

**GIS REGISTRY INFORMATION**

**SITE NAME:**

FORMER AMOCO SERVICE STATION #18531

**BRRTS #:**

02-41-402633 FID # (if appropriate): 2-41146180

**COMMERCE # (if appropriate):**

**CLOSURE DATE:**

06/27/2005

**STREET ADDRESS:**

9208 W. CAPITAL DRIVE

**CITY:**

MILWAUKEE, WISCONSIN

**SOURCE PROPERTY GPS COORDINATES** (meters in WTM91 projection):

x= 680474 y= 292705

**CONTAMINATED MEDIA:**

Groundwater

Soil

Both

**OFF-SOURCE GW CONTAMINATION >ES:**

Yes

No

**IF YES, STREET ADDRESS 1:**

**GPS COORDINATES** (meters in WTM91 projection):

X= \_\_\_\_\_

Y= \_\_\_\_\_

**OFF-SOURCE SOIL CONTAMINATION >Generic or Site-Specific RCL (SSRCL):**

Yes

No

**IF YES, STREET ADDRESS 1:**

**GPS COORDINATES** (meters in WTM91 projection):

X= \_\_\_\_\_

Y= \_\_\_\_\_

**CONTAMINATION IN RIGHT OF WAY:**

Yes

No

**DOCUMENTS NEEDED:**

Closure Letter, and any conditional closure letter issued

Copy of most recent deed, including legal description, for all affected properties

Certified survey map or relevant portion of the recorded plat map (if referenced in the legal description) for all affected properties  
County Parcel ID number, if used for county, for all affected properties

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.

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.

Tables of Latest Groundwater Analytical Results (no shading or cross-hatching)

Tables of Latest Soil Analytical Results (no shading or cross-hatching)

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.

**GW:** Table of water level elevations, with sampling dates, and free product noted if present

**GW:** Latest groundwater flow direction/monitoring well location map (should be 2 maps if maximum variation in flow direction is greater than 20 degrees)

**SOIL:** Latest horizontal extent of contamination exceeding generic or SSRCLs, with one contour

Geologic cross-sections, if required for SI. (8.5x14" if paper copy)

RP certified statement that legal descriptions are complete and accurate

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





**State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES**

Jim Doyle, Governor  
Scott Hassett, Secretary  
Gloria L. McCutcheon, Regional Director

Southeast Region Headquarters  
2300 N. Dr. Martin Luther King, Jr. Drive  
Milwaukee, Wisconsin 53212-3128  
FAX 414-263-8606  
Telephone 414-263-8500  
TTY Access via relay - 711

June 27, 2005

Mr. Raymond Stoelting  
Environmental Business Manager  
Atlantic Richfield Company (a BP affiliated company)  
P.O.Box 642  
Chanhausen, MN 55317-9998

Subject: Final Case Closure, Former Amoco Service Station No. 18531, 9208 W. Capital Drive  
Milwaukee, Wisconsin. Delta Project No. AMGO-27Y, BRRTs # 02-41-402633,  
FID # 241146180

Dear Mr. Stoelting:

On June 27, 2005 your request for closure of the case described above was reviewed by the Department of Natural Resources, Milwaukee Service Center. The Department reviews environmental remediation cases for compliance with state rules and statutes to maintain consistency in the closure of these cases. On February 23, 2005 you were notified that condition closure/ case denial was granted to this case.

On April 29, 2005 the Department received correspondence indicating that you have complied with the condition of closure. The condition of closure was to abandon the monitoring wells on site according to ch NR 141 and submit the well abandonment forms to the Department. Based on the correspondence and data provided, it appears that your case meets the requirements of ch. NR. 726, Wis. Adm. Code, and case closure will be granted if the following conditions are fulfilled: the monitoring wells on this site are abandoned in compliance with ch. NR 141, Wis. Adm. Code.

The Department has received a complete GIS packet for the site and your site will be listed on the DNR Remediation and Redevelopment GIS Registry of Closed Remediation Sites. Information that was submitted with your closure request application will be included on the registry. To review the sites on the GIS Registry Web page, visit <http://www.dnr.state.wi.us/org/water/dgw/gw/>.

Please be aware that this case may be reopened pursuant to s. NR 726.09, Wis. Adm. Code, if additional information regarding site conditions indicates that contamination on or from the site poses a threat to public health, safety or welfare, or the environment.

The department appreciates your efforts to restore the environment at this site. If you have any questions regarding this letter, please contact me at (414)-263-8607.

Sincerely,

  
Binyoti F. Amungwafor  
Hydrogeologist

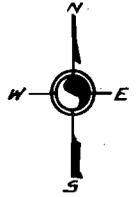
CC: Ms. Lisa Noblet, Delta Environmental Consultants, Inc.  
Case File.



HAUSER HOMES SUBD. NO. 3

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W. FIEBRANTZ AVE.



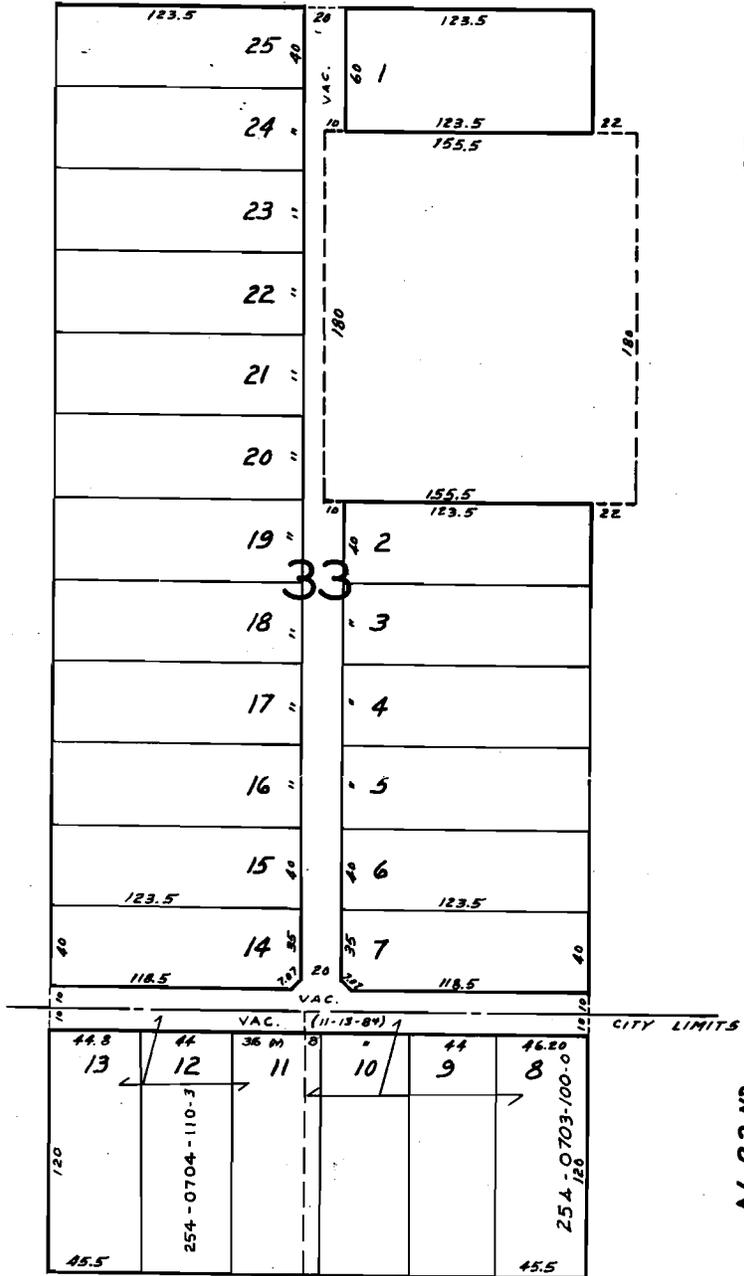
ST.

ST.

LANDS

N. 93<sup>RD</sup>

N. 92<sup>RD</sup>



MICROFILMED

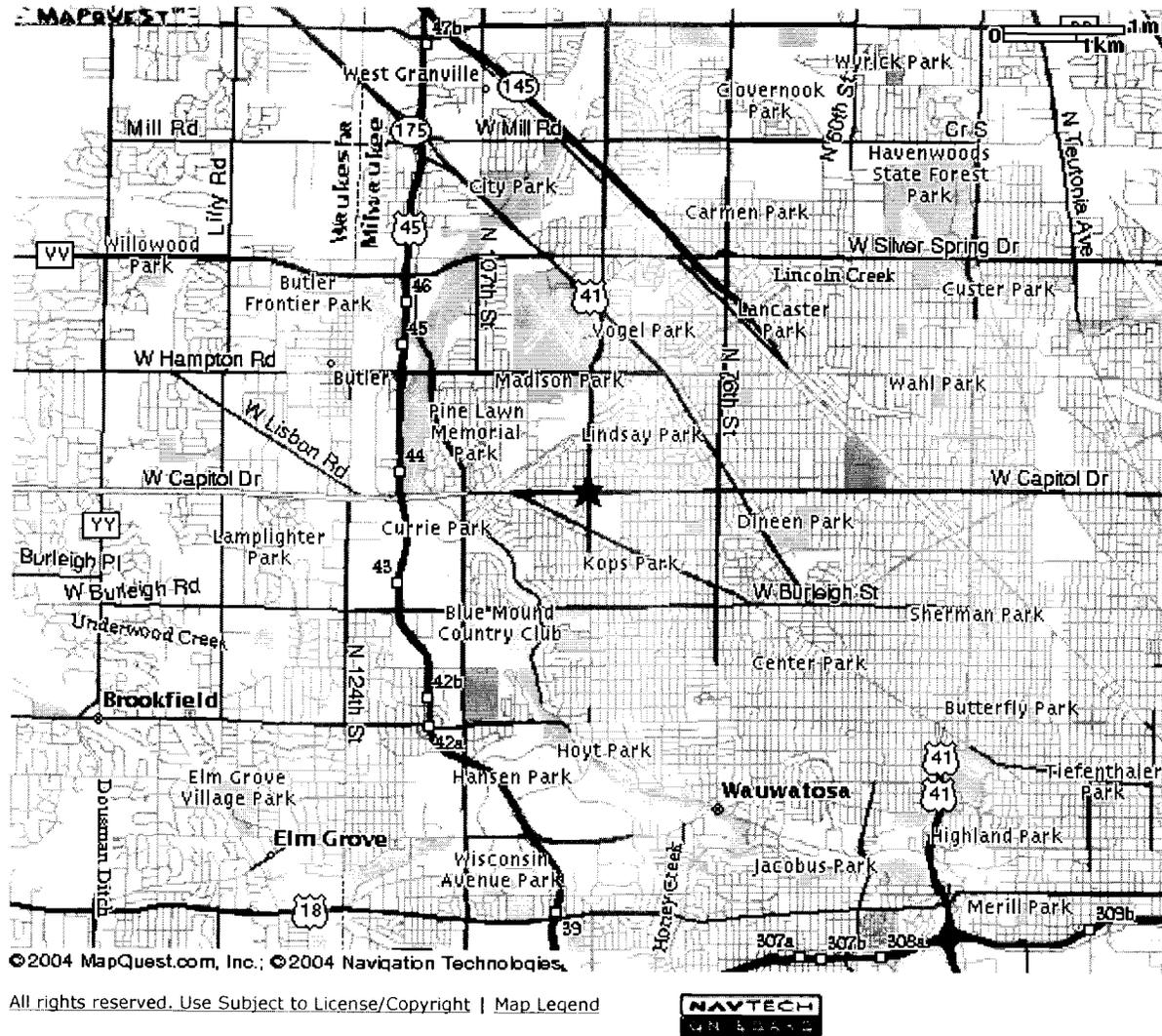
3230  
W. CAPITOL

3208  
DR.

**Parcel Identification Number**

Amoco Service Station # 18531  
9208 W. Capitol Drive  
Milwaukee, WI

**PIN # 254-0703-100-0**



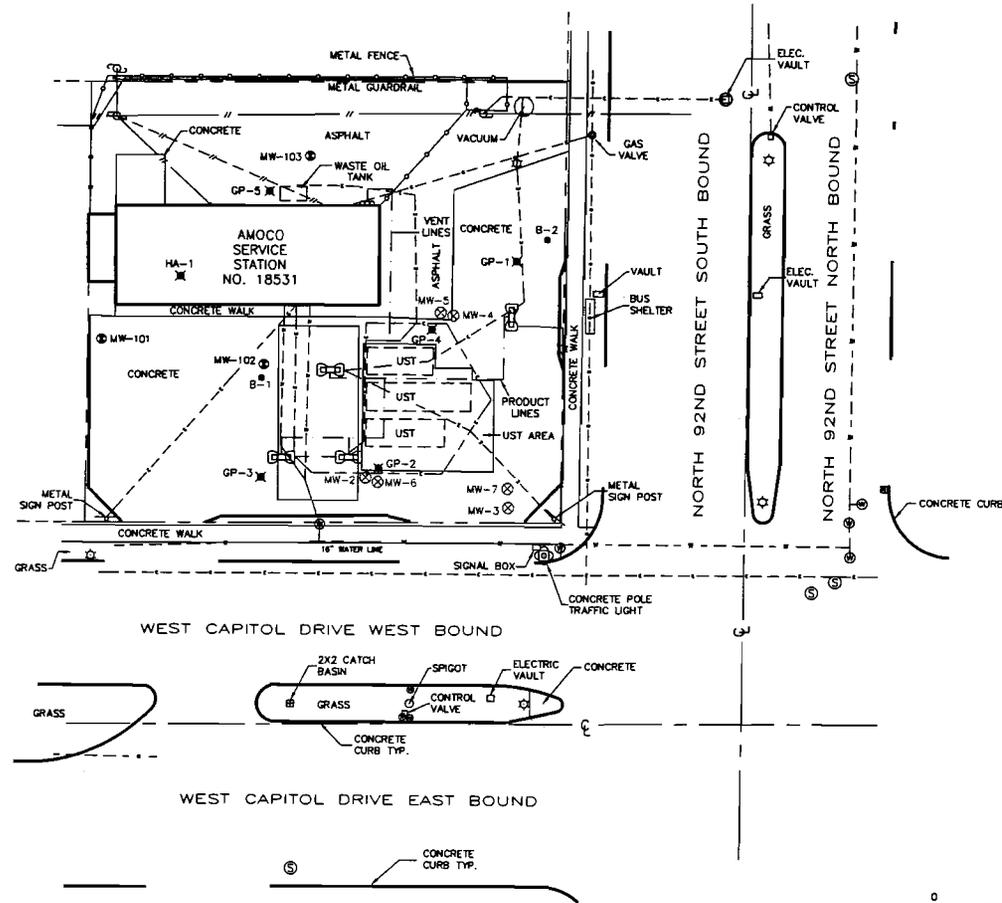
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### LEGEND

- ⊙ MONITORING WELL
- ⊙ ABANDONED MONITORING WELL
- SOIL BORING
- ⊗ GEDPROBE/HAND AUGER
- ⊠ PUMP ISLAND
- CATCH BASIN
- ⊕ POWER POLE
- ☆ LIGHT POLE
- ⊙ SANITARY MANHOLE
- ⊙ WATER VALVE
- E — UNDERGROUND ELECTRIC LINE
- // — OVERHEAD UTILITY LINE
- G — GAS LINE
- W — WATER LINE



0 30  
SCALE IN FEET

**FIGURE 2**  
SITE MAP

AMOCO SERVICE STATION No. 18531  
9208 WEST CAPITOL DRIVE  
MILWAUKEE, WISCONSIN

PROJECT NO.:	AMCO-27Y	DRAWN BY:	DD
PREPARED BY:	JK	DATE:	2/18/04
FILE NAME:	18531 Site		



**Table 1**  
**Soil Analytical Results Summary (VOCs, GRO, DRO, and Metals)**  
Former Amoco Service Station No. 18531  
9208 West Capitol Drive  
Milwaukee, Wisconsin  
Delta Project No. AMG0-27Y

ANALYTICAL PARAMETERS																									
Boring	Sample Date	Sample Depth Feet	PID <sup>(1)</sup> ppm	DRO	GRO	Benzene	Toluene	Ethylbenzene	Xylenes	1,2,4-TMB	1,3,5-TMB	MTBE	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	1,2-Dichlorobenzene	1,4-Dichlorobenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-Trichloro-benzene	Total Cadmium	Total Lead	
				mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
NR 720 RCL -->				100	100	0.0055	1.5	2.9	4.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	50
NR 746 Table 1 SSL -->				--	--	8.5	38	4.6	42	83	11	--	--	--	--	--	--	--	--	--	2.7	--	--	--	--
NR 746 Direct Contact Std -->				--	--	1.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
A Risk Based Concentration (Residential) -->				--	--	--	--	--	--	--	--	--	--	--	--	--	7,000	270	--	--	--	--	780	--	--
GP-1	09/13/02	2 - 3	IM	<6.3	<6.3	<0.032	<0.032	<0.032	<0.095	<0.032	<0.032	<0.032	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12
GP-2	09/13/02	2 - 3	IM	<6.1	15	0.066	<0.030	<0.030	<0.091	<0.030	<0.030	<0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13
GP-2	09/13/02	15 - 16	IM	<6.1	<6.1	<0.031	<0.031	<0.031	<0.092	<0.031	<0.031	0.44	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11
GP-3	09/13/02	2 - 3	IM	<6.4	<6.4	0.095	<0.032	<0.032	<0.096	<0.032	<0.032	<0.032	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15
GP-3	09/13/02	15 - 16	IM	<6.1	<6.1	<0.030	<0.030	0.034	<0.091	<0.030	<0.030	<0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11
GP-4	09/13/02	2 - 3	IM	<6.0	17	<0.030	<0.030	<0.030	<0.090	<0.030	<0.030	<0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11
GP-4	09/13/02	15 - 16	IM	<6.3	<6.3	<0.031	<0.031	<0.031	<0.094	<0.031	<0.031	<0.031	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.7
GP-5	09/13/02	2 - 3	IM	69	NA	<0.031	<0.031	<0.031	<0.043	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	1.6	10	
GP-5	09/13/02	15 - 16	IM	<6.3	NA	<0.031	<0.031	<0.031	<0.044	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	<0.031	2.1	11	
HA-1 <sup>(2)</sup>	09/25/02	3 - 4	846	693	NA	0.0432	<0.025	0.115	0.808	3.56	0.582	<0.025	1.39	1.02	0.176	1.6	0.293	0.105	0.572	0.797	0.76	1.22	NA	NA	
MW-101	09/10/03	5 - 7	2.6	<11	NA	<0.060	<0.060	<0.060	<0.18	<0.060	<0.060	<0.060	<0.30	<0.30	<0.30	0.072 J	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	NA	NA
MW-102	09/09/03	2 - 2.5	0.8	<8.7	NA	<0.054	<0.054	<0.054	<0.16	<0.054	<0.054	<0.054	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	NA	NA
MW-103	09/09/03	3.5 - 4	1.6	<10	NA	<0.063	<0.063	<0.063	<0.19	<0.063	<0.063	<0.063	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	<0.32	NA	NA

**Table 1**  
**Soil Analytical Results Summary (VOCs, GRO, DRO, and Metals)**

Former Amoco Service Station No. 18531

9208 West Capitol Drive

Milwaukee, Wisconsin

Delta Project No. AMG0-27Y

**NOTES:**

- < ..... = Not detected at or above the indicated method detection limit
- (1) ..... = PID readings were not obtained due to equipment malfunction. A sample from the 0-4 ft direct contact zone and from the bottom of the boring were submitted for laboratory analysis.
- (2) ..... = The sample was collected by Sigma Environmental Services, Inc.
- J ..... = Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
- DRO ..... = Diesel Range Organics
- GRO ..... = Gasoline Range Organics
- ppm ..... = parts per million
- mg/kg ..... = milligrams per kilogram (equivalent to parts per million)
- MTBE ..... = Methyl Tertiary Butyl Ether
- NA ..... = Not analyzed for the indicated parameter
- PID ..... = Volatile organic vapor level as measured with a photoionization detector
- TMB ..... = Trimethylbenzene
- NR 720 RCL ..... = Wisconsin Administrative Code Chapter NR 720 Non-Industrial Generic Residual Contaminant Level
- NR 746 SSL ..... = Revision 05/00 of Wisconsin Administrative Code Chapter NR 746 Table 1 Soil Screening Level
- NR 746 Direct Contact Std ..... = Revision 05/00 of Wisconsin Administrative Code Chapter NR 746 Table 2 Direct Contact Standard (0 - 4 feet)
- EPA Risk Based Concentration ..... = United States Environmental Protection Agency Region III Risk-based Concentration for Residential Scenario.
- "**bold type**" ..... = The indicated concentration exceeds the NR 720 RCL

**Table 2**  
**Soil Analytical Results Summary - (PAHs)**  
Former Amoco Service Station No. 18531  
9208 West Capitol Drive  
Milwaukee, Wisconsin  
Delta Project No. AMG0-27Y

Sample ID	Date	Sample Depth Feet	PID ppm	PAH ANALYTICAL PARAMETERS																	
				Acenaphthene mg/kg	Acenaphthylene mg/kg	Anthracene mg/kg	Benzo (a) anthracene mg/kg	Benzo (b) fluoranthene mg/kg	Benzo (k) fluoranthene mg/kg	Benzo (a) pyrene mg/kg	Benzo (ghi) perylene mg/kg	Chrysene mg/kg	Dibenzo (a,h) anthracene mg/kg	Fluoranthene mg/kg	Fluorene mg/kg	Indeno (1,2,3-cd) pyrene mg/kg	1-Methyl-naphthalene mg/kg	2-Methyl-naphthalene mg/kg	Naphthalene mg/kg	Phenanthrene mg/kg	Pyrene mg/kg
Suggested generic RCL (direct contact)* -->				900	18	5,000	0.088	0.088	0.88	0.0088	1.8	8.8	0.0088	600	600	0.088	1,100	600	20	18	500
Suggested generic RCL (groundwater pathway)* -->				0.8	0.7	3,000	17	360	870	48	6800	37	38	500	100	680	23	20	0.4	1.8	8700
GP-5	09/13/02	2 - 3	IM	<0.12	<0.22	0.033	0.067	0.061	0.053	<b>0.12</b>	<0.099	0.090	<0.019	0.322	<0.024	0.032	<0.074	<0.062	<0.074	0.066	0.235
GP-5	09/13/02	15 - 16	IM	<0.063	<0.110	<0.0063	<0.0063	<0.0063	<0.0063	<0.050	<0.050	<0.0063	<0.0094	<0.013	<0.013	<0.0063	<0.038	<0.031	<0.038	<0.0063	<0.0063
MW-103	09/09/03	3.5 - 4	1.6	<0.22	<0.42	<0.022	<0.022	<0.042	<0.022	<0.022	<0.042	<0.022	<0.042	<0.042	<0.042	<0.022	NA	NA	<0.22	<0.022	<0.022

**NOTES:**

< ..... = not detected at or above the indicated laboratory method detection limit

IM ..... = instrument malfunction

mg/kg ..... = milligrams per kilogram (equivalent to parts per million)

ppm ..... = parts per million

PAH ..... = polynuclear aromatic hydrocarbons

PID ..... = represents volatile organic vapor level as measured with a photoionization detector

\* ..... = WDNR (04/97) Soil Cleanup Levels for Polycyclic Aromatic Hydrocarbons (PAHs) Interim Guidance, Table 1  
(Direct Contact Pathway--Non-industrial, Suggested generic RCLs for PAH compounds in soil (mg/kg)).

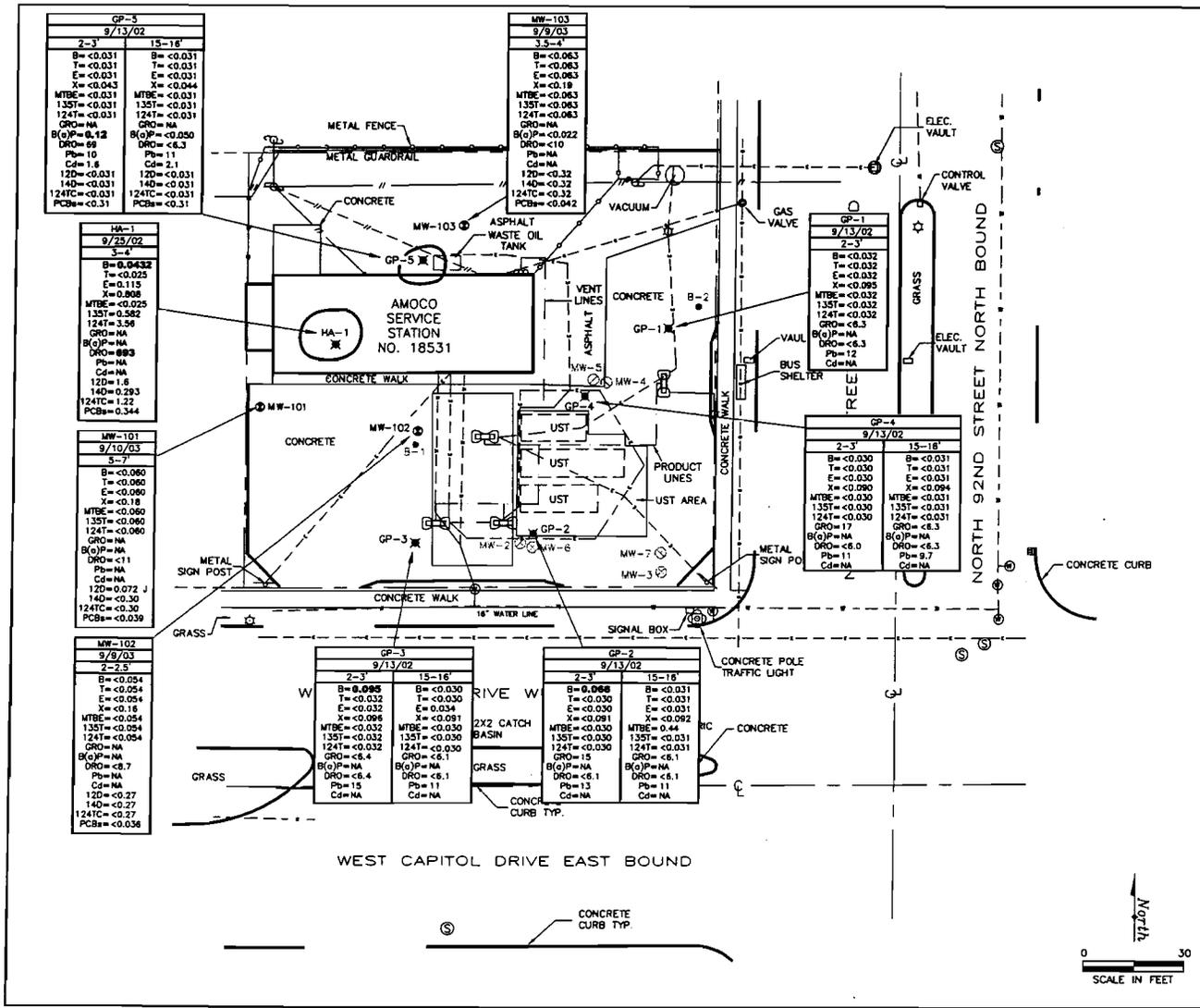
**bold type** ..... = exceeds the PAH Interim Guidance non-industrial direct contact value.

**Table 3**  
**Soil Analytical Results Summary - (PCBs)**  
Former Amoco Service Station No. 18531  
9208 West Capitol Drive  
Milwaukee, Wisconsin  
Delta Project No. AMG0-27Y

PCB ANALYTICAL PARAMETERS										
Boring	Sample Date	Sample Depth	PID	PCB 1016	PCB 1221	PCB 1232	PCB 1242	PCB 1248	PCB 1254	PCB 1260
		Feet	IU	mg/kg						
EPA Model Calculated Ingestion SSL						1.43				
GP-5	09/13/02	2 - 3	IM	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
GP-5	09/13/02	15 - 16	IM	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
HA-1 <sup>(1)</sup>	09/25/02	3 - 4	846	<0.0317	<0.0317	0.344	<0.0317	<0.0317	<0.0317	<0.0317
MW-101	09/10/03	5 - 7	2.6	<0.039	<0.039	<0.039	<0.039	<0.039	<0.039	<0.039
MW-102	09/09/03	2 - 2.5	0.8	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036	<0.036
MW-103	09/09/03	3.5 - 4	1.6	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042	<0.042

**NOTES:**

(1)..... = The sample was collected by Sigma Environmental Services, Inc. and analyzed by Great Lakes Analytical.  
< ..... = not detected at or above the indicated method detection limit  
IM ..... = instrument malfunction  
IU ..... = instrument units  
mg/kg ..... = milligrams per kilogram (equivalent to parts per million)  
PCB ..... = polychlorinated biphenyl  
PID ..... = volatile organic vapor level as measured with a photoionization detector  
ppm ..... = parts per million  
Site-specific soil screening level was calculated using EPA Superfund Risk Assessment Model with WDNR default criteria



### LEGEND

- ⊙ MONITORING WELL
- ⊗ ABANDONED MONITORING WELL
- SOIL BORING
- ✕ GEOPROBE/HAND AUGER
- ⊞ PUMP ISLAND
- ⊠ CATCH BASIN
- ⊞ POWER POLE
- ☆ LIGHT POLE
- ⊙ SANITARY MANHOLE
- ⊙ WATER VALVE
- E UNDERGROUND ELECTRIC LINE
- //— OVERHEAD UTILITY LINE
- G GAS LINE
- W WATER LINE

MW-103	SAMPLE NAME
9/9/03	SAMPLE DATE
3.5-4'	SAMPLE DEPTH (FT.)
B=<0.063	BENZENE
T=<0.063	TOLUENE
E=<0.063	ETHYLBENZENE
X=<0.19	XYLENES
MTBE=<0.063	METHYL TERTIARY BUTYL ETHER
135T=<0.063	1,3,5-TRIMETHYLBENZENE
124T=<0.063	1,2,4-TRIMETHYLBENZENE
GRO=NA	GASOLINE RANGE ORGANICS
B(O)P=NA	BENZO(a)PYRENE
DRO=<10	DIESEL RANGE ORGANICS
Pb=NA	LEAD
Cd=NA	CADMIUM
12D=<0.32	1,2-DICHLOROBENZENE
14D=<0.32	1,4-DICHLOROBENZENE
124TC=<0.32	1,2,4-TRICHLOROBENZENE
PCBs=<0.042	POLYCHLORINATED BIPHENYL

NA = NOT ANALYZED  
J = ESTIMATED CONCENTRATION ABOVE THE ADJUSTED METHOD DETECTION LIMIT AND BELOW THE ADJUSTED REPORTING LIMIT

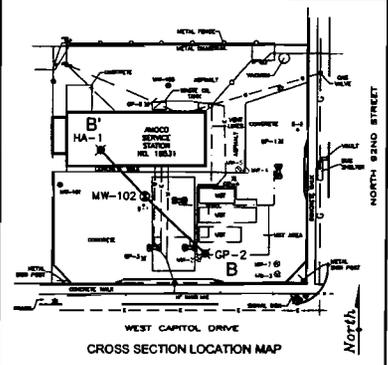
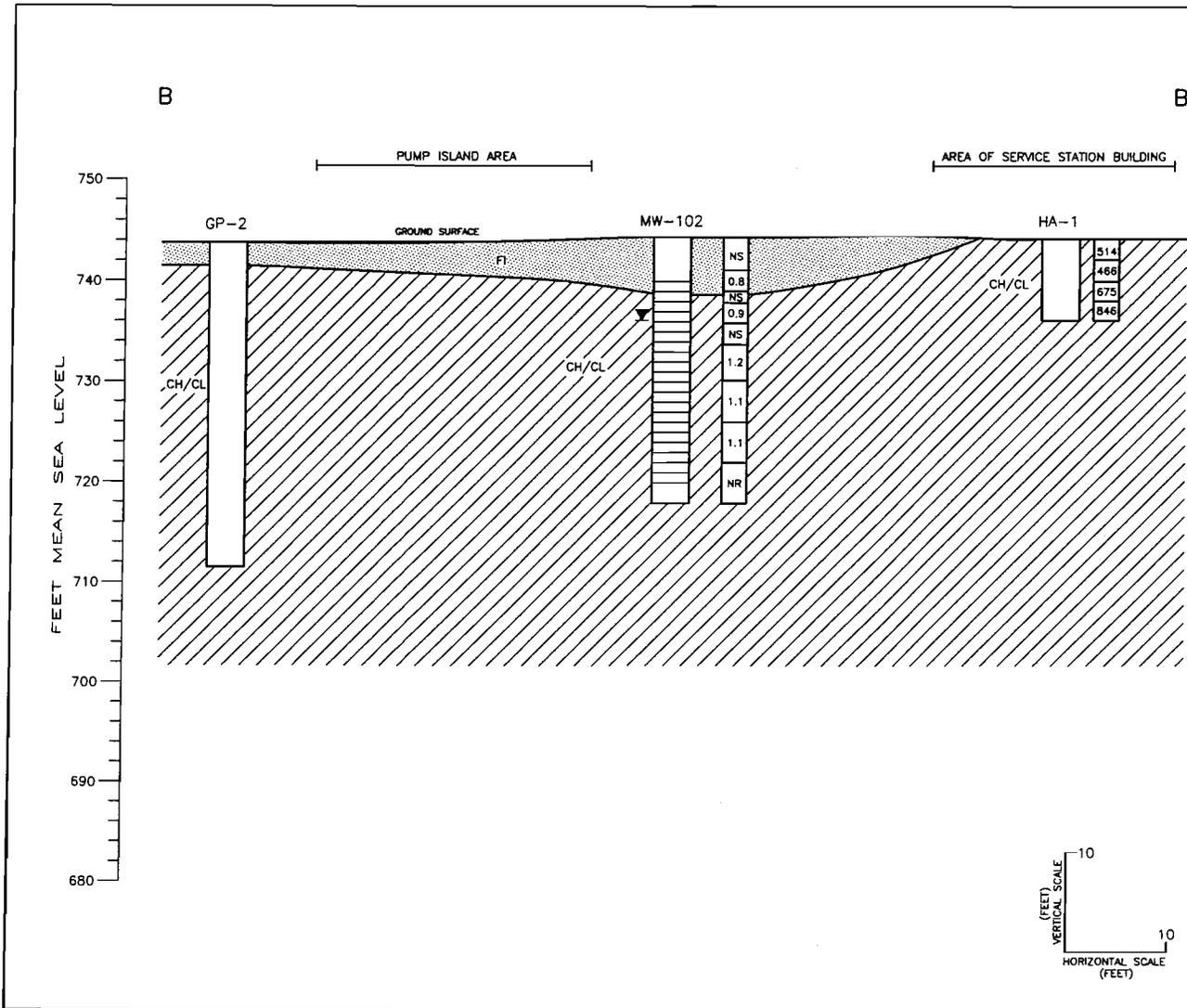
— ESTIMATED AREAS WITH SOIL IMPACTS OF CHLORINATED COMPOUNDS, PCB, AND PAHS

ALL CONCENTRATIONS EXPRESSED IN MILLIGRAMS PER KILOGRAM (mg/kg).  
CONCENTRATIONS SHOWN IN BOLD TYPE EXCEED THE NR 720 RCL ENFORCEMENT STANDARD

**FIGURE 5**  
SOIL CHEMICAL CONCENTRATION MAP  
AMOCO SERVICE STATION No. 18531  
9208 WEST CAPITOL DRIVE  
MILWAUKEE, WISCONSIN

PROJECT NO.: AMCO-27Y	DD
PREPARED BY: JK	DATE: 2/19/04
FILE NAME: 18531 Site	

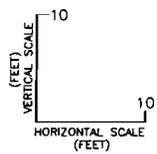




- LEGEND:**
- MONITORING WELL
  - PHOTOIONIZATION DETECTOR READING (INSTRUMENT UNITS)
  - NS = NOT SAMPLED
  - NR = NO RECOVERY
  - WATER TABLE ELEVATION (10/1/03)
  - MONITORING WELL SCREEN INTERVAL
  - FILL (F)
  - SILTY CLAY (CH/CL)
- NOTE: NO PID READINGS FOR GP-2 DUE TO INSTRUMENT MALFUNCTION

**FIGURE 4**  
**GEOLOGIC CROSS SECTION B-B'**  
 AMOCO SERVICE STATION NO. 18531  
 9208 WEST CAPITOL DRIVE  
 MILWAUKEE, WISCONSIN

PROJECT NO.:	AMGO-28Y	DRAWN BY:	DD
PREPARED BY:	AM	DATE:	2/19/04
FILE NAME:	18531-88		

**STATEMENT OF LEGAL DESCRIPTION ACCURACY**

**FOR**

Amoco Service Station # 18531  
9208 W. Capitol Drive  
Milwaukee, WI

BRRTS No. 02-41-402633  
Delta No. AMG0-27Y

This statement is being provided by Delta Environmental Consultants, Inc. (Delta), on behalf of BP Products North America Inc. The enclosed property deeds, with legal descriptions, for the above-mentioned properties were provided by the Milwaukee County Register of Deeds Office. According to the information available to Delta, the legal descriptions are accurate and complete.

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



Adam S. McIlheran, Staff Hydrogeologist

3/3/04

Date