State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

WISCONSIN
DEPT. OF NATURAL RESOURCES

Tommy G. Thompson, Governor
George E. Meyer, Secretary
William R. Selbig, Regional Director

Remediation and Redevelopment
1125 North Military Avenue
P.O. Box 10448
Green Bay, Wisconsin 54307-0448
Telephone 920-492-5916
FAX 920-492-5859
TDD 920-492-5812

June 17, 1999

Mr. Geoffrey Nokes
Wisconsin Central Ltd.
P.O. Box 5062
Rosemont, IL 60017-5062

SUBJECT: Soil Deed and Groundwater Use Restriction
Wisconsin Central Railroad Yard (Ashland Yard), 901 5th Street,
Green Bay, Wisconsin
WDNR LUST Case # 03-05-000738

Dear Mr. Nokes:

On June 2, 1999, the Northeast Region Closeout Committee met to discuss various sites. The committee has agreed to close this site pending a soil deed and groundwater use restriction. This soil deed and groundwater use restriction will state that soil and groundwater contamination remain at this site and that a soil performance standard (i.e. a cap over the contaminated soil) is in place to address residual soil contamination on the property. The document would be placed in the file with the deed running with the property.

Only when the soil deed and groundwater use restriction has been finalized and filed with Brown County can this site be closed. To expedite the completion of the deed restriction and closure process, the Department requests that you submit the following:

- a complete (unabbreviated) legal description of the property
- a copy of the deed
- available maps, such as a survey map, showing the property boundaries, building outlines, monitoring well/piezometer locations

These documents are to be obtained from the Brown County Register of Deeds Office. Once these items have been submitted, the Department will send you a draft copy of the deed restriction containing language regarding the remaining petroleum contamination. If it is acceptable, please sign it and return a signed copy with proof of filing for our records. At that time, the site may be closed.

This soil deed and groundwater use restriction is an option that the Department can offer in order to close this site. If you choose not to accept this option, you may perform additional investigation and cleanup of the remaining contamination. Within 14 days please submit a letter to the Department documenting your intentions.

If you have any additional relevant information that was not formerly provided to the Department, you should submit this information to the Department for reevaluation.

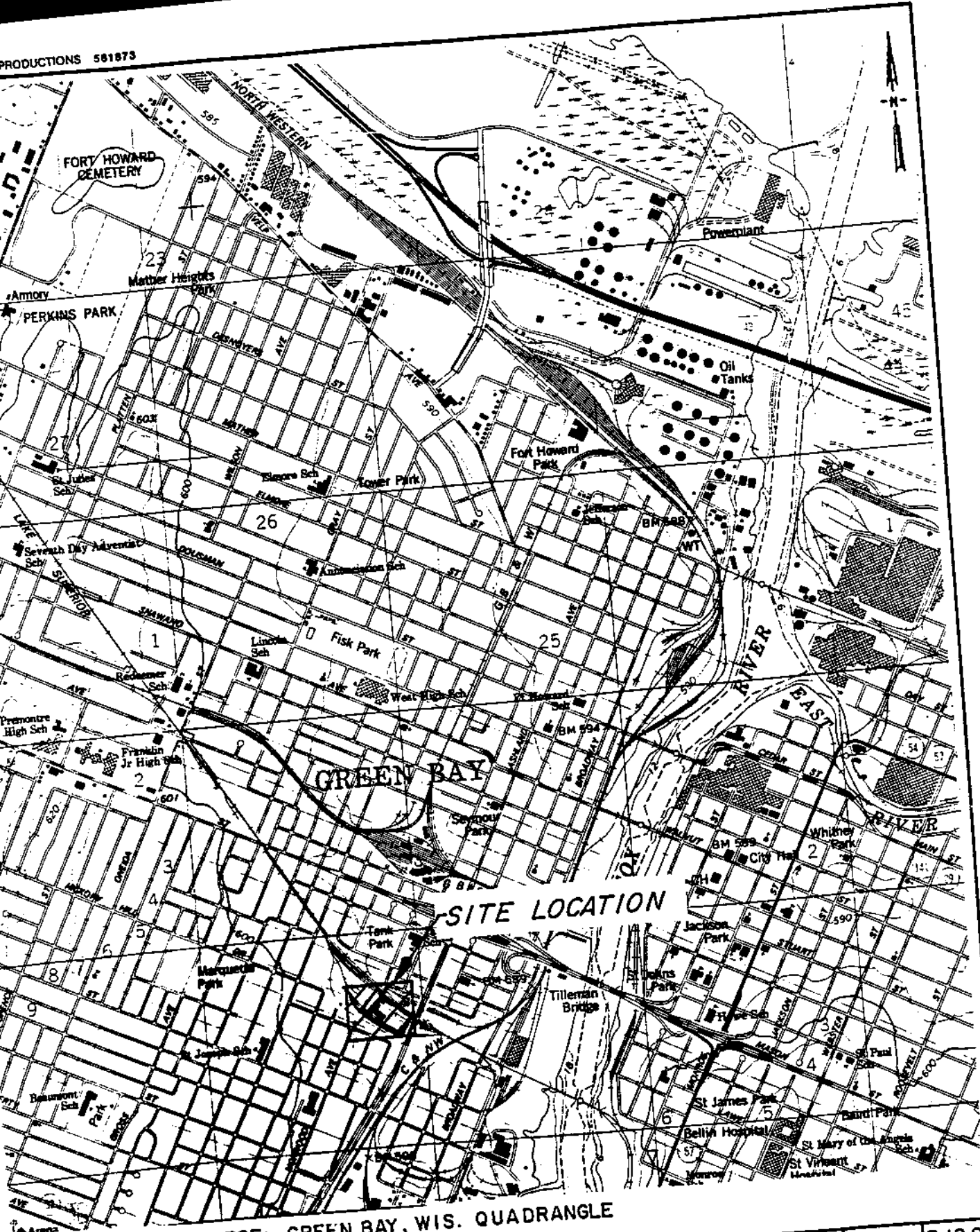
If you have any questions, please contact me in Green Bay at (920) 492-5943.

Sincerely,

Kristin Nell
Hyrogeologist
Remediation & Redevelopment Program

cc: Bob Mottl, STS Consultants Ltd.
1035 Kepler Drive, Green Bay, WI 54311

PRODUCTIONS 581873

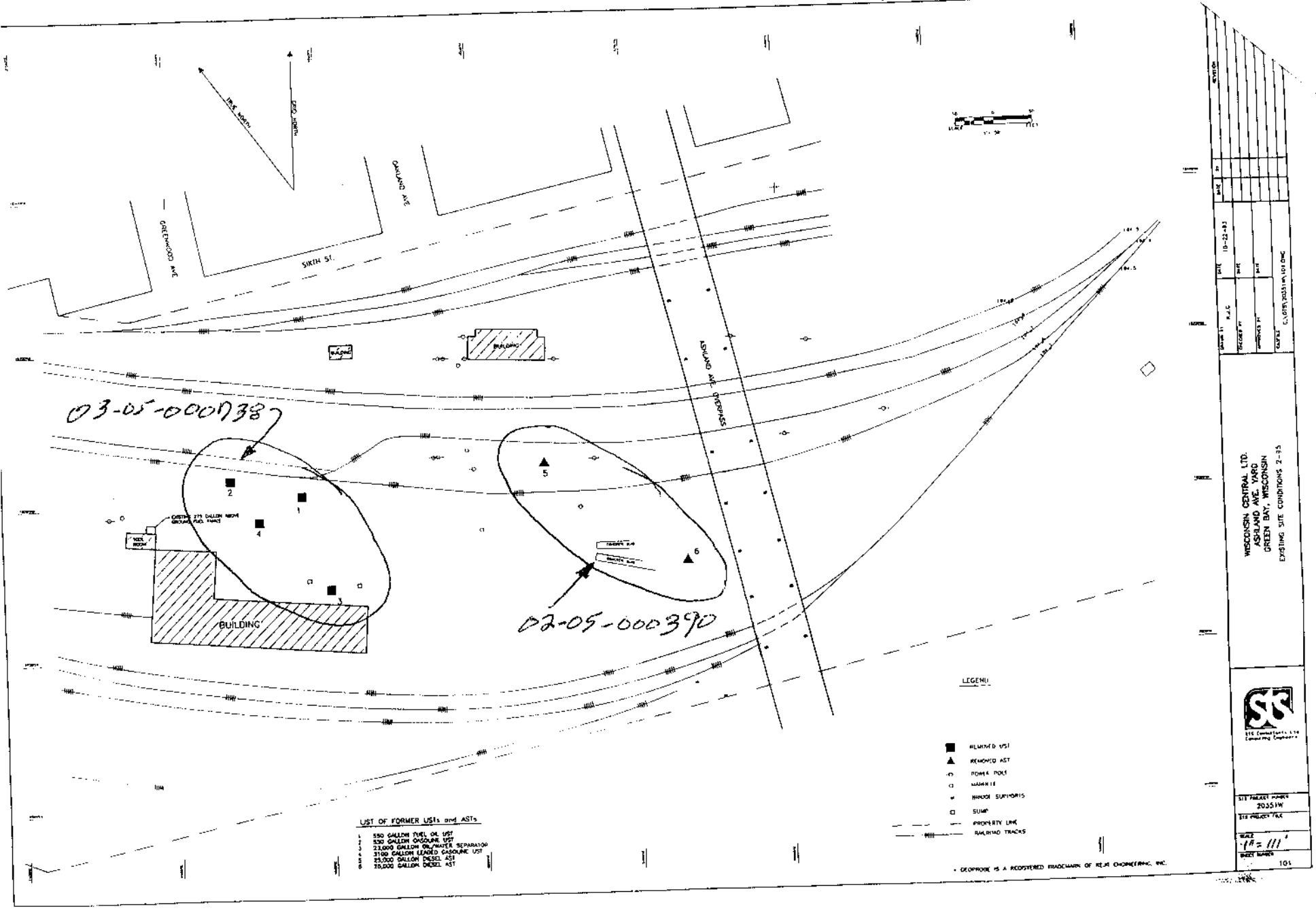


MAP SOURCE: GREEN BAY, WIS. QUADRANGLE
DATED 1982.

DRAWN BY	P.D.P.	7-19-9
CHECKED BY	PJM	10-30
APPROVED BY		
SCALE 1" = 2000'	FIGURE NO. 1	
DRAWING NO.		

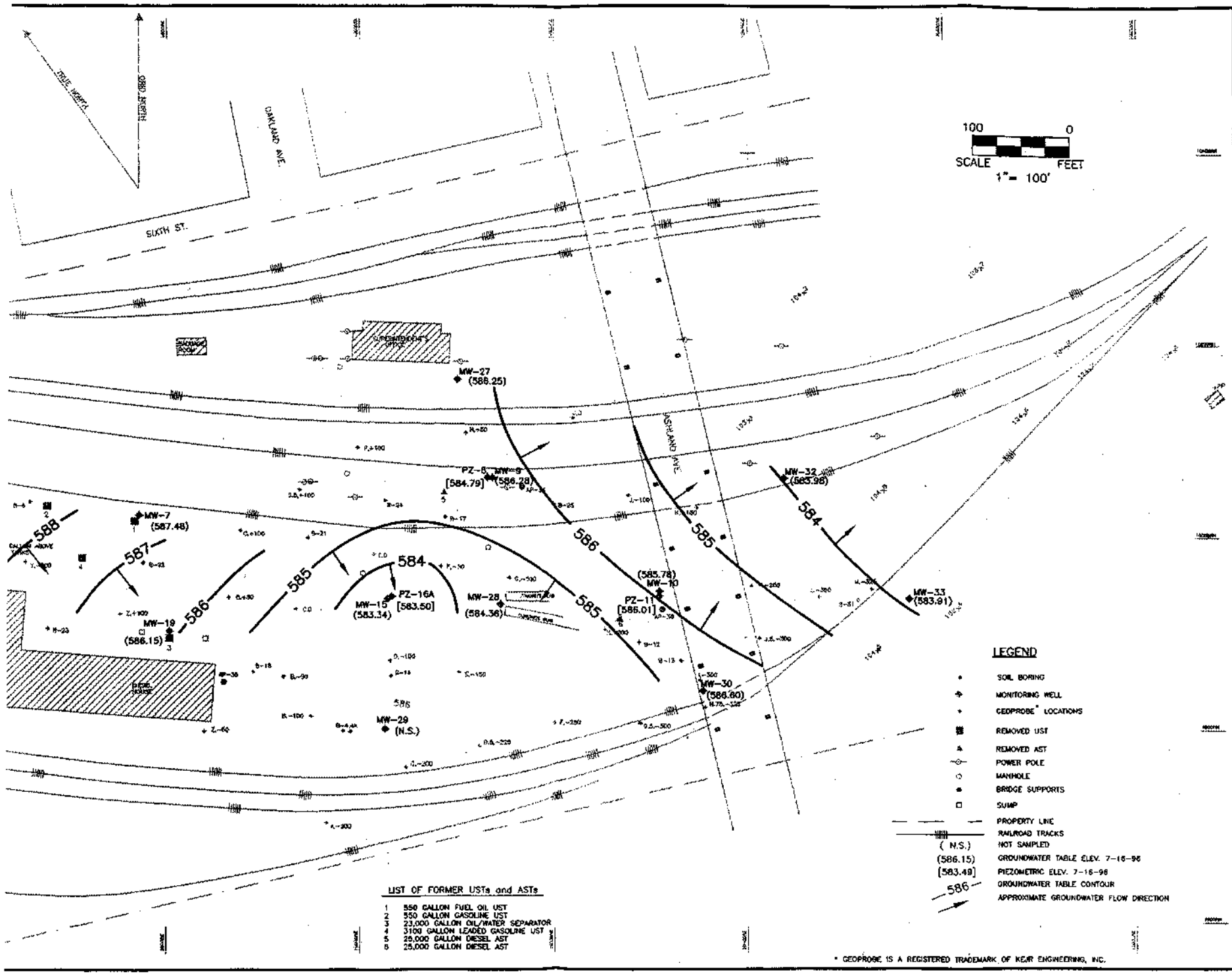
PROJECT/CLIENT

WISCONSIN CENTRAL LTD.
GREEN BAY ROUNDHOUSE
GREEN BAY, WI.



TRUE NORTH
GRID NORTH
GREENWOOD AVE
SIXTH ST.
OAKLAND AVE
ASHLAND AVE. OVERPASS
BUILDING
03-05-000738
02-05-000390
1
2
3
4
5
6
LEGEND
REMOVED UST
REMOVED AST
POWER POLE
MANHOLE
BRIDGE SUPPORTS
SUMP
PROPERTY LINE
RAILROAD TRACKS
UST OF FORMER USTs and ASTs
1 550 GALLON FUEL OIL UST
2 550 GALLON GASOLINE UST
3 23,000 GALLON OIL/WATER SEPARATOR
4 3100 GALLON LEADED GASOLINE UST
5 25,000 GALLON DIESEL AST
6 20,000 GALLON DIESEL AST
* GEOPROBE IS A REGISTERED TRADEMARK OF REAL ENGINEERING, INC.
WISCONSIN CENTRAL LTD.
ASHLAND AVE. YARD
GREEN BAY, WISCONSIN
EXISTING SITE CONDITIONS 2-95
10-22-93
20551W
1" = 111'
101

Figure 1



		DATE
DRAWN BY	D.J.M.	8-12-96
CHECKED BY	R.J.M.	8-12-96
APPROVED BY		DATE
DRAWFILE	W:\DWG96\20351\W\F1.DWG	

WISCONSIN CENTRAL LTD.
ASHLAND AVE. YARD
GREEN BAY, WISCONSIN
GROUNDWATER TABLE CONTOUR MAP (7-16-96)

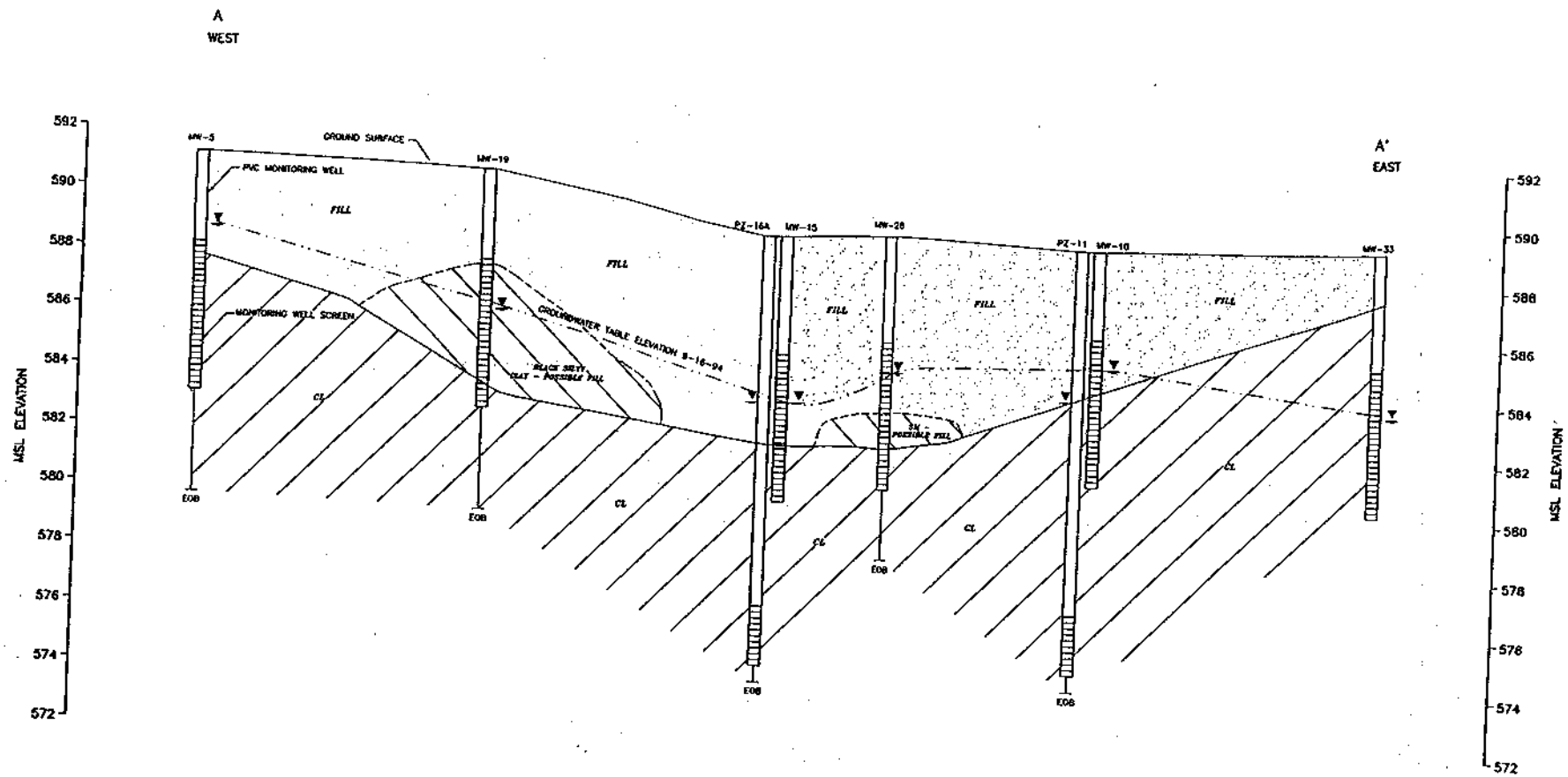
STS Consultants Ltd.
Consulting Engineers

STS PROJECT NO.
20351W

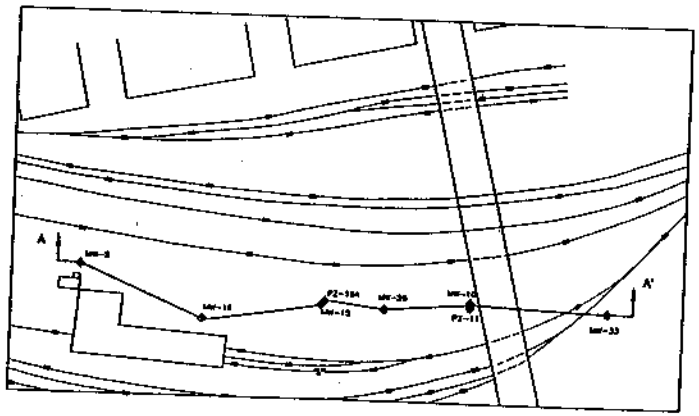
STS PROJECT FILE

SCALE
1"=100'

FIGURE NO.
122



SCALE: HORIZ. 1" = 111'
VERT. 1" = 11.5'



CROSS-SECTION INDEX

LEGEND

- ▼ WATER ELEVATION MEASURED 8-15-94
- EOB END OF BORING
- CL REDDISH BROWN SILTY CLAY
- SM BROWN SILTY SAND

Figure

Summary of Laboratory Groundwater Analyses
Ashland Avenue Yard
Green Bay, Wisconsin

Sample ID:		MW-15					PZ-16A							
Parameter	Units	9/7/93	7/29/95	12/19/95	7/15/96	12/12/96	9/7/93	9/22/94	7/29/95	12/19/95	7/15/96	12/12/96	9/7/93	9/22/94
Benzene	ug/l	<1.0	<0.5	<0.5	<0.5	<0.5	<1.0	--	<0.5	<0.5	<0.5	<0.5	<1.0	--
Ethylbenzene	ug/l	<1.0	<1.0	<1.0	<0.6	<0.6	<1.0	--	<1.0	<1.0	0.7	<0.6	<1.0	--
Methyl tert Butyl Ether	ug/l	<5.0	<2.0	<2.0	<2.7	<0.9	<5.0	--	<2.0	<2.0	<2.7	<0.9	**17**	--
Toluene	ug/l	<1.0	<2.0	<2.0	<0.6	<0.6	**4.8**	--	<2.0	<2.0	<0.6	<0.6	<1.0	--
1,2,4 - Trimethylbenzene	ug/l	<1.0	<1.0	<1.0	<1.7	<1.7	<1.0	--	<1.0	<1.0	<1.7	<1.7	**1.4**	--
1,3,5 - Trimethylbenzene	ug/l	<1.0	<1.0	<1.0	<0.9	<0.9	<1.0	--	<1.0	<1.0	<0.9	<0.9	<1.0	--
Total Xylenes	ug/l	<3.0	<2.0	<2.0	<1.7	<2.2	<1.0	--	<2.0	<2.0	<1.7	<2.2	<3.0	--
Acenaphthene	ug/l	**280**	**65.8**	**179**	**86**	**18**	**1.6**	<0.1	<0.11	**1.61**	<1.6	<1.9	<1.0	**0.306**
Anthracene	ug/l	**140**	--	262	**34**	**6.5**	<0.10	<0.08	-	<0.11	<0.12	<0.14	<0.10	<0.08
Benzo(a)anthracene	ug/l	**61**	**36.1**	**124**	**11**	**2.1**	**0.02**	<0.04	<0.05	<0.05	<0.12	<0.14	<0.05	**0.363**
Benzo(a)pyrene	ug/l	**30**	**13.5**	**54.4**	**4**	**0.92**	**0.01**	<0.09	<0.1	<0.1	<0.24	<0.27	**0.06**	<0.06
Benzo(b)fluoranthene	ug/l	**34**	**16.2**	**92.7**	**8**	**0.51**	**0.02**	<0.03	<0.08	<0.08	<0.14	<0.16	**0.07**	**0.322**
Benzo(k)fluoranthene	ug/l	**18**	**7.26**	**28.3**	**2.3**	**0.33**	**0.01**	<0.08	<0.08	<0.08	<0.26	<0.30	**0.03**	<0.08
Benzo(g,h,i)perylene	ug/l	**7.3**	**4.73**	**16.4**	**3.7**	<0.25	<0.02	<0.1	<0.16	<0.16	<0.26	<0.30	**0.05**	<0.1
Chrysene	ug/l	**58**	**27.7**	**105**	**11**	**1.1**	<0.10	<0.1	<0.06	<0.06	<0.10	<0.12	**0.12**	<0.1
Fluoranthene	ug/l	**380**	**225**	**765**	**103**	**14**	**0.11**	<0.22	<0.15	<0.15	<0.26	<0.30	**0.11**	<0.22
Fluorene	ug/l	**280**	-	**209**	**71**	**12**	<0.20	<0.06	--	<0.08	<0.064	<0.071	**0.24**	**0.492**
Indeno(1,2,3-cd)pyrene	ug/l	<5.0	**6.09**	**22.7**	**2.5**	**0.16**	<0.05	<0.1	<0.17	<0.17	<0.13	<0.15	<0.05	<0.1
1-Methyl Naphthalene	ug/l	<200	<0.15	<6.0	**9.7**	**2.9**	**2.2**	<0.4	<0.15	**1.8**	**2.6**	<1.2	<2.0	<0.4
2-Methyl Naphthalene	ug/l	**280**	<0.09	<3.6	<0.99	<1.0	<2.0	<0.4	<0.09	<0.09	**1.8**	<1.2	<2.0	<0.4
Naphthalene	ug/l	**490**	<0.09	**217**	<0.79	**11**	**3.5**	<0.11	<0.09	**2.09**	**4.6**	**1.9**	<1.0	<0.11
Phenanthrene	ug/l	**630**	**206**	**604**	**96**	**14**	**0.11**	<0.05	<0.09	<0.09	<0.13	<0.15	<0.10	**0.754**
Pyrene	ug/l	**220**	--	**732**	**93**	**9.6**	<0.10	<0.1	--	<0.15	**0.66**	<0.51	**0.13**	<0.1

NR 140 ES Exceedance

BOLD = Detection

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ES = NR 140 Enforcement Standard as of August 1995

PAL = NR 140 Preventive Action Limit as of August 1995

NE = Standard/Action Limit Not Established
-- = No Sample Collected

☐ >ES
☐ >PAL

~~Table 2 (continued)~~

Summary of Laboratory Groundwater Analyses
Ashland Avenue Yard
Green Bay, Wisconsin

Table II (cont.)

Sample ID:		MW-9						MW-10					PZ-11			
Parameter	Units	9/7/93	9/22/94	7/29/95	12/19/95	7/15/96	12/12/96	9/7/93	7/29/95	12/19/95	7/15/96	12/12/96	9/7/93	7/29/95	12/19/95	7/15/96
Benzene	ug/l	<1.0	--	<0.5	<0.5	<0.5	<0.5	19	14.9	21.9	13	13	**1.0**	<0.5	<0.5	<0.5
Ethylbenzene	ug/l	<1.0	--	<1.0	<1.0	<0.6	<0.6	56	9.23	11.6	5.2	7	<1.0	<1.0	<1.0	<0.6
Methyl tert Butyl Ether	ug/l	<5.0	--	<2.0	<2.0	<2.7	<0.9	<25	<2.0	<2.0	<9.0	<0.9	<5.0	<2.0	<2.0	<2.7
Toluene	ug/l	1.9	--	2.00	<2.0	0.7	<0.6	<5.0	<2.0	3.34	<2.0	4.6	5.5	<2.0	<2.0	<0.6
1,2,4 - Trimethylbenzene	ug/l	16	--	<1.0	<1.0	<1.7	<1.7	108	53.9	47.4	27	43	<1.0	<1.0	<1.0	<1.7
1,3,5 - Trimethylbenzene	ug/l	<1.0	--	<1.0	<1.0	<0.9	<0.9	7.2	3.07	5.52	3.8	18	<1.0	<1.0	<1.0	<0.9
Total Xylenes	ug/l	<3.0	--	<2.0	<2.0	<1.7	<2.2	41	<21.0	19.75	7.5	17	<3.0	<2.0	<2.0	<1.7
Acenaphthene	ug/l	4.6	1.85	<0.11	<0.11	<1.5	<1.7	1.4	<0.11	<0.22	<1.6	<1.7	<1.0	<0.22	<0.11	<1.6
Anthracene	ug/l	0.34	<0.08	--	<0.11	<0.11	<0.12	<0.10	--	<0.22	<0.12	<0.13	**0.1**	--	<0.11	0.14
Benzo(a)anthracene	ug/l	0.01	<0.04	<0.05	<0.05	<0.11	<0.12	0.02	<0.05	<0.1	<0.12	<0.13	0.03	<0.1	<0.05	<0.12
Benzo(a)pyrene	ug/l	0.01	<0.06	<0.1	<0.1	<0.21	<0.25	0.01	<0.1	<0.2	<0.24	<0.25	**0.01**	<0.2	<0.1	<0.23
Benzo(b)fluoranthene	ug/l	<0.02	<0.03	<0.08	<0.08	<0.13	<0.15	<0.02	<0.08	<0.16	<0.14	<0.15	<0.02	<0.16	<0.08	<0.14
Benzo(k)fluoranthene	ug/l	0.01	<0.08	<0.08	<0.08	<0.23	<0.27	0.01	<0.08	<0.16	<0.26	<0.28	**0.01**	<0.16	<0.08	<0.26
Benzo(g,h,i)perylene	ug/l	<0.02	<0.1	<0.16	<0.16	<0.23	<0.27	<0.02	<0.16	<0.32	<0.26	<0.28	0.04	<0.32	<0.16	<0.26
Chrysene	ug/l	<0.10	<0.1	<0.06	<0.06	<0.094	<0.11	0.25	<0.06	<0.12	<0.11	<0.11	0.13	<0.12	<0.06	<0.11
Fluoranthene	ug/l	0.05	<0.22	<0.15	<0.15	<0.23	<0.27	<0.10	<0.15	<0.3	<0.26	<0.28	0.14	<0.3	<0.15	<0.26
Fluorene	ug/l	6.3	0.963	--	2.25	2.3	1.9	0.73	--	8.73	**186**	25	0.22	--	0.163	<0.063
Indeno(1,2,3-cd)pyrene	ug/l	<0.05	<0.1	<0.17	<0.17	<0.12	<0.14	<0.05	<0.17	<0.34	<0.13	<0.14	<0.05	<0.34	<0.17	<0.13
1-Methyl Naphthalene	ug/l	2.9	<0.4	<0.15	<0.15	2.00	<1.1	<2.0	89.4	100	547	116	<2.0	<0.3	<0.15	<1.1
2-Methyl Naphthalene	ug/l	4.4	4.63	<0.09	<0.09	2.2	<1.1	<2.0	37	63.9	544	73	<2.0	<0.18	<0.09	3.4
Naphthalene	ug/l	<1.0	**13**	<0.09	<0.09	<0.75	<0.87	1.5	<0.09	<0.18	**22**	1.7	<1.0	<0.18	<0.09	1.6
Phenanthrene	ug/l	<0.10	<0.05	<0.09	<0.09	<0.12	<0.14	<0.10	<0.09	<0.18	231	16	<0.10	<0.18	<0.09	0.46
Pyrene	ug/l	0.1	<0.1	--	<0.15	<0.40	<0.46	0.26	--	<0.15	<0.40	<0.47	0.17	--	<0.15	<0.44

NR 140 ES Exceedance

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-- = No Sample Collected

M > ES

Table 10
* 7&9/94 sampling

Summary of Laboratory Groundwater Analyses
Ashland Avenue Yard
Green Bay, Wisconsin

Sample ID:	C00	C+100	J00	K-150	K-250	M-325	MW-9	MW-16A	MW-19	MW-27*	MW-28*	MW-29*	MW-30*	MW-32*	MW-33*	ES	PAL
Sample Date:	7/25/94	7/25/94	7/25/94	7/26/94	7/26/94	7/26/94	9/22/94	9/22/94	9/22/94	9/22/94	9/22/94	9/22/94	9/22/94	9/22/94	9/22/94		
Parameter / Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
Acenaphthene	<0.2	<0.1	<0.1	<0.1	815	45.1	1.85	<0.1	0.306	<0.1	<0.1	3.12	<0.1	<0.1	<0.1		
Acenaphthylene	<0.8	<0.4	<0.4	<0.4	<100	<4.0	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4		
Anthracene	<0.16	<0.08	<0.08	<0.08	<20	<0.8	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08	<0.08		
Benzo(a)anthracene	<0.08	<0.04	<0.04	<0.04	<10	<0.4	<0.04	<0.04	0.363	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04		
Benzo(a)pyrene	<0.12	<0.06	<0.06	<0.06	<13	<0.6	<0.06	<0.06	<0.06	<0.06	<0.06	.279	<0.06	<0.06	0.166	0.2 ~~0.003~~	0.02 ~~0.0003~~
Benzo(b)fluoranthene	<0.06	<0.03	<0.03	<0.03	<6.3	<0.3	<0.03	<0.03	0.322	<0.03	<0.03	0.911	<0.03	<0.03	0.21	.166	
Benzo(k)fluoranthene	<0.16	<0.08	<0.08	<0.08	<20	<0.8	<0.08	<0.08	<0.08	<0.08	<0.08	0.38	<0.08	<0.08	0.514		
Benzo(g,h,i)perylene	<0.2	<0.1	<0.1	<0.1	<25	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Chrysene	<0.2	<0.1	<0.1	<0.1	<25	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Dibenzo(a,h)anthracene	<0.22	<0.11	<0.11	<0.11	<28	<1.1	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11		
Fluoranthene	<0.44	<0.22	<0.22	<0.22	<55	<2.2	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22		
Fluorene	<0.12	<0.06	<0.06	<0.06	825	41.2	0.963	<0.06	0.491	<0.06	<0.06	3.86	<0.06	<0.06	<0.06	400	80
Indo(1,2,3-cd)pyrene	<0.2	<0.2	<0.2	<0.1	<25	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
1-Methyl Naphthalene	<0.8	<0.4	<0.4	<0.4	5680	290	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4		
2-Methyl Naphthalene	<0.8	<0.4	<0.4	<0.4	3100	149	4.63	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4		
Naphthalene	<0.22	<0.22	<0.22	9.25	598	18.4	13.0	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	40	8
Phenanthrene	<0.1	0.390	<0.05	6.28	3240	168	<0.05	<0.05	0.754	<0.05	<0.05	1.08	<0.05	<0.05	0.121		
Pyrene	<0.2	<0.1	<0.1	<0.1	<25	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		

NR 140 ES Exceedance

ES = NR 140 Enforcement Standard as of March 1994

PAL = NR 140 Preventive Action Limit as of March 1994

< = Not Detected Above Indicated Method Detection Limit (MDL)

* = VOC Analysis Preformed (EPA Method 8021) - No VOCs Detected Above MDL

☐ > ES
☐ > PAL