGMA ENVIRONMENTAL SERVICES INC.

DATE: 5-26-05 | DR. BY: BEB | DR.# 4137-002 | SCALE: ~~1" = 30'~~

GROUNDWATER QUALITY MAP

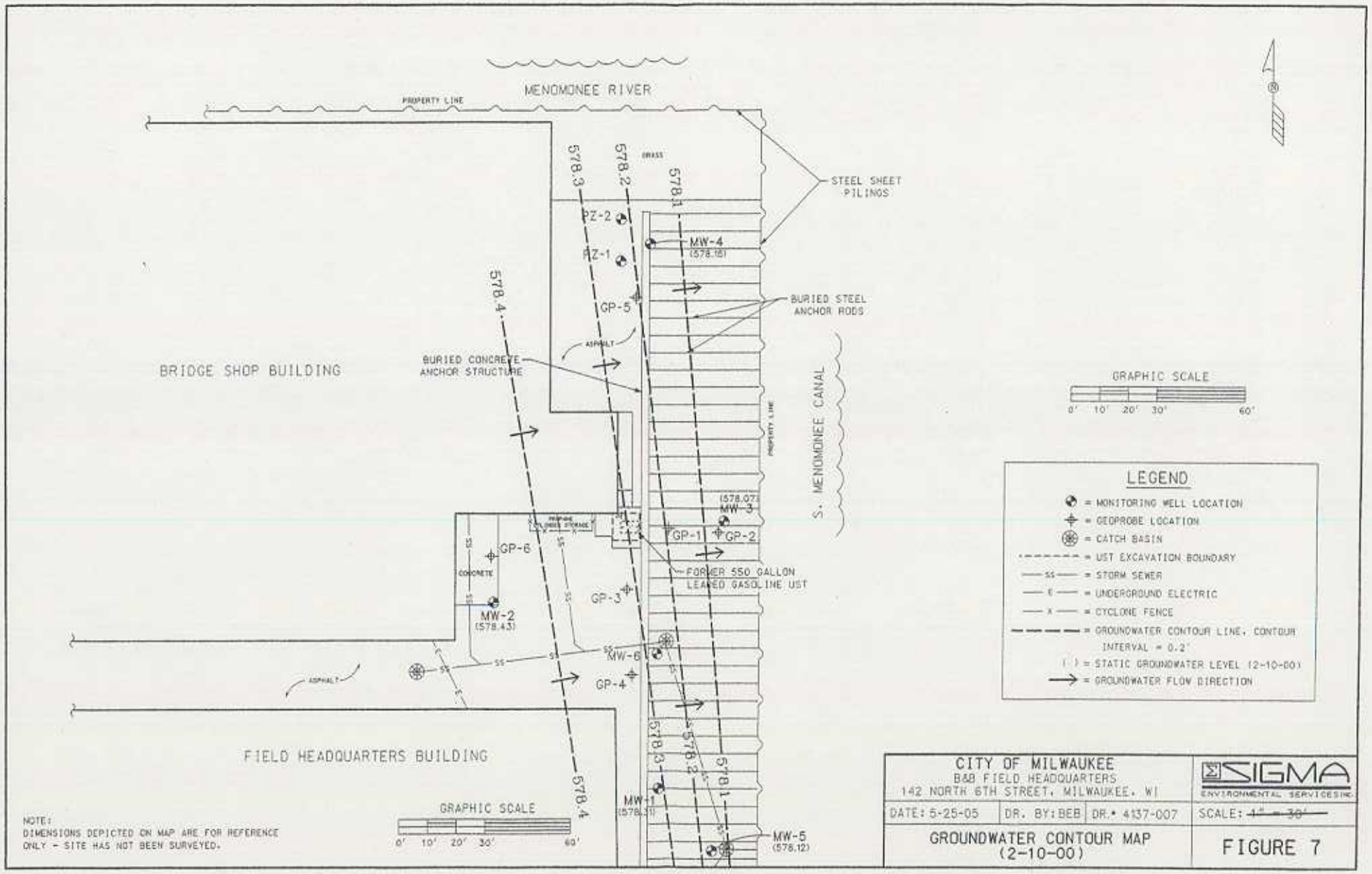
FIGURE 5

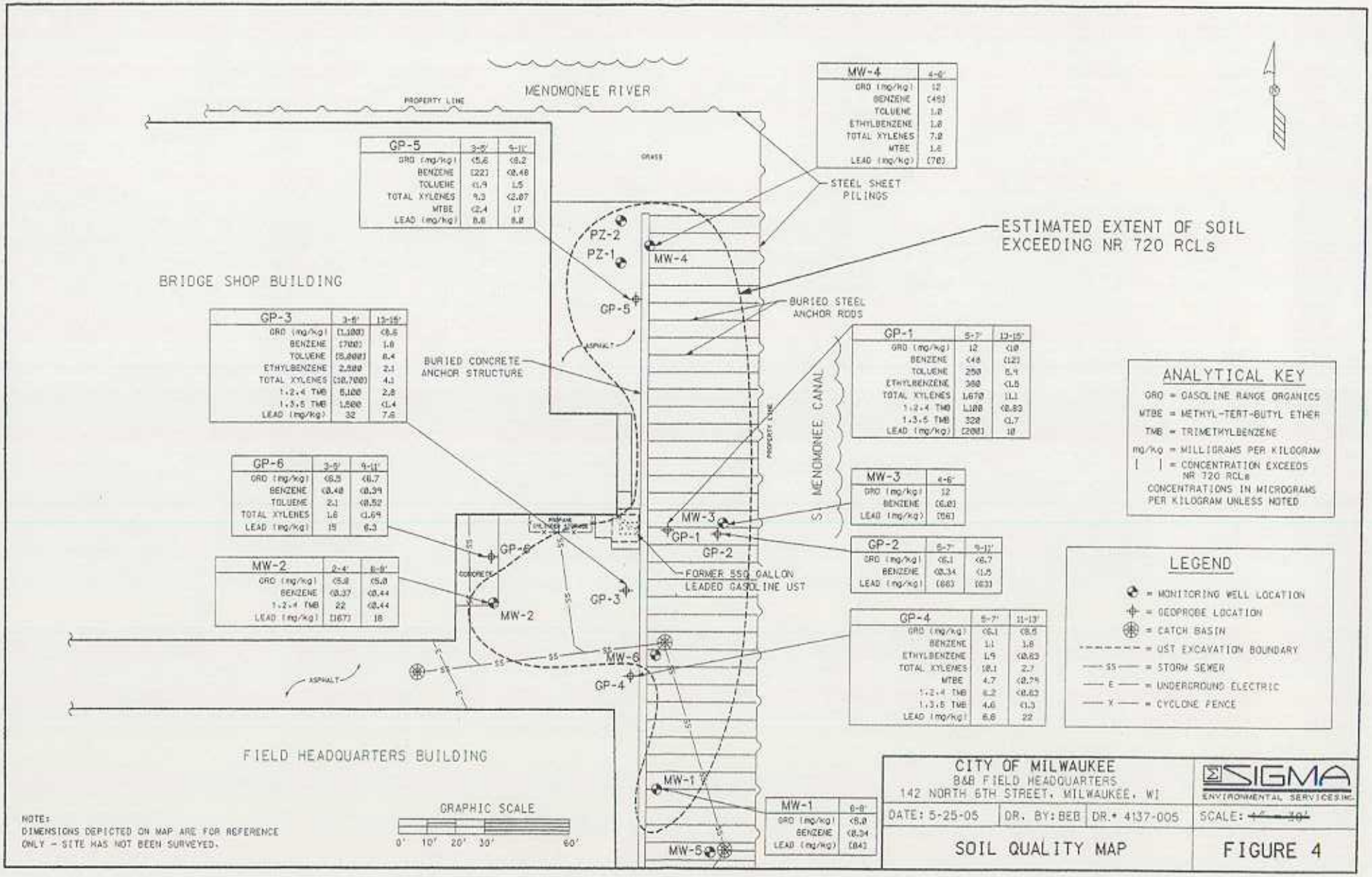
TABLE 2
Groundwater Elevation Data
City of Milwukee
Bridges and Buildings Field Headquarters
142 North Sixth Street
Milwaukee, Wisconsin
Project # 4137

Well ID	Date	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Depth to Groundwater from Top of Casing (ft)	Depth to Groundwater from Ground Surface (ft)	Groundwater Elevation (ft)
MW-1	10/12/94	583.6	583.42	2.56	2.74	580.86
	11/17/97			2.50	2.68	580.92
	02/24/98			2.65	2.83	580.77
	05/27/98			2.05	2.23	581.37
	11/09/98			3.50	3.68	579.92
	03/23/99			4.32	4.50	579.10
	06/29/99			3.66	3.84	579.76
	11/8/999			4.81	4.99	578.61
	12/17/99			5.08	5.26	578.34
	02/10/00			5.11	5.29	578.31
MW-2	10/12/94	584.12	583.88	3.26	3.50	580.62
	11/17/97			2.99	3.23	580.89
	02/24/98			3.21	3.45	580.67
	05/27/98			2.66	2.90	581.22
	11/09/98			3.96	4.20	579.92
	03/23/99			4.67	4.91	579.21
	06/29/99			4.28	4.52	579.60
	11/8/999			5.10	5.34	578.78
	12/17/99			5.50	5.74	578.38
	02/10/00			5.45	5.69	578.43
	08/15/01			5.15	5.39	578.73
MW-3	10/12/94	583.16	582.94	1.98	2.20	580.96
	11/17/97			2.00	2.22	580.94
	02/24/98			2.00	2.22	580.94
	05/27/98			1.91	2.13	581.03
	11/09/98			3.02	3.24	579.92
	03/23/99			3.95	4.17	578.99
	06/29/99			3.23	3.45	579.71
	11/8/999			4.44	4.66	578.50
	12/17/99			4.72	4.94	578.22
	02/10/00			4.87	5.09	578.07

TABLE 2
Groundwater Elevation Data
City of Milwukee
Bridges and Buildings Field Headquarters
142 North Sixth Street
Milwaukee, Wisconsin
Project # 4137

Well ID	Date	Ground Surface Elevation (ft)	Top of Casing Elevation (ft)	Depth to Groundwater from Top of Casing (ft)	Depth to Groundwater from Ground Surface (ft)	Groundwater Elevation (ft)
MW-4	10/12/94	583.77	583.49	2.80	3.08	580.69
	11/17/97			2.52	2.80	580.97
	02/24/98			2.70	2.98	580.79
	05/27/98			1.36	1.64	582.13
	11/09/98			3.59	3.87	579.90
	03/23/99			4.40	4.68	579.09
	06/29/99			3.80	4.08	579.69
	11/8/999			5.01	5.29	578.48
	12/17/99			5.25	5.53	578.24
	02/10/00			5.34	5.62	578.15
	08/15/01			4.96	5.24	578.53
MW-5	12/13/99	583.29	582.99	4.67	4.97	578.32
	12/14/99			4.41	4.71	578.58
	12/15/99			4.32	4.62	578.67
	12/16/99			4.70	5.00	578.29
	12/17/99			4.80	5.10	578.19
	02/10/00			4.87	5.17	578.12
MW-6	12/13/99	583.44	583.23	5.05	5.26	578.18
	12/14/99			4.85	5.06	578.38
	12/15/99			4.68	4.89	578.55
	12/16/99			5.05	5.26	578.18
	12/17/99			5.16	5.37	578.07
PZ-1	12/13/99	583.89	583.4	5.30	5.79	578.10
	12/14/99			5.04	5.53	578.36
	12/15/99			4.83	5.32	578.57
	12/16/99			5.21	5.70	578.19
	12/17/99			5.39	5.88	578.01
PZ-2	12/13/99	583.94	583.53	23.99	24.40	559.54
	12/14/99			26.11	26.52	557.42
	12/15/99			24.62	25.03	558.91
	12/16/99			24.15	24.56	559.38
	12/17/99			23.79	24.20	559.74


MENOMONEE RIVER
PROPERTY LINE
GRASS
STEEL SHEET PILINGS
578.3
578.2
578.1
PZ-2
PZ-1
MW-4
(578.16)
GP-5
BURIED STEEL ANCHOR RODS
578.4
ASPHALT
BURIED CONCRETE ANCHOR STRUCTURE
BRIDGE SHOP BUILDING
S. MENOMONEE CANAL
(578.07)
MW-3
GP-1
GP-2
GP-6
CONCRETE
FORMER 550 GALLON LEADED GASOLINE UST
GP-3
MW-2
(578.43)
MW-6
GP-4
FIELD HEADQUARTERS BUILDING
MW-1
(578.31)
MW-5
(578.12)
GRAPHIC SCALE
0' 10' 20' 30' 60'
LEGEND
= MONITORING WELL LOCATION
= GEOPROBE LOCATION
= CATCH BASIN
= UST EXCAVATION BOUNDARY
= STORM SEWER
= UNDERGROUND ELECTRIC
= CYCLONE FENCE
= GROUNDWATER CONTOUR LINE, CONTOUR INTERVAL = 0.2'
( ) = STATIC GROUNDWATER LEVEL (2-10-00)
= GROUNDWATER FLOW DIRECTION
NOTE:
DIMENSIONS DEPICTED ON MAP ARE FOR REFERENCE ONLY - SITE HAS NOT BEEN SURVEYED.
CITY OF MILWAUKEE
B&B FIELD HEADQUARTERS
142 NORTH 6TH STREET, MILWAUKEE, WI
SIGMA ENVIRONMENTAL SERVICES INC.
DATE: 5-25-05
DR. BY: BEB
DR.# 4137-007
SCALE: 1" = 30'
GROUNDWATER CONTOUR MAP (2-10-00)
FIGURE 7



MW-4	4-6'
GRO (mg/kg)	12
BENZENE	(49)
TOLUENE	1.8
ETHYLBENZENE	1.8
TOTAL XYLENES	7.0
MTBE	1.6
LEAD (mg/kg)	(70)

GP-5	3-5'	9-11'
GRO (mg/kg)	<5.6	<8.2
BENZENE	(22)	<0.48
TOLUENE	<1.9	1.5
TOTAL XYLENES	9.3	<2.07
MTBE	<2.4	17
LEAD (mg/kg)	8.6	8.0

GP-3	3-5'	13-15'
GRO (mg/kg)	(1,100)	<8.6
BENZENE	(700)	1.0
TOLUENE	(5,000)	8.4
ETHYLBENZENE	2,800	2.1
TOTAL XYLENES	(10,700)	4.1
1,2,4 TMB	5,100	2.8
1,3,5 TMB	1,800	<1.4
LEAD (mg/kg)	32	7.6

GP-6	3-5'	9-11'
GRO (mg/kg)	<6.5	<8.7
BENZENE	<0.48	<0.39
TOLUENE	2.1	<0.52
TOTAL XYLENES	1.6	<1.69
LEAD (mg/kg)	15	6.3

MW-2	2-4'	8-9'
GRO (mg/kg)	<5.8	<5.8
BENZENE	<0.37	<0.44
1,2,4 TMB	22	<0.44
LEAD (mg/kg)	(167)	18

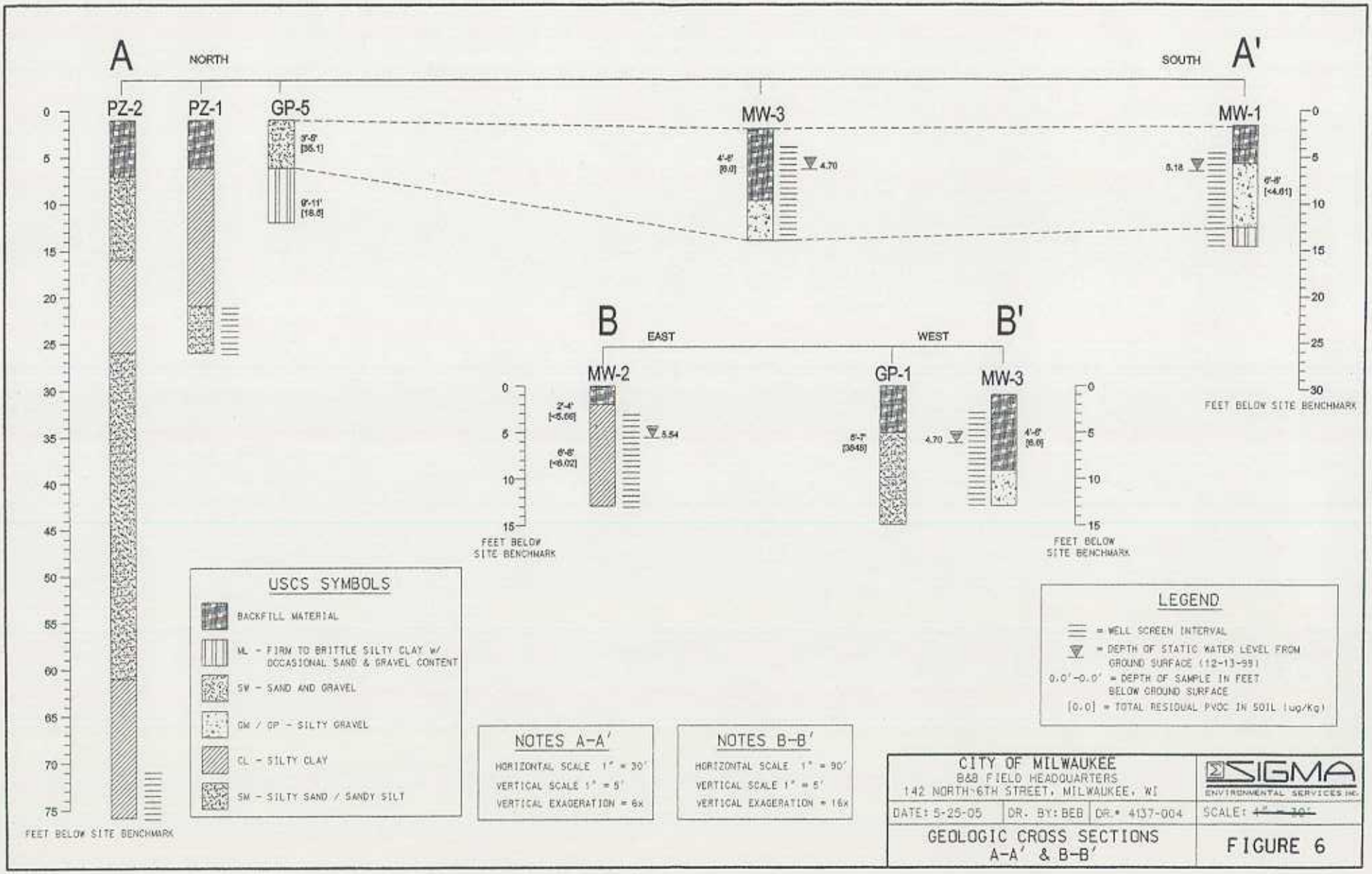
GP-1	5-7'	13-15'
GRO (mg/kg)	12	<10
BENZENE	<48	(12)
TOLUENE	250	6.9
ETHYLBENZENE	360	<1.5
TOTAL XYLENES	1,670	11.1
1,2,4 TMB	1,100	<0.83
1,3,5 TMB	320	<1.7
LEAD (mg/kg)	(200)	10

MW-3	4-6'
GRO (mg/kg)	12
BENZENE	(6.0)
LEAD (mg/kg)	(56)

GP-2	5-7'	9-11'
GRO (mg/kg)	<6.1	<6.7
BENZENE	<0.34	<1.5
LEAD (mg/kg)	(66)	(63)

GP-4	5-7'	11-13'
GRO (mg/kg)	<6.1	<8.6
BENZENE	1.1	1.8
ETHYLBENZENE	1.9	<0.63
TOTAL XYLENES	10.1	2.7
MTBE	4.7	<0.79
1,2,4 TMB	6.2	<0.63
1,3,5 TMB	4.6	<1.3
LEAD (mg/kg)	6.6	22

MW-1	6-8'
GRO (mg/kg)	<5.0
BENZENE	<0.34
LEAD (mg/kg)	(84)


A
NORTH
SOUTH
A'
PZ-2
PZ-1
GP-5
MW-3
MW-1
3'-8'
[35.1]
9'-11'
[18.6]
4'-8'
[8.0]
4.70
5.18
6'-8'
[<4.61]
FEET BELOW SITE BENCHMARK
B
EAST
WEST
B'
MW-2
GP-1
MW-3
2'-4'
[<5.66]
6'-8'
[<6.02]
5.54
6'-7'
[3848]
4.70
4'-6'
[8.6]
FEET BELOW
SITE BENCHMARK
USCS SYMBOLS
BACKFILL MATERIAL
ML - FIRM TO BRITTLE SILTY CLAY W/ OCCASIONAL SAND & GRAVEL CONTENT
SW - SAND AND GRAVEL
GM / GP - SILTY GRAVEL
CL - SILTY CLAY
SM - SILTY SAND / SANDY SILT
LEGEND
= WELL SCREEN INTERVAL
= DEPTH OF STATIC WATER LEVEL FROM GROUND SURFACE (12-13-99)
0.0'-0.0' = DEPTH OF SAMPLE IN FEET BELOW GROUND SURFACE
[0.0] = TOTAL RESIDUAL PVOC IN SOIL (ug/kg)
NOTES A-A'
HORIZONTAL SCALE 1" = 30'
VERTICAL SCALE 1" = 5'
VERTICAL EXAGERATION = 6x
NOTES B-B'
HORIZONTAL SCALE 1" = 90'
VERTICAL SCALE 1" = 5'
VERTICAL EXAGERATION = 16x
CITY OF MILWAUKEE
B&B FIELD HEADQUARTERS
142 NORTH 6TH STREET, MILWAUKEE, WI
SIGMA
ENVIRONMENTAL SERVICES INC.
DATE: 5-25-05
DR. BY: BEB
DR.# 4137-004
SCALE: ~~1" = 30'~~
GEOLOGIC CROSS SECTIONS
A-A' & B-B'
FIGURE 6

The City of Milwaukee, the responsible party for the property located at 142 North Sixth Street, Milwaukee, Wisconsin, states that the legal description provided to the Wisconsin Department of Commerce (and attached to this statement) for case file reference 53203-3202-42 is complete and accurate to the best of our knowledge.

Signature of Representative for Responsible Party: Date:

Dennis C. Nelson 6-13-05