

241145410 ERRLUST



SUPERAMERICA GROUP, INC.
Environmental Services Department
3499 Dabney Drive (LB-4)
Lexington, Kentucky 40509
Tom Austin, Projects Manager
(606) 264-2431

April 28, 1994

Mr. John Feeney
Wisconsin Department of Natural Resources
Environmental Response and Repair Program
PO Box 12436
4041 North Richards Street
Milwaukee, Wisconsin 53212

RE: SA 4048
6512 North Teutonia Avenue
Milwaukee, Wisconsin

Dear Mr. Feeney:

SuperAmerica Group (SuperAmerica) has completed its initial subsurface investigation at SA #4048. In general, hydrocarbon impacts were found along the northern and western property lines. A summary of these field activities is presented for your review in the enclosed report entitled, "Results of Geoprobe Investigation, SuperAmerica Station #4048, 6512 North Teutonia Avenue, Milwaukee, Wisconsin."

SuperAmerica will provide the Wisconsin Department of Natural Resources (WDNR) with additional subsurface investigative information as it becomes available.

In the meantime, if you have any questions, please contact me at (606) 264-2431.

Respectfully submitted,

A handwritten signature in blue ink that reads 'Tom Austin'.

Tom Austin
Environmental Projects Manager

RTA/mf
Enclosure

cc: Tim Wimmer (Sigma)



**RESULTS OF
GEOPROBE INVESTIGATION
SUPERAMERICA STATION #4048
6512 NORTH TEUTONIA AVENUE
MILWAUKEE, WISCONSIN**

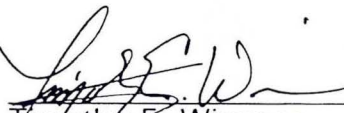
PREPARED FOR:
**MR. TOM AUSTIN, PROJECT MANAGER
SUPERAMERICA GROUP, INC.**
ENVIRONMENTAL SERVICE DEPARTMENT (LB-4)
P.O. BOX 14000
LEXINGTON, KENTUCKY 40512

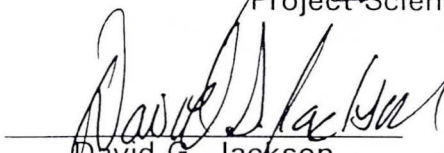
PREPARED BY:
SIGMA ENVIRONMENTAL SERVICES, INC.
9555 SOUTH HOWELL AVENUE, SUITE 100
OAK CREEK, WISCONSIN 53154

PROJECT REFERENCE #2102-S3

APRIL 15, 1994


Bradd L. Seegers
Staff Scientist


Timothy E. Wimmer
Project Scientist


David G. Jackson
Senior Project Manager

Sigma Environmental Services, Inc. (Sigma) has completed a geoprobe investigation at SuperAmerica Station #4048 located at 6512 North Teutonia Avenue, Milwaukee, Wisconsin.

Scope of Work. A petroleum release was discovered during piping system upgrade activities at the site, therefore the Wisconsin Department of Natural Resources (WDNR) was notified. In order to meet the WDNR requirements to define the extent of soil and groundwater effects, a subsurface investigation was implemented. The investigation consisted of drilling eight (8) geoprobe soil borings on the property to collect soil and groundwater samples to assess the extent petroleum hydrocarbons that had possibly been released into the environment.

Site Activities. On January 24, 1994, eight two-inch diameter geoprobe soil borings (GP-1 through GP-8) were drilled to a depth of 20 feet below ground surface (bgs) by Briohn Environmental Contractors (Briohn) of Brookfield, Wisconsin. The soil boring locations and the site layout are depicted in Figure 1. Soil encountered during the drilling activities consists of gray-brown clayey silt underlying approximately four feet of sandy silt fill. No auger cuttings generated during drilling activities. The WDNR soil boring logs and borehole abandonment forms are included in Attachment A.

Soil samples were collected during drilling activities and field screened with a photoionization detector (PID) equipped with a 10.6 electron volt lamp and calibrated to 100 parts per million isobutylene. One (1) soil sample exhibiting the highest PID level from each boring was submitted for laboratory analysis of Gasoline Range Organics (GRO), Petroleum Volatile Organic Compounds (PVOC), and total Lead. If no PID readings were detected, the soil sample from the water-table interface was submitted for laboratory analysis.

Laboratory Results for Soil Samples. The laboratory analysis detected GRO and PVOCs in soil samples from borings GP-4 through GP-8. Laboratory analysis did not identify GRO or PVOCs in soil samples from borings GP-1 through GP-3. To define the depth of petroleum impacts, one (1) soil sample with a lower or undetectable PID value from each soil boring was analyzed with a field gas chromatograph (GC) for Benzene, Toluene, Ethylbenzene, Xylene (BTEX), and total BTEX. The field GC analysis identified BTEX compounds in the samples from GP-1 through GP-3 and GP-6 through GP-8. The laboratory results and field GC results are summarized in Table 1. The GRO concentrations are depicted on Figure 1. Laboratory and field GC reports are presented as Attachments B and C, respectively.

Laboratory Results for Groundwater Samples. Groundwater was encountered at depths between approximately 12 and 14 feet below ground surface. To assess general groundwater quality, groundwater samples were collected from soil borings GP-2, GP-6, and GP-8 and analyzed with the field GC for BTEX and total BTEX. Two of the groundwater samples collected from the soil borings exhibited Volatile Organic Compounds (VOCs) above the Wisconsin NR 140 Groundwater Quality Enforcement Standards and Preventive Action Limits. Field GC results for the groundwater samples are summarized in Table 2 and depicted on Figure 2.

TABLE 1
SUMMARY OF FIELD SCREENING, FIELD GAS CHROMATOGRAPH, AND LABORATORY RESULTS
GEOPROBE SOIL INVESTIGATION
SuperAmerica Station #4048
6512 North Teutonia Avenue
Milwaukee, Wisconsin

Sample ID	Depth Collected (feet)	PID Response (iu)	GRO ppm	Benzene	Toluene	Ethylbenzene	Total Xylene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	MTBE	Total Lead	Sample Odor	Sample Description
GP1-1	2.0-4.0	4.2	---	---	---	---	---	---	---	---	---	None	Dark Brown Clayey Silt, Fill
GP1-2	4.0-6.0	3.6	---	---	---	---	---	---	---	---	---	None	Brown Silt, Till
GP1-3	6.0-8.0	2.2	---	---	---	---	---	---	---	---	---	None	Brown Silt, Till
GP1-4	8.0-10.0	1.9	---	---	---	---	---	---	---	---	---	None	Brown Silt, Till
GP1-5	10.0-12.0	1.9	<5.0	<0.2	<0.5	<0.2	<0.8	<0.8	<0.8	<1.0	7.3	None	Brown Silt, Till
GP1-6	12.0-14.0	1.5	---	---	---	---	---	---	---	---	---	None	Gray Brown Silty Clay, Till
GP1-7	14.0-16.0	1.8	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP1-8	16.0-18.0	1.9	---	ND	0.007	0.012	0.114	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP1-9	18.0-20.0	1.4	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP2-1	2.0-4.0	0.2	---	---	---	---	---	---	---	---	---	None	Dark Brown Clayey Silt, Fill
GP2-2	4.0-6.0	0.5	---	---	---	---	---	---	---	---	---	None	Brown Sandy Silt, Till
GP2-3	6.0-8.0	1.1	---	---	---	---	---	---	---	---	---	None	Brown Sandy Silt, Till
GP2-4	8.0-10.0	1.6	---	ND	ND	ND	0.014	---	---	---	---	None	Brown Clayey Silt, Till
GP2-5	10.0-12.0	3.6	---	---	---	---	---	---	---	---	---	None	Brown Silt, Till
GP2-6	12.0-14.0	0.8	---	---	---	---	---	---	---	---	---	None	Brown Silt, Till
GP2-7	14.0-16.0	7.0	<5.0	<0.2	<0.5	<0.2	0.84	<0.8	<0.8	<1.0	12	None	Brown Silt, Till
GP2-8	16.0-18.0	1.2	---	---	---	---	---	---	---	---	---	None	Gray Brown Sandy Silt, Till
GP2-9	18.0-20.0	0.2	---	---	---	---	---	---	---	---	---	None	Gray Brown Sandy Silt, Till
GP3-1	2.0-4.0	7.7	---	---	---	---	---	---	---	---	---	None	Brown Sandy Silt, Fill
GP3-2	4.0-6.0	9.7	---	---	---	---	---	---	---	---	---	None	Brown Silty Sand, Till
GP3-3	6.0-8.0	10.1	<5.0	<0.2	<0.5	<0.2	<0.8	<0.4	<0.8	<1.0	8.9	None	Brown Silty Sand, Till
GP3-4	8.0-10.0	4.2	---	---	---	---	---	---	---	---	---	None	Brown Silty Sand and Gravel, Till
GP3-5	10.0-12.0	3.0	---	ND	ND	ND	0.006	---	---	---	---	None	Brown Sandy Silt, Till
GP3-6	12.0-14.0	2.4	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP3-7	14.0-16.0	3.9	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP3-8	16.0-18.0	3.4	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP3-9	18.0-20.0	2.8	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till

KEY: iu = Instrument units as isobutylene
ppm = Laboratory results in parts per million
feet = Feet below ground surface
< = Not detected above method detection limit


MTBE = Methyl Tert Butyl Ether
 = Field Gas Chromatograph Analysis Results in parts per million
ND = Not detected
--- = Not analyzed

TABLE 1 (CONT.)
 SUMMARY OF FIELD SCREENING, FIELD GAS CHROMATOGRAPH, AND LABORATORY RESULTS
 GEOPROBE SOIL INVESTIGATION
 SuperAmerica Station #4048
 6512 North Teutonia Avenue
 Milwaukee, Wisconsin

Sample ID	Depth Collected (feet)	PID Response (iu)	GRO ppm	Benzene	Toluene	Ethylbenzene	Total Xylene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	MTBE	Total Lead	Sample Odor	Sample Description
GP4-1	2.0-4.0	70.0	---	---	---	---	---	---	---	---	---	Slight, Gas-Like	Dark Brown Sandy Silt, Fill
GP4-2	4.0-6.0	63.8	---	---	---	---	---	---	---	---	---	Slight, Gas-Like	Gray Brown Clayey Silt, Till
GP4-3	6.0-8.0	75.5	13	<0.2	<0.5	<0.2	<0.8	<0.8	<0.8	<1.0	6.0	Slight, Gas-Like	Gray Brown Sandy Silt, Till
GP4-4	8.0-10.0	33.7	---	---	---	---	---	---	---	---	---	None	Brown Clayey Silt, Till
GP4-5	10.0-12.0	16.3	---	ND	ND	ND	ND	---	---	---	---	None	Brown Clayey Silt, Till
GP4-6	12.0-14.0	9.4	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP4-7	14.0-16.0	8.9	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP4-8	16.0-18.0	11.4	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP4-9	18.0-20.0	8.6	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP5-1	2.0-4.0	653	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Gray Brown Sand and Gravel, Fill
GP5-2	4.0-6.0	3503	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Brown Sandy Silt, Till
GP5-3	6.0-8.0	7163	760	1.9	6.8	20	100	16	46	<1.0	6.7	Strong, Gas-Like	Brown Silty Sand, Till
GP5-4	8.0-10.0	5304	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Brown Silty Sand, Till
GP5-5	10.0-12.0	416	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Brown Sandy Silt, Till
GP5-6	12.0-14.0	53.2	---	ND	ND	ND	ND	---	---	---	---	Slight, Gas-Like	Gray Brown Silt, Till
GP5-7	14.0-16.0	23.3	---	---	---	---	---	---	---	---	---	None	Gray Brown Silt, Till
GP5-8	16.0-18.0	14.5	---	---	---	---	---	---	---	---	---	None	Gray Brown Silt, Till
GP5-9	18.0-20.0	18.2	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP6-1	2.0-4.0	1061	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Gray Brown Silty Clay, Fill
GP6-2	4.0-6.0	6041	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Gray Brown Silty Clay, Fill
GP6-3	6.0-8.0	5126	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Brown Silty Sand, Till
GP6-4	8.0-10.0	1808	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Brown Sandy Silt, Till
GP6-5	10.0-12.0	4481	---	---	---	---	---	---	---	---	---	Strong, Gas-Like	Brown Clayey Silt, Till
GP6-6	12.0-14.0	5185	520	2.3	20	11	60	13	37	2.8	6.8	Strong, Gas-Like	Gray Brown Clayey Silt, Till
GP6-7	14.0-16.0	1052	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Gray Brown Clayey Silt, Till
GP6-8	16.0-18.0	613	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Gray Brown Silty Clay, Till
GP6-9	18.0-20.0	259	---	0.042	0.109	0.009	0.169	---	---	---	---	Slight, Gas-Like	Gray Brown Silty Clay, Till

KEY: iu = Instrument units as isobutylene
 ppm = Laboratory results in parts per million
 feet = Feet below ground surface
 < = Not detected above method detection limit

MTBE = Methyl Tert Butyl Ether
 = Field Gas Chromatograph Analysis Results in parts per million
 ND = Not detected
 --- = Not analyzed

TABLE 1 (CONT.)
SUMMARY OF FIELD SCREENING, FIELD GAS CHROMATOGRAPH, AND LABORATORY RESULTS
GEOPROBE SOIL INVESTIGATION
SuperAmerica Station #4048
6512 North Teutonia Avenue
Milwaukee, Wisconsin


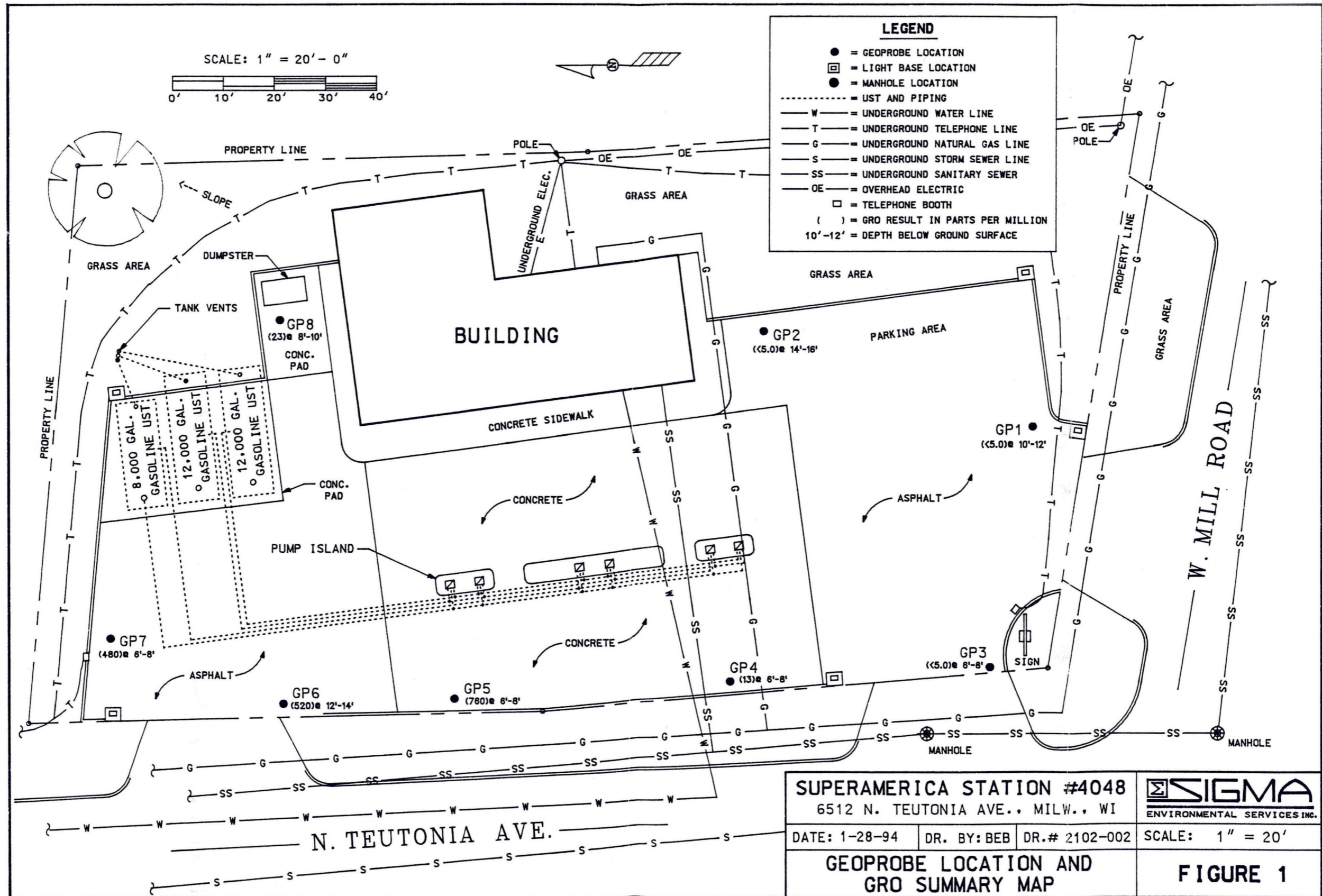
Sample ID	Depth Collected (feet)	PID Response (iu)	GRO ppm	Benzene	Toluene	Ethylbenzene	Total Xylene	1,3,5-Trimethylbenzene	1,2,4-Trimethylbenzene	MTBE	Total Lead	Sample Odor	Sample Description
GP7-1	2.0-4.0	719	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Dark Brown Clayey Silt, Fill
GP7-2	4.0-6.0	715	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Brown Clayey Silt, Till
GP7-3	6.0-8.0	7674	480	3.4	19	9.8	48	8.6	23	3.5	8.1	Strong, Gas-Like	Brown Clayey Silt, Till
GP7-4	8.0-10.0	1263	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Brown Clayey Silt, Till
GP7-5	10.0-12.0	1059	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Brown Clayey Silt, Till
GP7-6	12.0-14.0	31.8	---	---	---	---	---	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP7-7	14.0-16.0	1456	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Gray Brown Clayey Silt, Till
GP7-8	16.0-18.0	125	---	---	---	---	---	---	---	---	---	Slight, Gas-Like	Gray Brown Clayey Silt, Till
GP7-9	18.0-20.0	321	---	7.114	2.829	3.413	11.136	---	---	---	---	Slight, Gas-Like	Gray Brown Clayey Silt, Till
GP8-1	2.0-4.0	31.2	---	---	---	---	---	---	---	---	---	None	Dark Brown Clayey Silt, Fill
GP8-2	4.0-6.0	10.9	---	---	---	---	---	---	---	---	---	None	Gray Brown Silt, Fill
GP8-3	6.0-8.0	77.3	---	---	---	---	---	---	---	---	---	Slight, Gas-Like	Gray Brown Silt, Fill
GP8-4	8.0-10.0	8805	23	1.8	1.7	0.66	3.3	<0.8	2.0	<1.0	9.2	Strong, Gas-Like	Gray Brown Sandy Silt, Till
GP8-5	10.0-12.0	1374	---	---	---	---	---	---	---	---	---	Mod., Gas-Like	Gray Brown Clayey Silt, Till
GP8-6	12.0-14.0	26.1	---	0.063	0.020	0.016	0.061	---	---	---	---	None	Gray Brown Clayey Silt, Till
GP8-7	14.0-16.0	26.7	---	---	---	---	---	---	---	---	---	None	Brown Sandy Silt, Till
GP8-8	16.0-18.0	27.9	---	---	---	---	---	---	---	---	---	None	Brown Sandy Silt, Till
GP8-9	18.0-20.0	9.1	---	---	---	---	---	---	---	---	---	None	Brown Silty Sand, Till
KEY:	iu	=	Instrument units as isobutylene				MTBE	=	Methyl Tert Butyl Ether				
	ppm	=	Laboratory results in parts per million					=	Field Gas Chromatograph Analysis Results in parts per million				
	feet	=	Feet below ground surface				ND	=	Not detected				
	<	=	Not detected above method detection limit				---	=	Not analyzed				

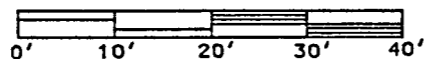
TABLE 2
 FIELD GAS CHROMATOGRAPH
 GROUNDWATER QUALITY RESULTS
 SUPERAMERICA STATION #4048
 6512 North Teutonia Avenue
 Milwaukee, Wisconsin

	Units	GP-2	GP-6	GP-8	Enforcement Standard	Preventive Action Limit
Benzene	ppb	< 1	OS	OS	5.0	.067
Toluene	ppb	ND	OS	OS	343	68.6
Ethylbenzene	ppb	ND	710	OS	1360	272
Xylenes, Total	ppb	1	OS	OS	620	124
Total BTEX	ppb	1	OS	OS	NE	NE

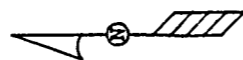
KEY: ppb = Instrument units as parts per billion
 NE = Not established
 ND = Not detected
 OS = Off Scale



SCALE: 1" = 20' - 0"

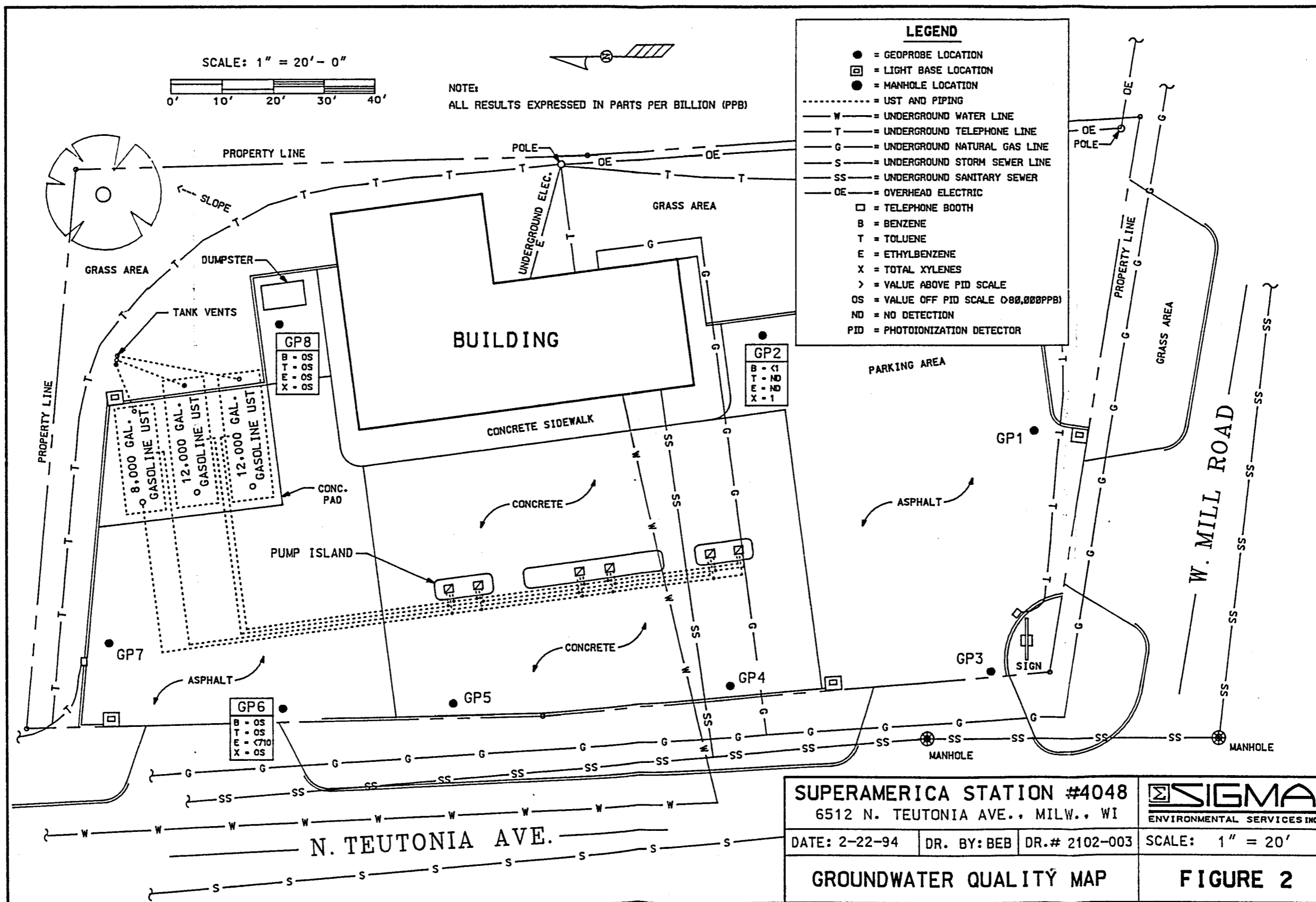


NOTE:
ALL RESULTS EXPRESSED IN PARTS PER BILLION (PPB)



LEGEND

- = GEOPROBE LOCATION
- = LIGHT BASE LOCATION
- = MANHOLE LOCATION
- = UST AND PIPING
- W = UNDERGROUND WATER LINE
- T = UNDERGROUND TELEPHONE LINE
- G = UNDERGROUND NATURAL GAS LINE
- S = UNDERGROUND STORM SEWER LINE
- SS = UNDERGROUND SANITARY SEWER
- OE = OVERHEAD ELECTRIC
- = TELEPHONE BOOTH
- B = BENZENE
- T = TOLUENE
- E = ETHYLBENZENE
- X = TOTAL XYLENES
- > = VALUE ABOVE PID SCALE
- OS = VALUE OFF PID SCALE (000,000PPB)
- ND = NO DETECTION
- PID = PHOTOIONIZATION DETECTOR



SUPERAMERICA STATION #4048
6512 N. TEUTONIA AVE., MILW., WI



DATE: 2-22-94 DR. BY: BEB DR.# 2102-003

SCALE: 1" = 20'

GROUNDWATER QUALITY MAP

FIGURE 2

ATTACHMENT A

**WDNR SOIL BORING LOGS
AND BOREHOLE ABANDONMENT FORMS**

Facility/Project Name <u>SuperAmerica Station #4048</u>		License/Permit/Monitoring Number _____	Boring Number <u>GP-1</u>
Boring Drilled By (Firm name and name of crew chief) <u>Briohn Environmental</u>		Date Drilling Started <u>01/24/94</u> M M D D Y Y	Date Drilling Completed <u>01/24/94</u> M M D D Y Y
DNR Facility Well No. WI Unique Well No.	Common Well Name	Final Static Water Level _____ Feet MSL	Surface Elevation _____ Feet MSL
Boring Location State Plane _____ N, _____ E S/C/N Lat _____		Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
County <u>Milwaukee</u>		DNR County Code <u>41</u>	Civil Town/City/ or Village <u>Milwaukee</u>
SW <u>1/4</u> of SE <u>1/4</u> of Section <u>24</u> , T <u>8</u> N, R <u>21</u> W		Long _____ Feet	

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					ROD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
				<u>asphalt</u>											
<u>1</u>	<u>8</u>	<u>push</u>		<u>Dark brown clayey silt little sand and gravel (Fill)</u>	<u>ML</u>			<u>4.2</u>		<u>w</u>					<u>No odor</u>
<u>2</u>	<u>14</u>		<u>5</u>	<u>Brown silt, little to some fine sand and gravel</u>	<u>ML</u>			<u>3.6</u>		<u>w</u>					
<u>3</u>	<u>14</u>			<u>same fine sand and gravel</u>	<u>ML</u>			<u>2.2</u>		<u>w</u>					
<u>4</u>	<u>16</u>		<u>10</u>	<u>(2" sand and gravel)</u>	<u>ML</u>			<u>1.9</u>		<u>w</u>					
<u>5</u>	<u>24</u>				<u>ML</u>			<u>1.9</u>		<u>w</u>					
<u>6</u>	<u>20</u>			<u>Gray brown silty clay/ clayey silt, little fine sand and gravel</u>	<u>ML</u>			<u>1.5</u>		<u>w</u>					
<u>7</u>	<u>14</u>		<u>15</u>		<u>CL</u>			<u>1.8</u>		<u>w</u>					
<u>8</u>	<u>18</u>				<u>CL</u>			<u>1.9</u>		<u>w</u>					
<u>9</u>	<u>18</u>		<u>20</u>		<u>CL</u>			<u>1.4</u>		<u>w</u>					
				<u>Boring Terminated at 20'</u>											

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Bradd Seeger Firm: Sigma Environmental Services, Inc.

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$5,000 for each violation. Fined not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

Facility/Project Name <u>SuperAmerica Station #4048</u>		License/Permit/Monitoring Number _____		Boring Number <u>GP-2</u>	
Boring Drilled By (Firm name and name of crew chief) <u>Briohn Environmental</u>		Date Drilling Started <u>01/24/94</u> M M D D Y Y		Date Drilling Completed <u>01/24/94</u> M M D D Y Y	
DNR Facility Well No. _____		WI Unique Well No. _____		Common Well Name _____	
Final Static Water Level _____ Feet MSL		Surface Elevation _____ Feet MSL		Borehole Diameter <u>1.25</u> inches	
Boring Location State Plane _____ N, _____ E S/C/N Lat _____				Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
County <u>Milwaukee</u>		DNR County Code <u>41</u>		Civil Town/City/ or Village <u>Milwaukee</u>	
Boring Location State Plane _____ N, _____ E S/C/N Lat _____ <u>SW</u> 1/4 of <u>SE</u> 1/4 of Section <u>24</u> , T <u>8</u> N, R <u>21</u> E W Long _____					

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
				<u>asphalt</u>											
<u>1</u>	<u>14</u>	<u>push</u>		<u>Dark brown clayey silt, little sand and gravel (Fill)</u>	<u>ML</u>			<u>0.2</u>	<u>m</u>						<u>No odor</u>
<u>2</u>	<u>16</u>		<u>5</u>	<u>Brown fine sandy silt, little clay and gravel</u>	<u>ML</u>			<u>0.5</u>	<u>m</u>						
<u>3</u>	<u>18</u>			<u>Brown clayey silt, little fine sand</u>	<u>ML</u>			<u>1.1</u>	<u>d</u>						
<u>4</u>	<u>17</u>		<u>10</u>	<u>Brown silt, little fine sand and gravel</u>	<u>ML</u>			<u>1.6</u>	<u>m/w</u>						
<u>5</u>	<u>15</u>			<u>(1" gravel)</u>	<u>ML</u>			<u>3.6</u>	<u>m/w</u>						
<u>6</u>	<u>12</u>		<u>15</u>		<u>ML</u>			<u>0.8</u>	<u>m/w</u>						
<u>7</u>	<u>10</u>				<u>ML</u>			<u>7.0</u>	<u>m/w</u>						
<u>8</u>	<u>20</u>			<u>Brown to gray brown fine sandy silt, little gravel</u>	<u>ML</u>			<u>1.2</u>	<u>m</u>						
<u>9</u>	<u>15</u>		<u>20</u>	<u>Boring Terminated at 20'</u>	<u>ML</u>			<u>0.2</u>	<u>m/w</u>						

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Bradd Seegre Firm Sigma Environmental Services, Inc.

This form is authorized by Chapters 144.147 and 162, Wis. Stats. Completion of this report is mandatory. Penalties: Forfeit not less than \$10 nor more than \$5,000 for each violation. Fined not less than \$10 or more than \$100 or imprisoned not less than 30 days, or both for each violation. Each day of continued violation is a separate offense, pursuant to ss 144.99 and 162.06, Wis. Stats.

Facility/Project Name: SuperAmerica Station #4048 License/Permit/Monitoring Number: _____ Boring Number: GP-3

Boring Drilled By (Firm name and name of crew chief): Briohn Environmental Date Drilling Started: 01/24/94 Date Drilling Completed: 01/24/94 Drilling Method: Geoprobe

DNR Facility Well No.: _____ WI Unique Well No.: _____ Common Well Name: _____ Final Static Water Level: _____ Feet MSL Surface Elevation: _____ Feet MSL Borehole Diameter: 1.25 inches

Boring Location: State Plane _____ N _____ E S/C/N _____ Lat _____ Long _____ Local Grid Location (If applicable): _____ Feet N _____ Feet E _____ Feet S _____ Feet W

County: Milwaukee DNR County Code: 41 Civil Town/City/ or Village: Milwaukee

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
				<u>asphalt</u>											
<u>1</u>	<u>12</u>	<u>push</u>		<u>Brown Fine sandy silt little gravel (possible fill)</u>	<u>ML</u>			<u>7.7</u>		<u>d</u>					<u>No odor</u>
<u>2</u>	<u>16</u>		<u>5</u>	<u>Brown silty fine sand, little gravel</u>	<u>SM</u>			<u>9.7</u>		<u>d</u>					
<u>3</u>	<u>12</u>				<u>SM</u>			<u>10.1</u>		<u>m</u>					
<u>4</u>	<u>14</u>		<u>10</u>	<u>Brown silty fine sand and gravel</u>	<u>GM</u>			<u>4.2</u>		<u>m/w</u>					
<u>5</u>	<u>15</u>				<u>GM</u>			<u>3.0</u>		<u>m/w</u>					
<u>6</u>	<u>14</u>			<u>Brown to gray brown clayey silt, little fine sand and gravel</u>	<u>ML</u>			<u>2.4</u>		<u>d/m</u>					
<u>7</u>	<u>22</u>		<u>15</u>		<u>ML</u>			<u>3.9</u>		<u>m/w</u>					
<u>8</u>	<u>20</u>				<u>ML</u>			<u>3.4</u>		<u>m</u>					
<u>9</u>	<u>14</u>		<u>20</u>	<u>Brown fine sandy silt and gravel</u> <u>Gray brown clayey silt</u> <u>Boring Terminated at 20'</u>	<u>ML</u>			<u>2.8</u>		<u>m/w</u>					

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Bradd Seeger Firm: Sigma Environmental Services, Inc.

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Facility/Project Name SuperAmerica Station #4048		License/Permit/Monitoring Number _____		Boring Number GP-4	
Boring Drilled By (Firm name and name of crew chief) Briohn Environmental		Date Drilling Started 01/24/94 M M D D Y Y		Date Drilling Completed 01/24/94 M M D D Y Y	
DNR Facility Well No. _____		WI Unique Well No. _____		Common Well Name _____	
Final Static Water Level _____ Feet MSL		Surface Elevation _____ Feet MSL		Borehole Diameter 1.25 inches	
Boring Location State Plane _____ N. _____ E S/C/N _____ Lat _____				Local Grid Location (If applicable) <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
SW 1/4 of SE 1/4 of Section 24 , T 8 N, R 210 EW Long _____				Feet _____	
County Milwaukee		DNR County Code 41		Civil Town/City/ or Village Milwaukee	

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties				RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit		P 200
				concrete										
1	10	push 		Dark brown fine sandy silt (fill)	ML			70.0		w				Slight gas. odor
2	14		5	Gray brown clayey silt, little fine sand	ML			63.8		w				Slight odor
3	6			Gray brown fine sandy silt, little gravel	ML			75.5		w				Slight odor
4	8		10	Brown to gray brown clayey silt, little fine sand and gravel	ML			33.7		w				No odor
5	14				ML			16.3		w				
6	16				ML			9.4		w				
7	15		15		ML			8.9		w				
8	10				ML			11.4		w				
9	15		20		ML			8.6		w				
				Boring Terminated at 20'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature **Bradd Seeger** Firm **Sigma Environmental Services, Inc.**

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Facility/Project Name: SuperAmerica Station #4048 License/Permit/Monitoring Number: _____ Boring Number: GP-6

Boring Drilled By (Firm name and name of crew chief): Briohn Environmental Date Drilling Started: 01/24/94 Date Drilling Completed: 01/24/94 Drilling Method: Geoprobe

DNR Facility Well No.: _____ WI Unique Well No.: _____ Common Well Name: _____ Final Static Water Level: _____ Feet MSL Surface Elevation: _____ Feet MSL Borehole Diameter: 1.25 inches

Boring Location: State Plane _____ N, _____ E S/C/N Lat _____ Local Grid Location (If applicable) _____
SW 1/4 of SE 1/4 of Section 24, T 8 N, R 21 E W Long _____ Feet N E
 S W

County: Milwaukee DNR County Code: 41 Civil Town/City/ or Village: Milwaukee

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					ROD/Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
				<u>asphalt</u>											
<u>1</u>	<u>12</u>	<u>push</u>		<u>Gray brown silty clay, little fine sand and gravel (Fill)</u>	<u>CL</u>			<u>1061</u>	<u>d</u>						<u>gasl. odor</u>
<u>2</u>	<u>18</u>		<u>5</u>		<u>CL</u>			<u>6041</u>	<u>m</u>						<u>Strong odor</u>
<u>3</u>	<u>6</u>			<u>Brown silty fine sand/ fine sandy silt, little gravel</u>	<u>SM</u>			<u>5126</u>	<u>m/w</u>						
<u>4</u>	<u>10</u>		<u>10</u>		<u>SM</u>			<u>1808</u>	<u>m/w</u>						
<u>5</u>	<u>20</u>			<u>Brown to gray brown clayey silt/silty clay, little sand and gravel</u>	<u>ML</u>			<u>4481</u>	<u>m</u>						
<u>6</u>	<u>14</u>				<u>ML</u>			<u>5185</u>	<u>d/m</u>						
<u>7</u>	<u>15</u>		<u>15</u>		<u>ML</u>			<u>1052</u>	<u>m</u>						
<u>8</u>	<u>18</u>				<u>ML</u>			<u>613</u>	<u>d/m</u>						<u>Slight odor</u>
<u>9</u>	<u>16</u>		<u>20</u>	<u>Boring Terminated at 20'</u>	<u>ML</u>			<u>259</u>	<u>d/m</u>						

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Signature: Bradd Seegre Firm: Sigma Environmental Services, Inc.

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Facility/Project Name: SuperAmerica Station #4048 License/Permit/Monitoring Number: _____ Boring Number: GP-7

Boring Drilled By (Firm name and name of crew chief): Briohn Environmental Date Drilling Started: 01/24/94 Date Drilling Completed: 01/24/94 Drilling Method: Geoprobe

DNR Facility Well No.: _____ WI Unique Well No.: _____ Common Well Name: _____ Final Static Water Level: _____ Feet MSL Surface Elevation: _____ Feet MSL Borehole Diameter: 1.25 inches

Boring Location: State Plane _____ N. _____ E S/C/N _____ Lat _____ Long _____ Local Grid Location (If applicable): _____ Feet N _____ Feet E _____ Feet S _____ Feet W

County: Milwaukee DNR County Code: 41 Civil Town/City/ or Village: Milwaukee

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments	
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200		
				<u>asphalt</u>											
<u>1</u>	<u>14</u>	<u>push</u>		<u>Dark brown clayey silt, little fine sand and gravel (Fill)</u>	<u>ML</u>			<u>719</u>		<u>d/m</u>					<u>gasl. odor</u>
<u>2</u>	<u>18</u>		<u>5</u>		<u>ML</u>			<u>715</u>		<u>w</u>					<u>mod. odor</u>
<u>3</u>	<u>20</u>			<u>Brown to gray brown clayey silt, little fine sand and gravel</u>	<u>ML</u>			<u>7674</u>		<u>w</u>					<u>strong odor</u>
<u>4</u>	<u>17</u>		<u>10</u>		<u>ML</u>			<u>1263</u>		<u>w</u>					<u>mod. odor</u>
<u>5</u>	<u>24</u>				<u>ML</u>			<u>1059</u>		<u>w</u>					<u>mod. odor</u>
<u>6</u>	<u>18</u>				<u>ML</u>			<u>31.8</u>		<u>w</u>					<u>no odor</u>
<u>7</u>	<u>12</u>		<u>15</u>		<u>ML</u>			<u>1456</u>		<u>w</u>					<u>mod. odor</u>
<u>8</u>	<u>14</u>				<u>ML</u>			<u>125</u>		<u>w</u>					<u>slight odor</u>
<u>9</u>	<u>16</u>		<u>20</u>		<u>ML</u>			<u>321</u>		<u>w</u>					<u>slight odor</u>
				<u>Boring Terminated at 20'</u>											

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Facility/Project Name: SuperAmerica Station #4048 License/Permit/Monitoring Number: _____ Boring Number: GP-8

Boring Drilled By (Firm name and name of crew chief): Briohn Environmental Date Drilling Started: 01/24/94 Date Drilling Completed: 01/24/94 Drilling Method: Geoprobe

DNR Facility Well No.: _____ WI Unique Well No.: _____ Common Well Name: _____ Final Static Water Level: _____ Feet MSL Surface Elevation: _____ Feet MSL Borehole Diameter: 1.25 inches

Boring Location: State Plane _____ N, _____ E S/C/N Lat _____ Long _____ Local Grid Location (If applicable): _____ Feet N E S W

County: Milwaukee DNR County Code: 41 Civil Town/City/ or Village: Milwaukee

Sample Number	Length Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments		
									Standard Penetration	Moisture Content	Liquid Limit	Plastic Limit	P 200			
				<u>concrete</u>												
1	11			<u>Dark brown clayey silt, little fine sand and gravel (F:1)</u>	ML			31.2		d						no odor
2	14		5	<u>Gray brown silt, little fine sand and gravel (possible F:1)</u>	ML			10.9		m						
3	12			<u>Gray brown fine sandy silt, little clay and gravel</u>	ML			77.3		d						Slight gasl. odor
4	18		10	<u>Gray brown clayey silt, little fine sand</u>	ML			8805		m						strong odor
5	12			<u>Gray brown clayey silt, little fine sand</u>	ML			1374		m						mod. odor
6	16			<u>Brown silty fine sand/ fine sandy silt, little gravel</u>	SM			26.1		m						no odor
7	14		15	<u>Brown silty fine sand/ fine sandy silt, little gravel</u>	SM			26.7		m						
8	12			<u>Brown silty fine sand/ fine sandy silt, little gravel</u>	SM			27.9		m						
9	15		20	<u>Boring Terminated at 20'</u>	SM			9.1		m/w						

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All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-1</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
(If applicable) SW 1/4 of SE 1/4 of Sec. <u>24</u> ; T. <u>8</u> N; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W Gov't Lot _____ Grid Number _____ Street or Route <u>6572 N. Teutonia Ave.</u>		Present Well Owner <u>same</u>	
Grid Location _____ ft. <input type="checkbox"/> N. <input type="checkbox"/> S., _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable) WI Unique Well No. _____ _____	
Street Address of Well _____		Reason For Abandonment <u>Investigative Boring</u>	
City, Village _____		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION		(4) Depth to Water (Feet) <u>10-12</u>	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u> <input type="checkbox"/> Monitoring Well <input type="checkbox"/> Construction Report Available? <input type="checkbox"/> Water Well <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (<u>Geoprobe</u>) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____ Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u> Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u> (From ground surface) Casing Depth (ft.) _____ Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet		(5) Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
		(6) Sealing Materials For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	<u>Surface</u>	<u>1.0</u>	<u>0.009</u> ft ³	
<u>Chipped Bentonite</u>	<u>1.0</u>	<u>20.0</u>	<u>0.171</u> ft ³	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Sigma Environmental Services, Inc

Signature of Person Doing Work <u>Brad Seeger</u>	Date Signed <u>2-23-94</u>
Street or Route <u>9555 S. Howell Ave</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code	

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-2</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
SW 1/4 of SE 1/4 of Sec. <u>24</u> ; T. <u>8</u> N; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Present Well Owner <u>same</u>	
(If applicable) _____ Gov't Lot _____ Grid Number		Street or Route <u>6512 N. Teutonia Ave.</u>	
Grid Location _____ ft. <input type="checkbox"/> N. <input type="checkbox"/> S., _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable) WI Unique Well No. _____ _____	
Street Address of Well _____		Reason For Abandonment <u>Investigative Boring</u>	
City, Village _____		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION		(4) Depth to Water (Feet) <u>8-10</u>	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u>		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole		Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (<u>Geoprobe</u>) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		(5) Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u> (From ground surface)		(6) Sealing Materials For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input checked="" type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	
Casing Depth (ft.) _____ Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet			

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	Surface	<u>1.0</u>	<u>0.009</u> #3	
<u>Chipped Bentonite</u>	<u>1.0</u>	<u>20.0</u>	<u>0.171</u> #3	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Sigma Environmental Services, Inc.

Signature of Person Doing Work <u>Brad Seeger</u>	Date Signed <u>2-23-94</u>
Street or Route <u>9555 S. Howell Ave.</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code	

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-3</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
<u>SW 1/4 of SE 1/4 of Sec. 24 ; T. 8 N; R. 21</u> (If applicable)		Present Well Owner <u>same</u>	
Gov't Lot	Grid Number	Street or Route <u>6512 N. Teutonia Ave.</u>	
Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S., <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable)	WI Unique Well No.
Street Address of Well <u>-</u>		Reason For Abandonment <u>Investigative Boring</u>	
City, Village <u>-</u>		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u>	(4) Depth to Water (Feet) <u>8-10</u>
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven <u>Geoprobe</u> <input type="checkbox"/> Other (Specify) _____ Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____ Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u> Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u> (From ground surface) Casing Depth (ft.) _____ Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	(5) Required Method of Placing Sealing Material
	<input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____
	(6) Sealing Materials
	For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	<u>Surface</u>	<u>1.0</u>	<u>0.009</u> ft ³	
<u>Chipped Bentonite</u>	<u>1.0</u>	<u>20.0</u>	<u>0.171</u> ft ³	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work

Sigma Environmental Services, Inc.
Signature of Person Doing Work: Brad Seeger Date Signed: 2-23-94
Street or Route: 9555 S. Howell Ave. Telephone Number: (414) 768-7144
City, State, Zip Code: _____

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-5</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
SW 1/4 of SE 1/4 of Sec. <u>24</u> ; T. <u>8</u> N; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Present Well Owner <u>same</u>	
(If applicable) Gov't Lot _____ Grid Number _____		Street or Route <u>6572 N. Teutonia Ave.</u>	
Grid Location _____ ft. <input type="checkbox"/> N. <input type="checkbox"/> S., _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable) WI Unique Well No. _____ _____	
Street Address of Well _____		Reason For Abandonment <u>Investigative Boring</u>	
City, Village _____		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION		(4) Depth to Water (Feet) <u>8-10</u>	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u>		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole		Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (<u>Geoprobe</u>) <input type="checkbox"/> Dug		Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		If No, Explain _____	
Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u>		Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Casing Depth (ft.) _____		Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u>	
Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If Yes, To What Depth? _____ Feet		If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
		(5) Required Method of Placing Sealing Material	
		<input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped	
		<input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain)	
		(6) Sealing Materials	
		For monitoring wells and monitoring well boreholes only	
		<input type="checkbox"/> Neat Cement Grout	
		<input type="checkbox"/> Sand-Cement (Concrete) Grout	
		<input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets	
		<input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite	
		<input type="checkbox"/> Bentonite-Sand Slurry	
		<input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	Surface	1.0	0.009 <u>ft³</u>	
<u>Chipped Bentonite</u>	1.0	20.0	0.171 <u>ft³</u>	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Sigma Environmental Services, Inc

Signature of Person Doing Work <u>Brad Seeger</u>	Date Signed <u>2-23-94</u>
Street or Route <u>9555 S. Howell Ave.</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code _____	

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-6</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
SW 1/4 of SE 1/4 of Sec. <u>24</u> ; T. <u>8</u> N; R. <u>21</u> (If applicable)		Present Well Owner <u>same</u>	
Gov't Lot	Grid Number	Street or Route <u>6512 N. Teutonia Ave.</u>	
Grid Location ft. <input type="checkbox"/> N. <input type="checkbox"/> S., <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable) WI Unique Well No. 	
Street Address of Well <u>-</u>		Reason For Abandonment <u>Investigative Boring</u>	
City, Village <u>-</u>		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION		(4) Depth to Water (Feet) <u>10-12</u>	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u>		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole	Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (<u>Geoprobe</u> Sandpoint) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____	(5) Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____		
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock	(6) Sealing Materials For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite		
Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u> (From ground surface) Casing Depth (ft.) _____ Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	<input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite		

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	<u>Surface</u>	<u>1.0</u>	<u>0.009</u> ft ³	
<u>Chipped Bentonite</u>	<u>1.0</u>	<u>20.0</u>	<u>0.171</u> ft ³	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Sigma Environmental Services, Inc.

Signature of Person Doing Work <u>Brad Seeger</u>	Date Signed <u>2-23-94</u>
Street or Route <u>9555 S. Howell Ave.</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>-</u>	

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-7</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
SW 1/4 of SE 1/4 of Sec. <u>24</u> ; T. <u>8</u> N.; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Present Well Owner <u>same</u>	
(If applicable) Gov't Lot _____ Grid Number _____		Street or Route <u>6512 N. Teutonia Ave.</u>	
Grid Location _____ ft. <input type="checkbox"/> N. <input type="checkbox"/> S., _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable) _____	WI Unique Well No. _____
Street Address of Well _____		Reason For Abandonment <u>Investigative Boring</u>	
City, Village _____		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION			
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u>		(4) Depth to Water (Feet) <u>10-12</u>	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No If No, Explain _____	
Construction Report Available? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No If Yes, Was Hole Retopped? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (<u>Geoprobe</u>) <input type="checkbox"/> Dug <input type="checkbox"/> Other (Specify) _____		(5) Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain) _____	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		(6) Sealing Materials For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	
Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u> (From ground surface)		<input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Granular Bentonite	
Casing Depth (ft.) _____		Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If Yes, To What Depth? _____ Feet	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	<u>Surface</u>	<u>1.0</u>	<u>0.009</u> <u>ft³</u>	
<u>Chipped Bentonite</u>	<u>1.0</u>	<u>20.0</u>	<u>0.17</u> <u>ft³</u>	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Sigma Environmental Services, Inc.

Signature of Person Doing Work: Brad Seeger Date Signed: 2-23-94

Street or Route: 9555 S. Howell Ave. Telephone Number: (414) 768-7144

City, State, Zip Code: _____

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION		(2) FACILITY NAME	
Well/Drillhole/Borehole Location <u>GP-9</u>	County <u>Milwaukee</u>	Original Well Owner (If Known) <u>SuperAmerica, Inc.</u>	
SW 1/4 of SE 1/4 of Sec. <u>24</u> ; T. <u>8</u> N; R. <u>21</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W		Present Well Owner <u>same</u>	
(If applicable) Gov't Lot _____ Grid Number _____		Street or Route <u>6512 N. Teutonia Ave.</u>	
Grid Location _____ ft. <input type="checkbox"/> N. <input type="checkbox"/> S. _____ ft. <input type="checkbox"/> E. <input type="checkbox"/> W.		City, State, Zip Code <u>Milwaukee, WI</u>	
Civil Town Name <u>Milwaukee</u>		Facility Well No. and/or Name (If Applicable) WI Unique Well No. _____ _____	
Street Address of Well _____		Reason For Abandonment <u>Investigative Boring</u>	
City, Village _____		Date of Abandonment <u>1-24-94</u>	

WELL/DRILLHOLE/BOREHOLE INFORMATION		(4) Depth to Water (Feet) <u>10-12</u>	
(3) Original Well/Drillhole/Borehole Construction Completed On (Date) <u>1-24-94</u>		Pump & Piping Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
		Liner(s) Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
<input type="checkbox"/> Monitoring Well <input type="checkbox"/> Water Well <input type="checkbox"/> Drillhole <input checked="" type="checkbox"/> Borehole		Screen Removed? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Applicable	
		Casing Left in Place? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Construction Type: <input type="checkbox"/> Drilled <input checked="" type="checkbox"/> Driven (<u>Geoprobe</u>) <input type="checkbox"/> Dug		If No, Explain _____	
Formation Type: <input checked="" type="checkbox"/> Unconsolidated Formation <input type="checkbox"/> Bedrock		Was Casing Cut Off Below Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Total Well Depth (ft.) <u>20</u> Casing Diameter (ins.) <u>1.25</u>		Did Sealing Material Rise to Surface? <input type="checkbox"/> Yes <input type="checkbox"/> No <u>N/A</u>	
Casing Depth (ft.) _____		Did Material Settle After 24 Hours? <input type="checkbox"/> Yes <input type="checkbox"/> No	
Was Well Annular Space Grouted? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown		If Yes, To What Depth? _____ Feet	
		(5) Required Method of Placing Sealing Material <input checked="" type="checkbox"/> Conductor Pipe-Gravity <input type="checkbox"/> Conductor Pipe-Pumped <input type="checkbox"/> Dump Bailer <input type="checkbox"/> Other (Explain)	
		(6) Sealing Materials For monitoring wells and monitoring well boreholes only <input type="checkbox"/> Neat Cement Grout <input type="checkbox"/> Sand-Cement (Concrete) Grout <input type="checkbox"/> Concrete <input type="checkbox"/> Bentonite Pellets <input type="checkbox"/> Clay-Sand Slurry <input type="checkbox"/> Granular Bentonite <input type="checkbox"/> Bentonite-Sand Slurry <input checked="" type="checkbox"/> Chipped Bentonite	

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	Mix Ratio or Mud Weight
<u>Concrete</u>	Surface	<u>1.0</u>	<u>0.009</u> ft ³	
<u>Chipped Bentonite</u>	<u>1.0</u>	<u>20.0</u>	<u>0.171</u> ft ³	

(8) Comments: _____

(9) Name of Person or Firm Doing Sealing Work
Sigma Environmental Services, Inc.

Signature of Person Doing Work <u>Bradd Seeger</u>	Date Signed <u>2-23-94</u>
Street or Route <u>9555 S. Howell Ave.</u>	Telephone Number <u>(414) 768-7144</u>
City, State, Zip Code <u>53151</u>	

(10) FOR DNR OR COUNTY USE ONLY	
Date Received/Inspected	District/County
Reviewer/Inspector	
Follow-up Necessary	

ATTACHMENT B

**CHAIN OF CUSTODY FORMS AND
SOIL LABORATORY ANALYSIS REPORTS**

(26)

CHAIN-OF-CUSTODY RECORD

 **Horizon**
Laboratories, Inc.

River Road Business Center Bldg. IV 5155 East River Road, Suite #416 Fridley, MN. 55421 Tel. (612) 572-0425 Fax (612) 572-0441 1045-5

Client Sigma Environmental Services, Inc. 9555 S. Howell Ave. Oak Creek, WI 53154				Sample Matrix: Soil(S), Sludge(SL), Aqueous(A)	Analysis Requested				Number of Containers	Horizon Laboratories Job No. 1045-5								
Project Name SuperAmerica Station # 4048					GRO PVOG Total Lead							Client Project No.	Page 1 of 1					
Project Address 6512 N. Teutonia Ave Milwaukee, WI												CHAIN-OF-CUSTODY RECORD NUMBER						
Project # 2102																		
Sample Collector's Signature / Date Bradd Seeger 1-24-94				Container / Comments														
Lab Sample Number	Field Sample ID	Sampling Site Identification	Collection Date / Time															
7173		GP-1/10-12'/PID 4.9	1/24/94 8:45 AM	S	X	X	X				2							
7174		GP-2/14-16'/PID 7.0	1/24/94 9:15 AM	S	X	X	X				2							
7175		GP-3/6-8'/PID 10.1	1/24/94 9:45 AM	S	X	X	X				2							
7176		GP-4/6-8'/PID 75.5	1/24/94 10:15 AM	S	X	X	X				2							
7177		GP-5/6-8'/PID 7163	1/24/94 10:35 AM	S	X	X	X				2							
7178		GP-6/12-14'/PID 5785	1/24/94 11:15 AM	S	X	X	X				2							
7179		GP-7/6-8'/PID 7674	1/24/94 12:40 PM	S	X	X	X				2							
7180		GP-8/8-10'/PID 8805	1/24/94 3:35 PM	S	X	X	X				2							
7181		Methanol Blank		S	X						1							
1.) Relinquished by: (Signature) Bradd Seeger			Date 1/25/94	2.) Received by: (Signature) [Signature]			Date 1/25/94	Total Number of Containers 17										
Company: Sigma Env.			Time	Company: Sigma			Time	Laboratory Receiving Notes: Temperature of on ice , Shipping Container: °C Custody Seal Intact? yes / no If yes, Custody Seal No.: 1020 Sample(s) Condition:										
3.) Relinquished by: (Signature) [Signature]			Date 1/25/94	4.) Received by Laboratory: (Signature) GLORIA WILLO			Date 1/27/94											
Company: [Signature]			Time	Company: HORIZON Labs			Time 1020											
Disposed by: (Signature)			Date	Time	Comments:													



LABORATORY REPORT

Client: Sigma Environmental Services, Inc.
 9555 South Howell Ave., Suite 100
 Oak Creek, WI 53154

Date Sampled: 01/24/94
Date Received: 01/27/94
Date Analyzed: 01/28/94 - 02/01/94
Physical State: Soil

Project: Super America Station #4048
 6512 N. Teutonia Ave.
 Milwaukee, WI

Report Date: 02/02/94
Lab P.N.: 1045-5
Client P.N.: 2102

Quality Assurance / Quality Control Summary

<u>Parameter (Method)</u>	<u>QC Type</u>	<u>Percent Recovery</u>	<u>Acceptable Range</u>	<u>Percent Reproducibility</u>	<u>Acceptable Range</u>
MtBE (EPA 8020)	M	105	125 - 76	94	125 - 76
Benzene (EPA 8020)	M	108	127 - 76	97	127 - 76
Toluene (EPA 8020)	M	110	125 - 76	97	125 - 76
Ethylbenzene (EPA 8020)	M	110	125 - 76	97	125 - 76
m,p-Xylenes (EPA 8020)	M	114	125 - 76	97	125 - 76
o-Xylenes (EPA 8020)	M	109	125 - 76	97	125 - 76
1,3,5-Trimethylbenzene (EPA 8020)	M	112	125 - 76	97	125 - 76
1,2,4-Trimethylbenzene (EPA 8020)	M	110	125 - 76	97	125 - 76
GRO (Wis. DNR)	M	105	117 - 85	97	115 - 84

M = Matrix Spike / Matrix Spike Duplicate

L = Laboratory Control Sample


 Reviewed


 Approved

Compounds were identified by column retention time and quantified by peak area of known standards using a Hewlett Packard ChemStation Data System. The samples were received by HORIZON LABORATORIES, INC. and accompanied by the Chain-of-Custody record. The Laboratory Report is the sole property of the client the whom it is addressed. The Laboratory Results are only a part of the Laboratory Report.

LABORATORY RESULTS

Client: Sigma Environmental Services, Inc.
9555 South Howell Ave., Suite 100
Oak Creek, WI 53154

Date Sampled: 01/24/94
Date Analyzed: 01/28/94 - 02/01/94
Physical State: Soil

Project: Super America Station #4048
6512 N. Teutonia Ave.
Milwaukee, WI

Report Date: 02/02/94
Lab P.N.: 1045-5
Client P.N.: 2102

<u>Sample I.D.</u>	<u>MtBE</u> mg/kg EPA 8020	<u>Benzene</u> mg/kg EPA 8020	<u>Toluene</u> mg/kg EPA 8020	<u>Ethyl- benzene</u> mg/kg EPA 8020	<u>Total, Xylenes</u> mg/kg EPA 8020	<u>1,3,5-Tri- methylbenzene</u> mg/kg EPA 8020	<u>1,2,4-Tri- methylbenzene</u> mg/kg EPA 8020	<u>GRO</u> mg/kg Wis. DNR	<u>% Moisture</u>
GP-1/10-12'	<1.0	<0.2	<0.5	<0.2	<0.8	<0.8	<0.8	<5.0	8.4
GP-2/14-16'	<1.0	<0.2	<0.5	<0.2	0.84	<0.8	<0.8	<5.0	9.6
GP-3/6-8'	<1.0	<0.2	<0.5	<0.2	<0.8	<0.8	<0.8	<5.0	16
GP-4/6-8'	<1.0	<0.2	<0.5	<0.2	<0.8	<0.8	<0.8	13	9.5
GP-5/6-8'	<1.0	1.9	6.8	20	100	16	46	760	12
GP-6/12-14'	2.8	2.3	20	11	60	13	37	520	11
GP-7/6-8'	3.5	3.4	19	9.8	48	8.6	23	480	11
GP-8/8-10'	<1.0	1.8	1.7	0.66	3.3	<0.8	2.0	23	22
Methanol Blank	<1.0	<0.2	<0.5	<0.2	<0.8	<0.8	<0.8	<5.0	
MDL, mg/kg	1.0	0.2	0.5	0.2	0.8	0.8	0.8	5.0	

MDL, Method Detection Limit

GRO, Gasoline Range Organics

MtBE, Methyl tert-Butyl Ether

All results are in mg/kg which is equal to parts-per-million (ppm) and are based on a "dry weight" basis.

The Laboratory Results are only a part of the Laboratory Report.

LABORATORY ANALYSIS REPORT

DATE: February 17, 1994 **PAGE:** 1 Of 1
CLIENT: Horizon Labs, Inc. **PROJECT NO.:** 013194-200262
5155 E. River Rd., Suite 416 **COLLECTION DATE:** 1/24/94
Fridley, MN 55421 **COLLECTED BY:** Client
CONTACT: Gerard Herro **RECEIVED DATE:** 1/31/94
 PROJECT DESC: 1045.5

<u>SAMPLE #, DESC.</u>	<u>LEAD</u> (EPA 6010) Units=mg/L <u>MDL = 5.0</u>	<u>ANALYSIS</u> <u>DATE</u>
9401003098, GP 1/10-12'/PID 1.9	7.3	2/11/94
9401003099, GP 2/14-16'/PID 7.0	12	
9401003100, GP 3/6-8'/PID 10.1	8.9	
9401003101, GP 4/6-8'/PID 75.5	6.0	
9401003102, GP 5/6-8'/PID 7163	6.7	
9401003103, GP 6/12-14'/PID 5185	6.8	
9401003104, GP 7/6-8'/PID 7674	8.1	
9401003105, GP 8/8-10'/PID 8805	9.2	

ND means Not Detected

MDL means Method Detection Limit

mg/L means Milligrams Per Liter which is equivalent to Parts Per Million (ppm)

This report has been reviewed by me for technical accuracy and completeness. The analyses were performed using EPA or other approved methodologies and the results were reported on an "as received" basis unless otherwise noted. Please contact me if you have any questions or comments regarding this report. Spectrum Labs, Inc. appreciates the opportunity to provide this analytical service for you.

Report Submitted By,



Thomas L. Halverson
Laboratory Manager

TLH:lje
hl048-01

ATTACHMENT C
**FIELD GAS CHROMATOGRAPH
ANALYSIS REPORT**

February 7, 1993

Mr. Tim Wimmer
SIGMA ENVIRONMENTAL SERVICES, INC.
9555 South Howell Avenue
Oak Creek, WI 53154

Dear Tim,

I have enclosed the lab results from the site investigations conducted at seven of the Super America sites done to date. The objective of the investigations was to determine possible contamination from underground storage tanks on the property. The primary contaminants screened for during the investigation were benzene, toluene, ethylbenzene, and the isomers of xylene (BTEX). The investigation was carried out using Briohn Environmental Contractors Geoprobe van equipped with a Geoprobe soil probing unit. All samples were analyzed using the van's on board gas chromatograph (GC) laboratory.

Sampling Methods

Eight soil samples were collected for in field analysis from eight different borings on each site using Briohn Environmental's Geoprobe. Soil samples were obtained for in field analysis using a two foot thin wall soil sampler. The soil sampler was driven to the desired sampling depth using the hydraulic ram and hammer on the Geoprobe. Once the sampler reached the

desired depth, the sampler was opened by removing the stop pin in the sampler. The drive point piston was then free to move up the sampler. The sampler was then driven an additional two feet to push a sample into the sampler. The soil sample was preserved in a 1 inch by two foot acetate liner inside the sampler. The sampler was decontaminated with an Alconox solution and a new liner was installed before each sample was taken.

Groundwater samples were also collected on the sites for in field analysis. The samples were collected by lowering a three foot slotted steel well point down the probe hole. Three eighths inch polyethylene tubing was then lowered down the interior of the probe rods and water was pumped from the ground using an AccuWell 150 peristaltic pump. The pump was decontaminated using an Alconox solution in between each boring and new tubing was used prior to each sample.

Analytical Methods

The samples were field screened for BTEX using the GC laboratory in the Geoprobe van. The GC is an HP 5890 and is equipped with a J & W Scientific DB-624 Megabore capillary column specifically designed for analyzing volatile organic compounds (VOC's). The GC is also equipped with an H-Nu photoionization detector (PID), an HP flame ionization detector (FID), and an HP electron capture detector (ECD). Samples were analyzed using a wet headspace method. First 5 g (+/- 0.1g) of soil were added to 5 ml of methanol in a 20 ml volatile organic analysis (VOA) sample vial. The contents of the vial were then shaken vigorously for several minutes so that all clumps of soil were broken up, and the volatiles in the soil were completely dissolved

in the methanol extract. The mixture was allowed to settle for several minutes and then a portion of the methanol extract was drawn off with a syringe and added to a sterilized 40 ml VOA vial containing 10 ml of deionized distilled water. The water and methanol extract mixture was then placed in a block heater and heated to 90° C for a minimum of 15 minutes to drive off the volatiles. A 500 ul sample was then drawn out of the headspace in the vial through the teflon septum in the vial using a 1 ml gastight syringe. The sample was immediately injected directly into the GC through the GC's direct injection packed inlet system, and sampling was started. Groundwater samples were also analyzed using a wet headspace technique. Twenty milliliters of sample were added to a sterilized 40 ml VOA vial. The samples were then heated and analyzed the same manner as the soil samples. Each soil and groundwater sample were analyzed using the PID detector in the GC.

Results

The results from each of the seven stations done to date can be seen in the attached tables 1-7. Each table is labeled with the station number and address for reference. It should be noted that at a couple different stations extremely high concentrations of BTEX were encountered in the groundwater. This resulted in concentrations which caused the PID detector to go off-scale. In some cases the peaks could be identified so the concentrations were reported as greater than the value stated in the table. The groundwater samples from borings 6 and 8 at the station on 6512 N. Teutonia in Milwaukee were so hot that peaks could not even be estimated. The analysts field notes indicated the sample smelled like free product.

If you have any questions or would like the raw chromatographs please feel free to call me at (414)633-3265.

Regards.

BRIGHN ENVIRONMENTAL CONTRACTORS

Eric S. Mueller

Eric S. Mueller

Table 5

BTEX ANALYSIS RESULTS FROM SUPER AMERICA #4048
AT 6512 N. TEUTONIA, MILWAUKEE, WI

RESULTS FROM THE PID DETECTOR

BORING #	DEPTH	B (PPB)	T (PPB)	EB (PPB)	MPX (PPB)	OX (PPB)	BTEX(PPB)
1	16-18'	ND	7	12	100	14	133
2	8-10'	ND	ND	ND	14	ND	14
2	GW	<1	ND	ND	1	ND	1
3	10-12' 6-8'	ND	ND	ND	6	ND	6
4	10-12'	ND	ND	ND	ND	ND	ND
5	12-14'	ND	ND	ND	ND	ND	ND
6	18-20'	42	109	9	164	5	329
6	GW	OS	OS	>710	OS	OS	>>HOT
7	18-20'	7114	2829	3413	5786	5350	24492
8	12-14'	63	20	16	48	13	160
8	GW	OS	OS	OS	OS	OS	>>>>HOT

B - BENZENE
T - TOLUENE
EB - ETHYLBENZENE
MPX - META, PARAXYLENE
OX - ORTHOXYLENE

ND - NOT DETECTED
OS - OFF SCALE
GW - GROUNDWATER
PPB - PARTS PER BILLION

NOTE: THE GW SAMPLES FROM BORINGS 6 AND 8 HAD CONCENTRATIONS WHICH CAUSED THE PID DETECTOR TO GO OFF SCALE. THE CONCENTRATIONS WERE SO HIGH THEY CAN'T EVEN BE ESTIMATED.