

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
Gloria L. McCutcheon, Regional Director

Southeast Regional Headquarters
2300 N. Dr. ML King Drive, PO Box 12436
Milwaukee, Wisconsin 53212-0436
Telephone 414-263-8500
FAX 414-263-8483
TDD 414-263-8713

December 2, 1999

Mr. Robert C. Fredrick
2870 Harmony Circle
Brookfield, WI 53405

Subject: Final Closure for Kal's Citgo, 12300 W. North Ave. Wauwatosa, WI FID: 241861730, BRRTS: 03-41-005286.

Dear Mr. Fredrick:

This letter acknowledges the receipt of the filed groundwater use restriction (#7841307) for the above-named site dated 11/29/99. This completes the items required as listed in my September 7, 1999 letter. Based on the investigation and remedial documentation provided to the Department, it appears that the above-named site is in compliance with the requirements of Chs. NR 700 to 726, Wis. Admin. Code. Therefore, the Department considers the case closed and tracked as such, having determined that no further action is necessary at the site at this time. However, the case may be reopened pursuant to S. NR 726.09, Wis. Admin. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety, welfare, or the environment.

RECEIVED
JUL 14 7 00

PECFA SITE REVIEW
MILWAUKEE OFFICE

Residual Soil Contamination

Post remediation and soil confirmation sampling indicates residual soil contamination at depths greater than five feet (> 5 feet) at concentrations greater than s. NR 720 Wis. Admin. Code Table 1 values. Locations and contaminants include S-2, S-3, S-5, S-16, S-17 and F-7, for GRO, benzene, ethylbenzene, toluene and xylenes. Locations and concentrations are included in the enclosed maps: Figure 9, *Excavation Soil Sampling Locations and Benzene Concentrations (7/7-14/97)*, and Table 2, *Remedial Excavation Wall and Floor Soil Sample Laboratory Analytical Results (July 9 and 10, 1997)*. The Department has determined that there is no threat to groundwater or a direct contact threat from these residual soils, nor do these residual soils pose a threat to human health or the environment, given the site conditions, and should not be likely to pose a threat in the future. This close out letter serves as notice to future landowners that the residual contamination exists. If soil contamination becomes accessible and is excavated in the future, the contaminated soil should be considered a solid waste and should be handled accordingly.

The Department appreciates the actions you have taken to investigate and remediate the contamination at this site. If you have any questions or comments, please feel free to contact me at the above address or at (414) 263-8644. Please refer to the FID number at the top of this letter in any future correspondence. Future correspondence should be sent directly to the Remediation and Redevelopment programs assistant Brenda Brown (263-8680) at the above address.

Sincerely,

John J. Hnat
Hydrogeologist
Remediation and Redevelopment

Enclosures (2)

C: Matthew Giovanelli, Envirogen
WDNR SER Files

Anyone who proposes to construct or reconstruct a well on this property is required to contact the Department of Natural Resources' Bureau of Drinking Water and Groundwater, or its successor agency, to determine what specific requirements are applicable, prior to constructing or reconstructing a well on this property. No well may be constructed or reconstructed on this property unless applicable requirements are met.

This restriction is hereby declared to be a covenant running with the land and shall be fully binding upon all persons acquiring the above-described property whether by descent, devise, purchase or otherwise. This restriction benefits and is enforceable by, the Wisconsin Department of Natural Resources, its successors and assigns. The Department, its successors or assigns, may initiate proceedings at law or in equity against any person or persons who violate or are proposing to violate this covenant, to prevent the proposed violation or to recover damages for such violation.

Any person who is or becomes owner of the property described above may request that the Wisconsin Department of Natural Resources or its successor issue a determination that the restrictions set forth in this covenant are no longer required. Upon receipt of such a request, the Wisconsin Department of Natural Resources shall determine whether or not the restrictions contained herein can be extinguished. If the Department determines that the restrictions can be extinguished, an affidavit, with a copy of the Department's written determination, may be recorded to give notice that this groundwater use restriction is no longer binding.

IN WITNESS WHEREOF, the owner of the property has executed this Declaration of Restrictions, this 21st day of November, 1999.

Signature: Robert C. Fredrick
Printed Name: Robert C. Fredrick

Signature: Laverne J. Sprague
Printed Name: Laverne J. Sprague

Subscribed and sworn to before me this 21st day of November, 1999

BY ROBERT C. FREDRICK

Signature: Raymond W. Fredrick
Printed Name: Raymond W. Fredrick

Arnold J. Husinger
Notary Public, State of WISCONSIN
My commission expires 5.19.02

Signature: Lois J. Fredrick
Printed Name: Lois J. Fredrick

Signature: Carole J. Gerds
Printed Name: Carole J. Gerds

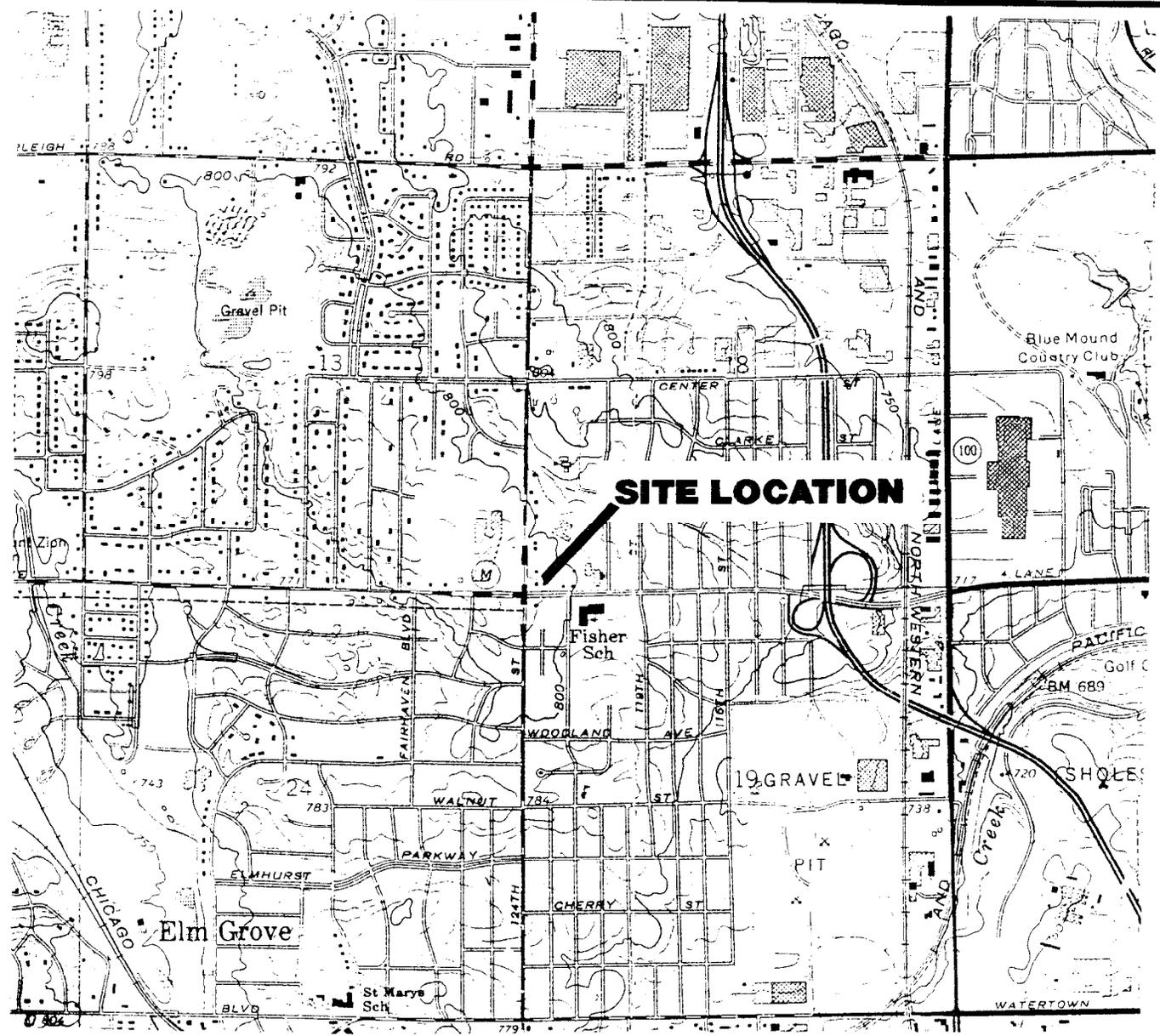
Signature: Linda J. McCarthy
Printed Name: LINDA J. MCCARTHY

Subscribed and sworn to before me this 21st day of November, 1999.

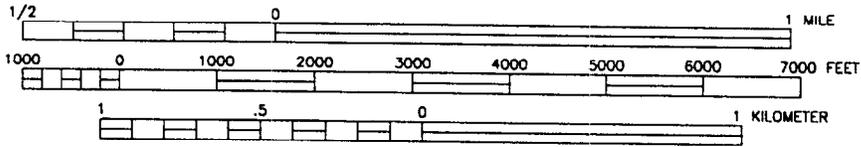
BY LAVARNE J. SPRAGUE
RAYMOND W. FREDRICK
LOIS J. FREDRICK
CAROLE J. GERDS
LINDA J. MCCARTHY

Arnold J. Husinger
Notary Public, State of WISCONSIN
My commission expires 5.19.02

DRAWING NO. 96.307V1
 DRAWN BY: LME 9/3/97
 CHECKED BY: Tom Floger
 APPROVED BY: M/RG 6/12/97



(USGS 1976) SCALE 1:24000



CONTOUR INTERVAL 10 FEET



Site Location Map
Kal's Citgo Site
Wauwatosa, Wisconsin

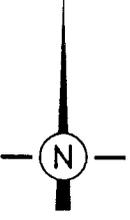
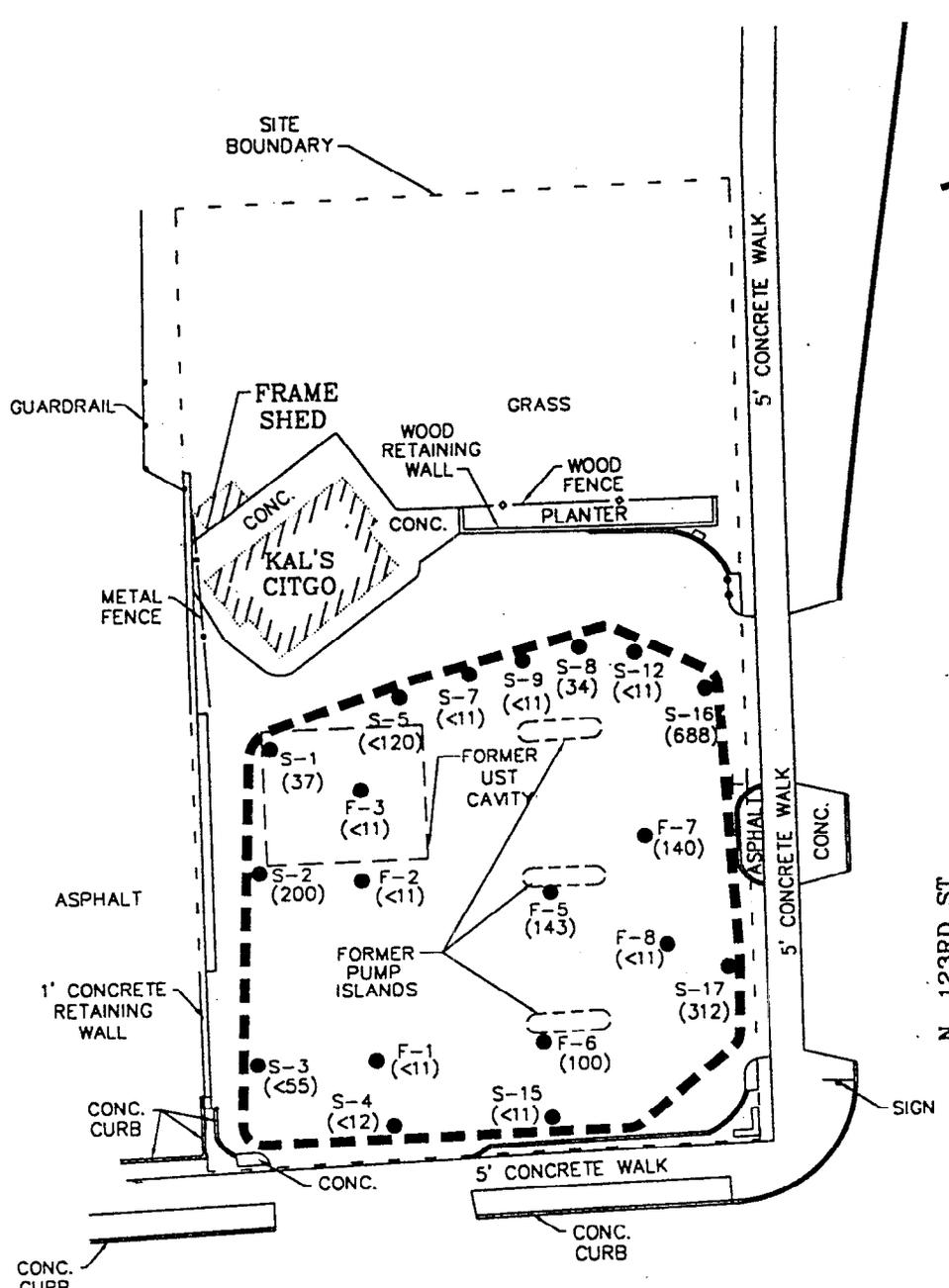


FIGURE NO.
1

THE INTERPRETATIONS IN THIS FIGURE ARE BASED ON KNOWN POINTS IN TIME AND SPACE AND ARE INTEGRAL TO A WRITTEN REPORT AND SHOULD BE REVIEWED IN THAT CONTEXT.

DRAWING NO. 96.307V9
 DRAWN BY: LME
 9/3/97
 CHECKED BY: TOM
 10/19/97
 APPROVED BY: MRC
 02/04/97



LEGEND

- SAMPLING LOCATION
- () BENZENE CONCENTRATION IN ppb
- - - EXTENT OF SOIL EXCAVATION

NOTES: ANALYTICAL RESULTS FOR F-6, F-7, AND F-8 ARE FROM FIELD GC.
 THE SITE-SPECIFIC SOIL STANDARD FOR BENZENE IS 150 ppb.

W. NORTH AVENUE

N. 123RD ST.

ISLAND

Fluid Management
 A Division of **ENVIROGEN, Inc.**



**Excavation Soil Sampling Locations
 and Benzene Concentrations
 (7/7-14/97)
 Kal's Citgo Site
 Wauwatosa, Wisconsin**

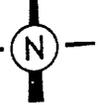


FIGURE NO.
9

TANK LEGEND

- ① FORMER 6,000-GALLON UNLEADED GASOLINE UST
- ② FORMER 6,000-GALLON UNLEADED GASOLINE UST

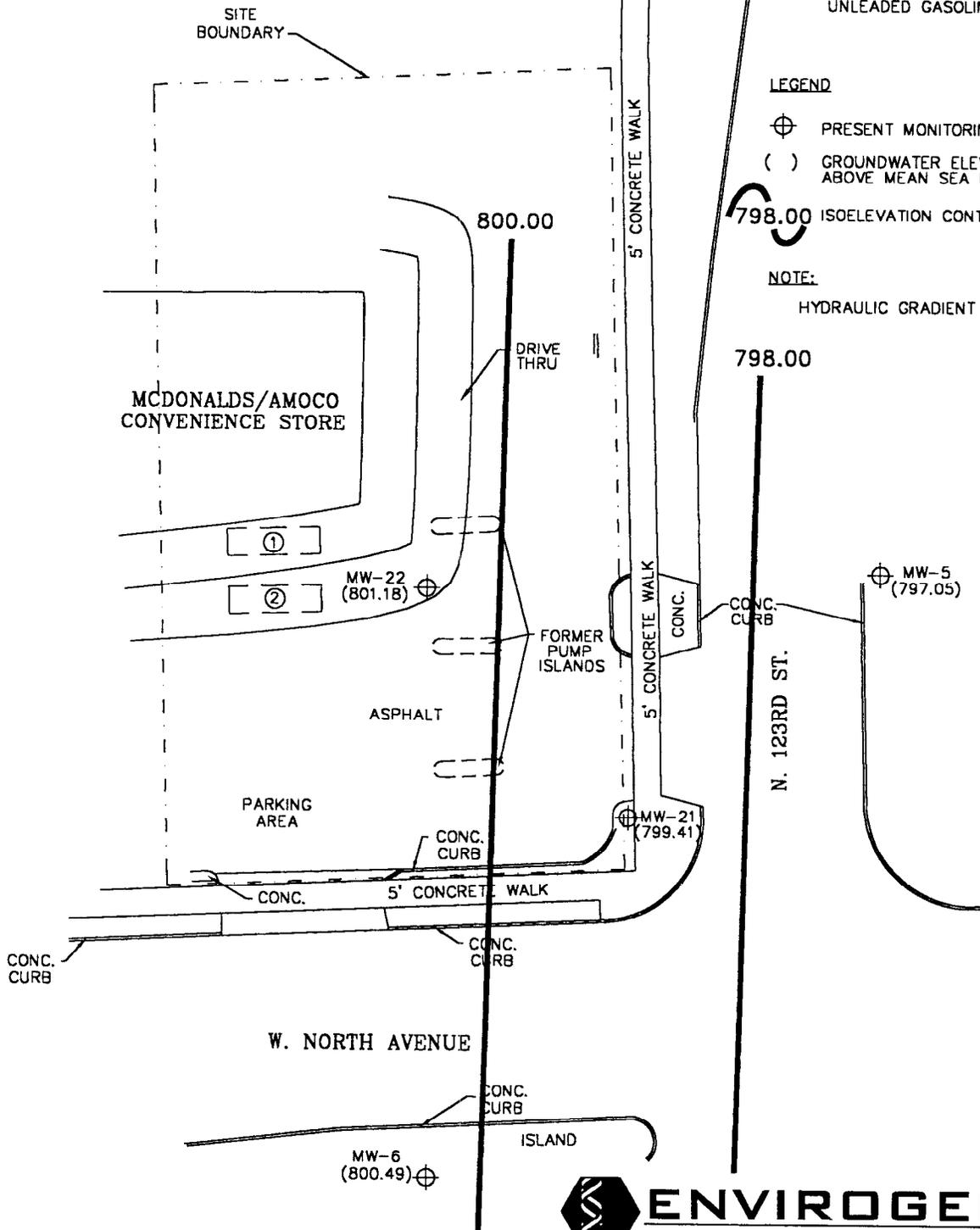


LEGEND

- ⊕ PRESENT MONITORING WELL
- () GROUNDWATER ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL
- 798.00 ISOELEVATION CONTOUR

NOTE:

HYDRAULIC GRADIENT = 0.05 ft/ft



ENVIROGEN

COST EFFECTIVE LEADER FOR A CLEANER ENVIRONMENT

2835 North Grandview Blvd.
Pewaukee, Wisconsin 53072-0090

SCALE



POST-EXCAVATION POTENTIOMETRIC SURFACE

(9/02/97)

KAL'S CITGO SITE
WAUWATOSA, WISCONSIN

FIGURE NO.

3

ENGINEER	DATE
ENGINEER	DATE
REVISIONS:	
APPROVED BY:	M/A
CHECKED BY:	
	8/16/99
DRAWN BY:	RRT
DRAWING NO.	96.307.23

**TABLE 1
(Continued)**
**Groundwater Quality Analytical Results
Kal's Citgo Site
Wauwatosa, Wisconsin**

Well	Sample Date	Parameters							
		Benzene	Ethyl-benzene	Toluene	Xylenes	1,2,4-TMB	1,3,5-TMB	MTBE	Naphthalene
MW-5	11/15/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0
	1/15/97	0.14	<0.22	<0.20	<0.23	<0.22	<0.29	<0.16	NA
	9/02/97	<0.13	<0.22	<0.20	<0.23	<0.22	<0.29	<0.16	NA
	12/30/97	<0.13	<0.22	<0.20	<0.23	<0.22	<0.29	<0.16	NA
	3/23/98	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	<0.25	NA
	5/26/98	<0.47	<0.25	<0.29	<1.2	<0.41	<0.40	<0.86	NA
	9/8/98	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	<0.25	NA
	12/11/98	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	<0.25	NA
	7/6/99	<0.27	<0.32	<0.27	<0.67	<0.22	<0.27	<0.32	NA
MW-6	10/29/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0
	1/15/97	NS	NS	NS	NS	NS	NS	NS	NS
	9/02/97	<0.13	<0.22	<0.20	1.8	<0.22	<0.29	<0.16	NA
	12/30/97	<0.13	<0.22	<0.20	<0.23	<0.22	<0.29	<0.16	NA
	3/23/98	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	0.31	NA
	5/26/98	<0.47	<0.25	<0.29	<1.2	<0.41	<0.40	<0.86	NA
	9/8/98	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	<0.25	NA
	12/11/98	<0.10	<0.25	<0.10	<0.25	<0.10	<0.10	<0.25	NA
	7/6/99	<0.27	<0.32	<0.27	<0.67	<0.22	<0.27	<0.32	NA
NR 140 Enforcement Standard		5	700	343	620	NS	NS	60	40
NR 140 Preventive Action Limit		0.5	140	68.6	124	NS	NS	12	8

Notes:

All results reported in ppb
 MTBE: Methyl t-butyl ether
 NS: No standard

NA: Not analyzed
 TMB: Trimethylbenzene

TABLE 1
(Continued)

Groundwater Quality Analytical Results
Kal's Citgo Site
Wauwatosa, Wisconsin

Well	Sample Date	Parameters							
		Benzene	Ethylbenzene	Toluene	Xylenes	1,2,4-TMB	1,3,5-TMB	MTBE	Naphthalene
MW-3	10/29/96	740	8.8	330	100	<5.0	5.0	430	<5.0
	1/15/97	4,500	260	1,400	1,400	120	48	1,300	NA
MW-4	10/29/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	90	<1.0
	1/15/97	1.4	<0.44	<0.40	<0.46	<0.44	<0.58	470	NA
	9/02/97	4.2	<1.1	<1.0	<1.2	<1.1	<1.5	450	NA
MW-21 (Replacement for MW-4)	12/30/97	NS	NS	NS	NS	NS	NS	NS	NS
	3/23/98	<20	<50	<20	<50	<20	<20	6,800	NA
	5/26/98	<47	<25	<29	<120	<41	<40	<86	NA
	9/8/98	<5.0	<12	<5.0	<12	<5.0	<5.0	4,800	NA
	12/11/98	<10	<25	<10	<25	<10	<10	3,400	NA
	7/6/99	<5.4	<6.4	<5.4	<13.5	<4.4	<5.4	2,700	NA
NR 140 Enforcement Standard		5	700	343	620	NS	NS	60	40
NR 140 Preventive Action Limit		0.5	140	68.6	124	NS	NS	12	8

(Continued)

Notes:

All results reported in ppb

- ████████ Indicates value equals or exceeds the NR 140 enforcement standard
- ████████ Indicates value equals or exceeds the NR 140 preventive action limit
- MTBE: Methyl t-butyl ether
- NA: Not analyzed
- NS: No standard
- TMB: Trimethylbenzene

TABLE 1
Groundwater Quality Analytical Results
Kal's Citgo Site
Wauwatosa, Wisconsin

Well	Sample Date	Parameters							
		Benzene	Ethylbenzene	Toluene	Xylenes	1,2,4-TMB	1,3,5-TMB	MTBE	Naphthalene
MW-1	10/29/96	140	<10	<10	30	11	<10	3,100	<10
	1/15/97	1,200	100	200	550	87	27	2,700	NA
MW-1B*	9/02/97	1.5	1.5	4.9	8.4	1.1	0.36	<0.16	NA
MW-22 Replacement For MW-1, 1-b+3	12/30/97	<13	5.9	32	33	6.4	1.8	42	NA
	3/23/98	3.7	3.1	17	7.8	2.5	0.92	42	NA
	5/26/98	6.3	3.1	14	15	2.7	0.70	12	NA
	9/8/98	6.5	1.4	3.2	4.7	1.6	0.75	34	NA
	12/11/98	6.4	3.0	12	14	2.1	0.52	22	NA
	7/6/99	5.0	1.8	3.5	8.5	1.6	0.63	7.5	NA
MW-2	10/29/96	<0.5	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0
	1/15/97	0.17	<0.22	<0.20	<0.23	<0.22	<0.29	<3.0	NA
	9/02/97	<0.13	<0.22	<0.20	<0.23	<0.22	<0.29	<0.16	NA
NR 140 Enforcement Standard		5	700	343	620	NS	NS	60	40
NR 140 Preventive Action Limit		0.5	140	68.6	124	NS	NS	12	8

Notes: All results reported in ppb

 Indicates value equals or exceeds the NR 140 enforcement standard

 Indicates value equals or exceeds the NR 140 preventive action limit

*: Replacement for MW-1 and MW-3

MTBE: Methyl t-butyl ether

NA: Not analyzed

NS: No standard

TMB: Trimethylbenzene

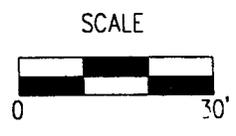
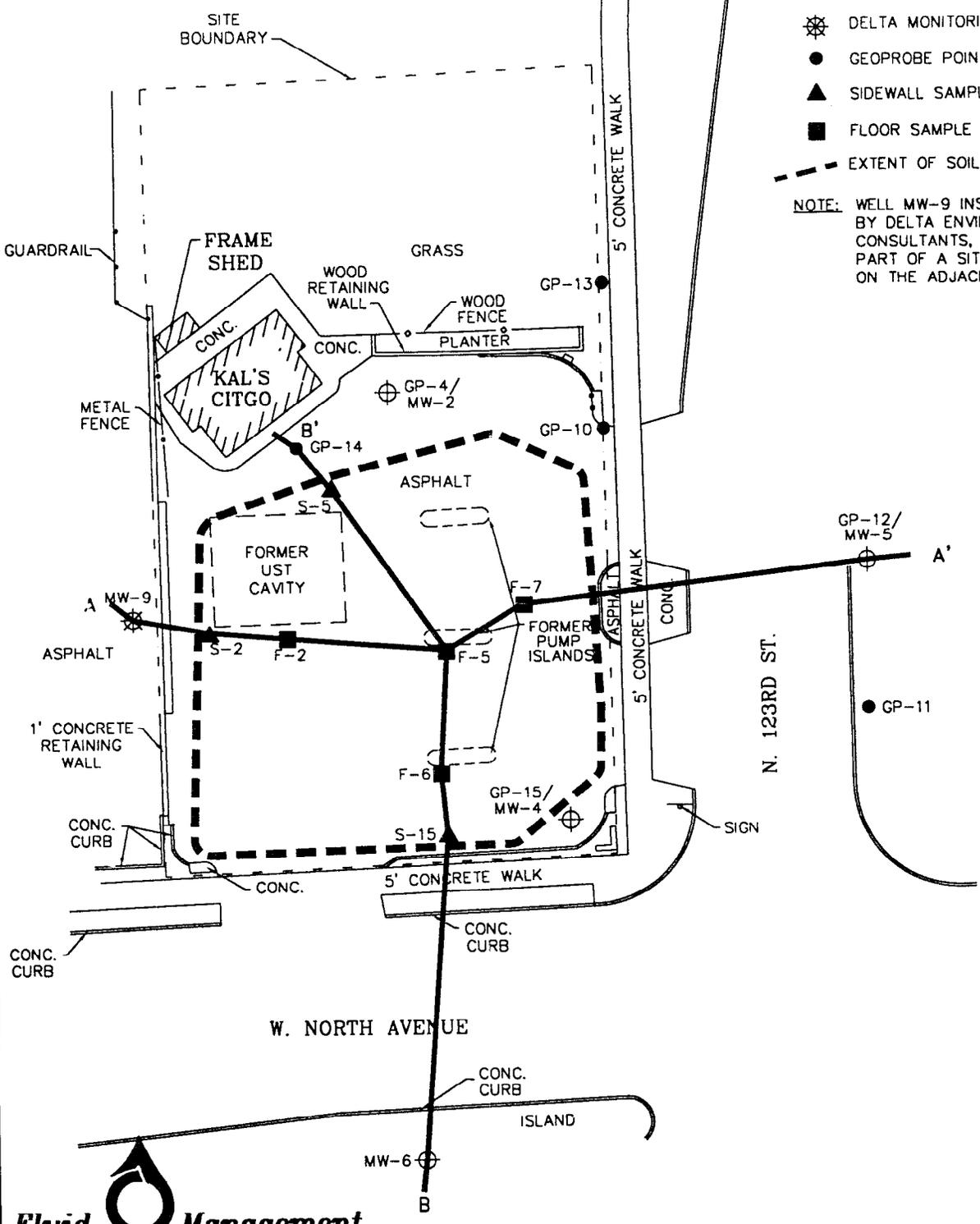
(Continued)

DRAWING NO. 96.307V6
 DRAWN BY: LME
 9/3/97
 CHECKED BY: TBM
 10/10/97
 APPROVED BY: MRG
 10/10/97

LEGEND

- ⊕ FMI MONITORING WELL
- ⊗ DELTA MONITORING WELL
- GEOPROBE POINT
- ▲ SIDEWALL SAMPLE POINT
- FLOOR SAMPLE POINT
- - - EXTENT OF SOIL EXCAVATION

NOTE: WELL MW-9 INSTALLED BY DELTA ENVIRONMENTAL CONSULTANTS, INC., AS PART OF A SITE INVESTIGATION ON THE ADJACENT PROPERTY.



**Cross-Section Plan View
Kal's Citgo Site
Wauwatosa, Wisconsin**

FIGURE NO.
6

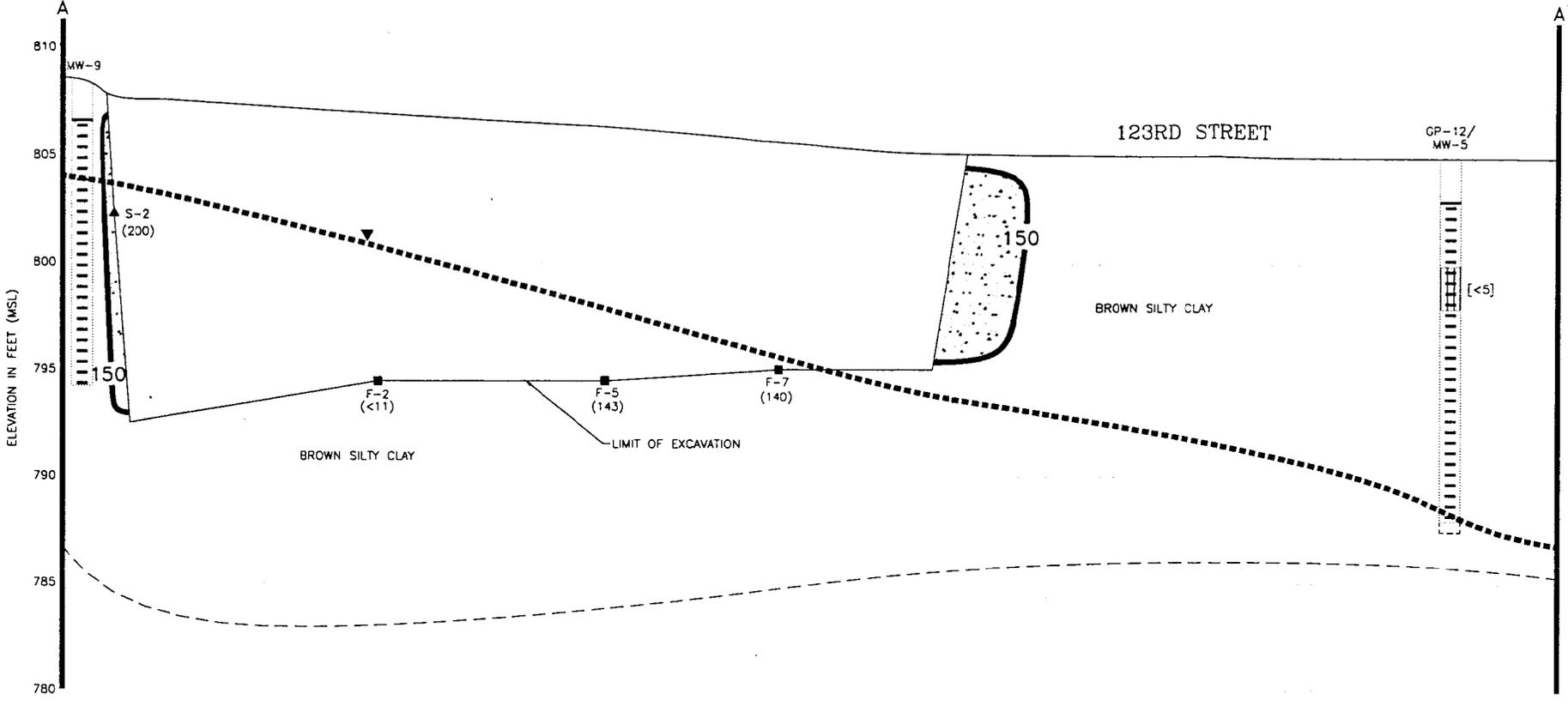
THE INTERPRETATIONS IN THIS FIGURE ARE BASED ON KNOWN POINTS IN TIME AND SPACE AND ARE INTEGRAL TO A WRITTEN REPORT AND SHOULD BE REVIEWED IN THAT CONTEXT.

6/24/97

CHECKED BY: [Signature] APPROVED BY: 496

DRAWN BY: LME 9/3/97

DRAWING NO. 96.307V7



LEGEND

- SAMPLE INTERVAL
- SCREENED INTERVAL

- 150** ISOCONCENTRATION CONTOUR
- () LABORATORY RESULTS IN ppb
- [] GC RESULTS IN ppb

NOTES: SITE-SPECIFIC SOIL STANDARD FOR BENZENE IS 150 ppb.

GEOPROBE SAMPLES COLLECTED 9/17-18/96.
 MONITORING WELL SAMPLES COLLECTED 10/10/96.
 EXCAVATION SAMPLES COLLECTED 7/7-14/97.



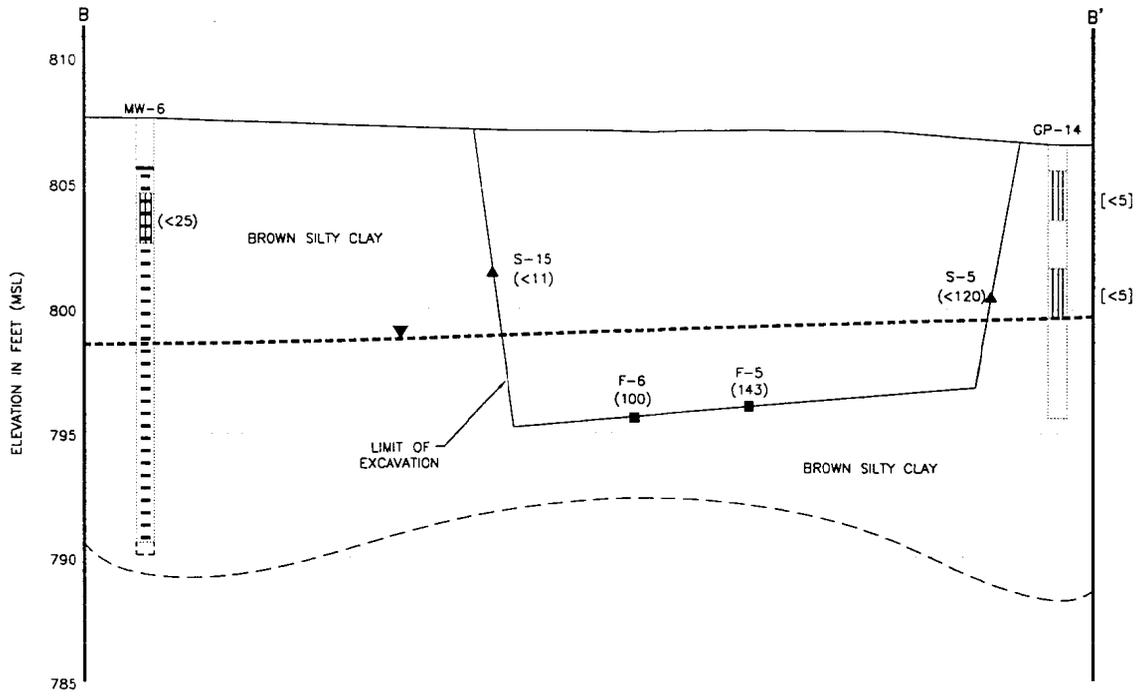
SCALE
 HORIZONTAL: 1" = 10'
 VERTICAL: 1" = 5'

Soil Benzene Distribution
Cross-Section A-A'
Kal's Citgo Site
Wauwatosa, Wisconsin

FIGURE NO.
7

THE INTERPRETATIONS IN THIS FIGURE ARE BASED ON KNOWN POINTS IN TIME AND SPACE AND ARE INTEGRAL TO A WRITTEN REPORT AND SHOULD BE REVIEWED IN THAT CONTEXT.

DRAWING NO. 96.307VB DRAWN BY: LME 9/3/97 CHECKED BY: Tom 10/17/97 APPROVED BY: A. J. C. 10/16/97



LEGEND

-  SAMPLE INTERVAL
-  SCREENED INTERVAL
-  GROUNDWATER TABLE (10/29/96)

- () LABORATORY RESULTS IN ppb
- [] GC RESULTS IN ppb

NOTES: SITE-SPECIFIC SOIL STANDARD FOR BENZENE IS 150 ppb.

GEOPROBE SAMPLES COLLECTED 9/17-18/96.
 MONITORING WELL SAMPLES COLLECTED 10/10/96.
 EXCAVATION SAMPLES COLLECTED 7/7-14/97.



SCALE
 HORIZONTAL: 1" = 20'
 VERTICAL: 1" = 5'

**Soil Benzene Distribution
 Cross-Section B-B'
 Kal's Citgo Site
 Wauwatosa, Wisconsin**

FIGURE NO.
8

THE INTERPRETATIONS IN THIS FIGURE ARE BASED ON KNOWN POINTS IN TIME AND SPACE AND ARE INTOTAL TO A WRITTEN REPORT AND SHOULD BE REVIEWED IN THAT CONTEXT.