

**SPILL CLOSURE REPORT
HESS STATION NUMBER 32533
1596 WHITE PLAINS ROAD
BRONX, NEW YORK
NYSDEC SPILL # 93-07951**

December 4, 2002

Prepared For:
**Amerada Hess Corporation
One Hess Plaza
Woodbridge, NJ 07095**

Prepared By:
**Environmental Alliance, Inc.
121 Union Avenue
Middlesex, NJ 08846**


**Leslie Schultheis
Environmental Engineer**


**Sharon Maher
Environmental Scientist**



TABLE OF CONTENTS

<u>Section</u>	<u>Page Number</u>
I. INTRODUCTION.....	1
II. SITE INFORMATION.....	1
III. MOBIL STATION SPILL EVENT HISTORY.....	2
IV. FORMER MERIT/HESS STATION SITE INVESTIGATION SUMMARY.....	2
V. CONCLUSION.....	4

TABLES

Table 1	Groundwater Elevation Data
Table 2	Groundwater Analytical Data
Table 3	Post Excavation Soil Sample Analytical Results

FIGURES

Figure 1	Local Area Map
Figure 2	Soil Sample Location Map
Figure 3	Groundwater Elevation Map
Figure 4	Groundwater Analytical Data Map

APPENDICES

Appendix I	Photo Log
Appendix II	Laboratory Analytical Data Package

SPILL CLOSURE REPORT
Hess Station 32533
1596 White Plains Road
Bronx, New York
Spill # 93-07951

I. INTRODUCTION

Environmental Alliance, Inc. (Alliance) has prepared the following Spill Closure Report for Amerada Hess Station (Hess) No. 32533 located at 1596 White Plains Road in Bronx, New York. On May 15, 2000, the Meadville Corporation, parent company of Merit Oil of New York, Inc., merged with Amerada Hess Corporation (Hess) making Hess the owner of the former Merit Tremont site. This site was assigned Spill No. 93-07951 in September 1993 after impacted soil was observed during UST closure activities. Subsequent soil samples indicated that no volatile organic compounds (VOCs) were detected above New York State Department of Environmental Conservation (NYSDEC) Technical and Administrative Guidance Memorandum No. 46 (TAGM) Soil Cleanup Objectives.

The Hess station is located within a geographical area of the Bronx that has impacted by a dissolved phase VOC plum. The source of the identified plum is an adjacent Mobil Station (currently Amoco), assigned Spill # 8403090 and located north of the site across East Tremont Avenue. In 1985 the NYSDEC funded an investigation that identified the Mobil station as source of the VOC plume. Mobil subsequently began active remediation.

On August 29, 2002, representatives from Hess met with the NYSDEC to review Hess Station history. The NYSDEC concluded the site was a candidate for closure and requested the submittal of a formal closure report.

II. SITE INFORMATION

The site is an active Hess gasoline station located in a commercial area. An Amoco gasoline station (formerly Mobil) is located across East Tremont Avenue to the north of the site. No residential properties border the site. Site geology consists of fill from 0 to 3 feet below grade and bedrock from 3 to 32 feet below grade. Five monitoring wells are located on or adjacent to the site. Depth to groundwater is 19 to 22 feet below grade. Groundwater flow is toward the west. A local area map is included as Figure 1. A Photo Log of the site and surrounding properties is included as Appendix I.

III. MOBIL STATION SPILL EVENT HISTORY

As reported in the July 30, 1996 *Site Assessment Report* by GES, the site was first investigated as part of a response to an explosion in February 1985 within a sump pit in the Playdrome Bowling Alley located to the south of the site. Nine inches of gasoline were found in Playdrome Bowling Alley sump pit. The NYSDEC conducted an investigation to determine the source of liquid phase hydrocarbons (LPH). The investigation included tightness testing of Merit Station USTs and LPH fingerprint analysis of LPH collected from wells on the Mobil site, where LPH was up to 28 inches thick, and from a well south of the Merit site where LPH was detected at 0.04 inches thick.

By September 1985, twenty-six monitoring wells had been installed in the area between the Mobil site and the bowling alley to identify the groundwater plume. Several wells were located on or adjacent to the former Merit site. The local area map (Figure 1) completed by Merit's consultant, Groundwater & Environmental Services, Inc. (GES), documents the historic extent of LPH.

The results of the 1985 NYSDEC investigation indicated that the six gasoline USTs on the Merit site passed precision tightness tests. The NYSDEC investigation concluded that the Mobil Station was the source of widespread petroleum impact, including petroleum impact identified on the former Merit property. As a result of the NYSDEC investigation, Mobil initiated active remediation. Several remediation recovery wells were located directly adjacent to (west of) the former Merit property.

IV. FORMER MERIT/HESS STATION SITE INVESTIGATION SUMMARY

Groundwater Monitoring – January 1993:

In January 1993, groundwater samples were collected from wells located on and adjacent to the former Merit site. UST replacement was scheduled for September 1993 and the wells were sampled to determine background groundwater quality beneath the site prior to UST excavation. GES measured groundwater levels and collected samples from MW-6, MW-7, MW-8, MW-10, MW-11, and MW-12 on January 14, 1993. Historic and recent groundwater elevation data is included as Table 1.

The groundwater samples were analyzed for VOCs via EPA method 624+15, base neutrals via method 625+15, pesticides and PCBs via method 608, total cyanide via method 335.1, total phenols via method 420.2, and priority pollutant metals. MW-6, MW-7, MW-10, MW-11, and MW-12 contained

BTEX (benzene, toluene, ethylbenzene, and xylenes) concentrations above NYSDEC Class GA Groundwater Standards. Historic and recent groundwater analytical data is presented in Table 2. In order to confirm that VOC concentrations in the groundwater at the Merit site were the result of the 1985 release at the upgradient Mobil Station, precision tightness tests were performed on the Merit USTs in September 1993. All tanks and piping passed the tightness tests. Therefore, it was determined that the present VOC concentrations in the monitoring wells at the Merit site were from the upgradient Mobil Station spill in February 1985.

Underground Storage Tank Closure and Soil Sampling:

As reported in the June 21, 1994 *Site Investigation Report* by GES, four 4,000-gallon and two 2,000-gallon steel, single-walled, gasoline USTs, one 550-gallon and one 2,000-gallon steel, single-wall, wastewater USTs, dispenser islands and associated piping were removed in September 1993. Groundwater was not encountered during excavation (up to 16 feet below grade) of the USTs. The gasoline tanks had no visible corrosion, holes, pitting or perforations. Approximately twenty small holes were reported in one of the wastewater USTs and corrosion was reported on the second wastewater UST, however no pitting, holes, or perforations were observed. Approximately 1,229 tons of soil were excavated and disposed of. Twelve post-excavation soil samples were collected and analyzed for BTEX via Method 8020 and TPH via Method 418.1. Figure 2 shows the locations of the former USTs and soil sample locations. Post excavation soil sampling analytical results are included as Table 3.

Low levels of total petroleum hydrocarbons and BTEX compounds were detected in the post excavation soil samples. Detected concentrations were below the NYSDEC TAGM Soil Cleanup Objectives.

Groundwater Monitoring - July 1995:

During the UST replacement activities, monitoring wells MW-10 and MW-11 were destroyed. One new monitoring well, designated MW-10A, was installed on August 9, 1994 to replace MW-10 and MW-11. Well MW-10A was completed to 32 feet below grade in bedrock. MW-10A was sampled in November 1994 and analyzed for VOCs and MTBE via Method 8021. MTBE was detected in exceedance of NYSDEC Class GA Groundwater Standards at a concentration of 63,000 ppb.

On July 5, 1995, all of the onsite monitoring wells were sampled. BTEX concentrations were detected above NYSDEC Class GA Groundwater Standards in MW-6, MW-7, and MW-12, which are located

upgradient of the former USTs. MW-10A, which is located downgradient of the former UST field, did not contain any VOCs during the July 1995 sampling event. The results of this sampling event confirm that groundwater contamination below the former Merit Station is attributed to the upgradient Mobil spill from February 1985.

Semi-Annual Groundwater Monitoring:

Since 1995, the five onsite monitoring wells on and adjacent to the Hess Station have been sampled semi-annually and analyzed for BTEX and MTBE via EPA Method 602. Analytical data from MW-6 and MW-7 have indicated high concentrations of BTEX and MTBE, however recent groundwater sampling results report a significant decrease in dissolved VOCs. BTEX concentrations have remained low in MW-8, MW-10A, and MW-12. Additionally MTBE has also exhibited a decreasing trend in these wells. Figures 3 and 4 present the most recent groundwater elevation and analytical data from November 2002.

V. CONCLUSION

In 1985, the NYSDEC concluded that a spill at the Mobil Station (now Amoco) located across east Tremont Avenue from the Hess Station (former Merit) was the source of widespread groundwater contamination. In response to the NYSDEC conclusion Mobil initiated active remediation. The presence of impacted groundwater on and adjacent to the Hess Station is attributed to the Mobil Station discharge.

Prior to the removal of the USTs from the Former Merit Station in January 1993, groundwater sampling of the monitoring wells on and adjacent to the Merit site revealed that contamination was still present due to the 1985 release. UST tightness tests prior to the UST removal indicated that the former Merit tanks were tight. During the removal of the USTs in September 1993, soil contamination was found near the gasoline USTs. The NYSDEC assigned Spill # 93-07951. Upon inspection, the gasoline USTs contained no holes. Approximately 1,229 tons of impacted soil were excavated and disposed. Twelve post excavation soil samples were collected. Post excavation soil samples reported the presence of low levels of VOC compounds. Detected VOC compounds were below their respective NYSDEC TAGM Cleanup Objectives.

On August 29, 2002, representatives from Hess met with the NYSDEC to review the Hess Station history. The NYSDEC concluded that the spill 93-07951 assigned to the site during removal of USTs

could be closed. No other NYSDEC spill numbers exist for the Hess Station. Hess respectfully requests case closure for the Hess Station.

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TABLES

TABLE 1
GROUNDWATER ELEVATION DATA
Hess Station Number 32533
Bronx, New York

WELL	DATE	DEPTH TO WATER	WATER ELEVATION	DEPTH TO PRODUCT	PRODUCT THICKNESS
MW-6 TOC (96.94)	01/14/93	21.47	75.47	-	0.00
	12/02/96	19.90	77.04	-	0.00
	05/13/97	19.92	77.02	-	0.00
	11/21/97	20.72	76.22	-	0.00
	05/18/98	18.99	77.95	-	0.00
	11/20/98	21.20	75.74	-	0.00
	05/25/99	21.50	75.44	-	0.00
	11/04/99	20.27	76.67	-	0.00
	05/12/00	20.35	76.59	-	0.00
	11/29/00	21.00	75.94	-	0.00
	05/15/01	20.65	76.29	-	0.00
	11/26/01	21.00	75.94	-	0.00
	11/06/02	19.47	77.47	-	0.00
MW-7 TOC (98.79)	01/14/93	23.38	75.41	-	0.00
	12/02/96	22.26	77.02	21.65	0.61
	05/13/97	21.90	76.93	21.85	0.05
	11/21/97	22.88	75.93	22.86	0.02
	05/18/98	20.97	77.85	20.93	0.04
	11/20/98	23.30	75.49	-	0.00
	05/25/99	22.56	76.23	-	0.00
	11/04/99	22.18	76.61	-	0.00
	5/1200	22.15	76.64	-	0.00
	11/29/00	22.90	75.89	sheen	sheen
	05/15/01	22.59	76.20	-	0.00
	11/26/01	22.90	75.89	-	0.00
	11/06/02	21.46	77.33	-	0.00

TABLE 1
GROUNDWATER ELEVATION DATA

Hess Station Number 32533

Bronx, New York

WELL	DATE	DEPTH TO WATER	WATER ELEVATION	DEPTH TO PRODUCT	PRODUCT THICKNESS
MW-8 TOC (99.21)	01/14/93	22.77	76.44	-	0.00
	12/02/96	20.65	78.56	-	0.00
	05/13/97	20.61	78.60	-	0.00
	11/21/97	21.34	77.87	-	0.00
	05/18/98	19.91	79.30	-	0.00
	11/20/98	22.20	77.01	-	0.00
	05/25/99	21.80	77.41	-	0.00
	11/04/99	21.26	77.95	-	0.00
	05/12/00	21.50	77.71	-	0.00
	11/29/00	21.90	77.31	-	0.00
	05/15/01	21.55	77.66	-	0.00
	11/26/01	22.30	76.91	-	0.00
	11/06/02	19.20	80.01	-	0.00
MW-10A* TOC (95.93)	12/02/96	18.80	77.13	-	0.00
	05/13/97	18.05	77.88	-	0.00
	11/21/97	19.20	76.73	-	0.00
	05/18/98	17.78	78.15	-	0.00
	11/20/98	20.20	75.73	-	0.00
	05/25/99	18.80	77.13	-	0.00
	11/04/99	18.27	77.66	-	0.00
	05/12/00	19.10	76.83	-	0.00
	11/29/00	19.40	76.53	-	0.00
	05/15/01	19.45	76.48	-	0.00
	11/26/01	19.50	76.43	-	0.00
	11/06/02	17.60	78.33	-	0.00

* Environmental Alliance had previously designated MW-10A as MW-11 since 11/96. MW-10 and MW-11 were destroyed in 9/93. The corrected designation is MW-10A.

TABLE 1
GROUNDWATER ELEVATION DATA
Hess Station Number 32533
Bronx, New York

WELL	DATE	DEPTH TO WATER	WATER ELEVATION	DEPTH TO PRODUCT	PRODUCT THICKNESS
MW-12 TOC (99.01)	01/14/93	22.97	76.04	-	0.00
	12/02/96	21.15	77.86	-	0.00
	05/13/97	21.05	77.96	-	0.00
	11/21/97	21.66	77.35	-	0.00
	05/18/98	20.06	78.95	-	0.00
	11/20/98	22.40	76.61	-	0.00
	05/25/99	21.70	77.31	-	0.00
	11/04/99	21.23	77.78	-	0.00
	05/12/00	21.45	77.56	-	0.00
	11/29/00	22.00	77.01	-	0.00
	05/15/01	21.59	77.42	-	0.00
	11/26/01	22.20	76.81	-	0.00
	11/06/02	20.25	78.76	-	0.00

Shaded cell denotes water table elevation corrected for product thickness.

Corrected Elevation = TOC-(DTW-(product thickness*0.8))

TABLE 2
GROUNDWATER ANALYTICAL DATA
Hess Station Number 32533
Bronx, New York

Well	Date	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Total BTEX	MTBE
MW-6	01/14/93	872	6650	5780	27200	40502	NA
	07/05/95	358	302	894	9100	10654	<50.0
	11/14/96	373	180	1540	3550	5643	626
	05/13/97	380	65.7	1230	2960	4635.7	1180
	11/21/97	1230	643	4060	12600	18533	4310
	05/18/98	1790	1110	3930	11310	18140	4650
	11/20/98	777	640	1860	660	3937	1120
	05/25/99	1800	1400	5500	18000	26700	1900
	11/04/99	970	470	4000	11000	16440	1700
	05/12/00	1100	430	4400	12000	17930	380
	11/29/00	400	120	2600	4800	7920	170
	05/15/01	863	343	4041	8360	13607	290
	11/26/01	31	13	150	174	368	11
	11/06/02	330	290	4700	11100	16420	230
MW-7	01/14/93	1630	753	477	25900	28760	NA
	07/05/95	2210	4950	2290	12570	22020	<100
	11/14/96	LPH	LPH	LPH	LPH	LPH	LPH
	05/13/97	LPH	LPH	LPH	LPH	LPH	LPH
	11/21/97	LPH	LPH	LPH	LPH	LPH	LPH
	05/18/98	LPH	LPH	LPH	LPH	LPH	LPH
	11/20/98	2250	303000	92400	3640000	4037650	3540
	05/25/99	8100	32000	11000	57000	108100	2200
	11/04/99	6000	25000	8900	37000	76900	1500
	05/12/00	2800	15000	2900	26000	46700	320
	11/29/00	1500	13000	4200	34000	52700	130
	05/15/01	2540	12900	4890	20600	40930	392
	11/26/01	5.7	110	46	330	491.7	3.3
	11/06/02	1300	12000	5800	26600	45700	310

TABLE 2
GROUNDWATER ANALYTICAL DATA

Hess Station Number 32533

Bronx, New York

Well	Date	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Total BTEX	MTBE
MW-8	01/14/93	ND	ND	ND	ND	ND	NA
	07/05/95	<1.00	<1.00	<1.00	<1.00	ND	<1.00
	11/14/96	129	<2.50	22.2	27.9	179.1	2900
	05/13/97	145	9.13	49.6	54.8	258.53	6570
	11/21/97	<100	<100	<100	<100	ND	15400
	05/18/98	<100	<100	<100	<100	ND	16800
	11/20/98	0.972	1.26	1.89	6.5	10.622	11800
	05/25/99	<5.0	<10	<10	ND	ND	10000
	11/04/99	2.5	1.3	ND	5.1	8.9	9600
	05/12/00	ND	ND	ND	4.8	4.8	5300
	11/29/00	ND	ND	ND	ND	ND	3800
	05/15/01	26.0	22.7	22.6	90.1	161.4	4690
	11/26/01	<1.0	2.6	<1.0	<3.0	2.6	4700
	11/06/02	<20	<20	<20	<60	ND	1400
MW-10	01/14/93	124	16 J	288	226	654	NA
	Destroyed 9/93						
MW-10A*	11/10/94	ND	ND	ND	ND	ND	63000
	07/05/95	<1.00	<1.00	<1.00	<1.00	ND	<1.00
	11/14/96	1.36	3.14	3.62	9.55	17.67	489
	05/13/97	2.36	0.721	4.18	8.54	15.801	90.7
	11/21/97	8.83	6.12	1.26	6.27	22.48	500
	05/18/98	ND	ND	ND	ND	ND	31.3
	11/20/98	5.89	2.03	4.65	7.78	20.35	163
	05/25/99	2.2	20	27	110	159.2	1300
	11/04/99	120	15	18	140	293	12000
	05/12/00	2.8	ND	1.1	6.8	10.7	25000
	11/29/00	0.74	ND	ND	6.6	7.34	2500
	05/15/01	<5.0	<5.0	<5.0	<25	<40	2440
	11/26/01	<1.0	3.3	<1.0	3.9	7.2	130
11/06/02	72	9.3	7.0	5.4	93.7	1800	

* Environmental Alliance had previously designated MW-10A as MW-11 since 11/96. MW-10 and MW-11 were destroyed in 9/93. The corrected designation is MW-10A.

TABLE 2
GROUNDWATER ANALYTICAL DATA
Hess Station Number 32533
Bronx, New York

Well	Date	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Total BTEX	MTBE
MW-11	01/14/93	54	ND	124	55	233	NA
	Destroyed 9/93						
MW-12	01/14/93	ND	120	104	2120	2344	ND
	07/05/95	26	107	7	2.73	142.73	<5.00
	11/14/96	0.521	<0.500	<0.500	1.92	2.441	16.8
	05/13/97	0.908	3.14	1.01	4.62	9.678	8.79
	11/21/97	10.1	23.2	17.1	26.6	77	5.87
	05/18/98	3.23	4.17	22.2	28.37	57.97	5.13
	11/20/98	9.31	ND	5.19	3.4	17.9	13.6
	05/25/99	13	2.1	1.7	1.9	18.7	17
	11/04/99	3	ND	ND	4.6	7.6	13000
	05/12/00	2.2	ND	ND	3.3	5.5	35
	11/29/00	1.4	ND	ND	ND	1.4	5.9
	05/15/01	11.4	82.8	74.9	267	436.1	74.8
	11/26/01	<1.0	1.4	<1.0	<3.0	1.4	16
	11/06/02	39	78	14	28.1	159.1	45
NY Levels*		0.7	5	5	15	N/A	10

* Per NY Class GA Groundwater Standards

All organic data is reported in ppb (ug/L).

Ethylbenzene and toluene are not listed, but as organics default to 5 ug/L.

Each xylene component is 5 ug/L for a total of 15 ug/L.

ND = Non Detect

NA = Not Analyzed

LPH = Liquid-Phase Hydrocarbons

J = Estimated Value

**TABLE 3
POST EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS**

October 4-5, 1993

Hess Station Number 32533

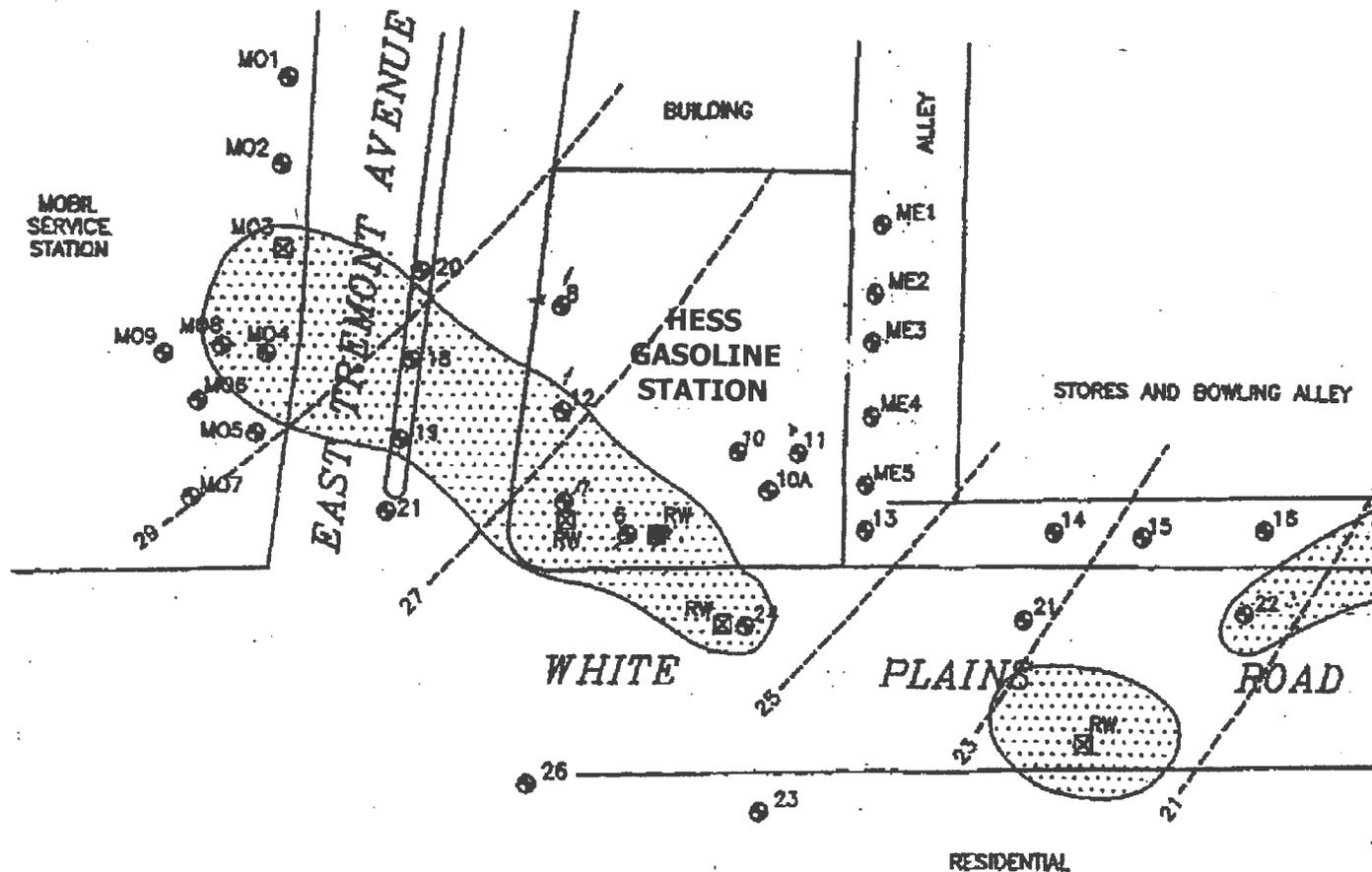
Bronx, New York

Date	Boring	Depth (feet)	PID	TPH	Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total BTEX
10/93	DI-1	2	0	70.3	ND	ND	ND	ND	ND
10/93	DI-2	2	0	127	ND	ND	ND	ND	ND
10/93	DI-3	2	0	111	ND	0.124	ND	0.207	0.331
10/93	TF-1	14	752	86.4	0.0167	0.0134	ND	0.0325	0.0626
10/93	TF-2	13	1700	244	ND	0.00876	ND	0.0962	0.10496
10/93	TF-3	13	0	98.2	ND	ND	ND	ND	ND
10/93	TF-4	13	0	523	ND	ND	ND	ND	ND
10/93	TF-5	14	0	37.6	ND	0.0111	ND	0.0347	0.0458
10/93	TF-6	16	81	75.4	ND	0.00741	ND	ND	0.00741
10/93	WW-1	8	190	1120	ND	0.0259	ND	0.101	0.1269
10/93	WW-2	8	172	126	ND	ND	ND	ND	ND
10/93	WW-3	8	0	378	ND	0.00478 J	ND	ND	0.00478 J
NYSDEC TAGM Soil Cleanup Objectives				nvg	0.06	1.5	5.5	1.2	nvg

Samples collected by Groundwater and Environmental Services.
 Analysis by EPA method 8020 for BTEX and Method 418.1 for TPH.
 All results in parts per million (ppm).
 PID = Photoionization Detector
 nvg = no value given
 ND = Non-detect
 J = Estimated Values

FIGURES

GROUNDWATER FLOW



LEGEND

-  MOBIL RECOVERY WELL
-  MONITORING WELL
-  APPROXIMATE SEPARATE PRODUCT PLUME DEL 11/7/87 (FROM FENI)

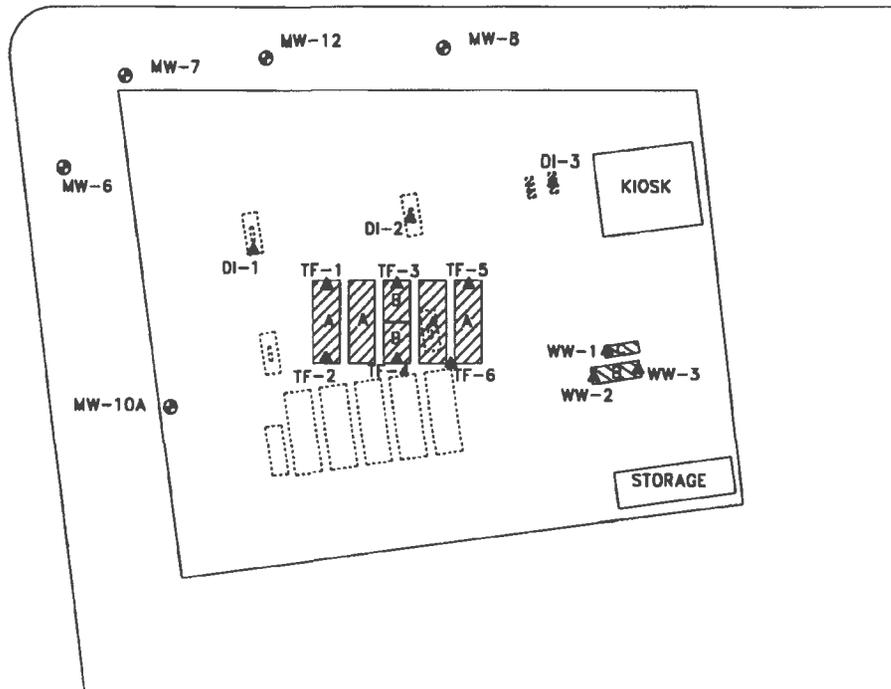
SOURCES:

1. GTI DECEMBER 31, 1991 STATUS REPORT FOR THE MOBIL SERVICE STATION, EAST TREMONT AVE. AND WHITE PLAINS RD., BRONX, NEW YORK.

2. FENI BY A UNCON. MAY 15, 1988 INVESTIGATION OF UNDERGROUND GASOLINE PLUME

EAST TREMONT AVENUE

WHITE PLAINS ROAD

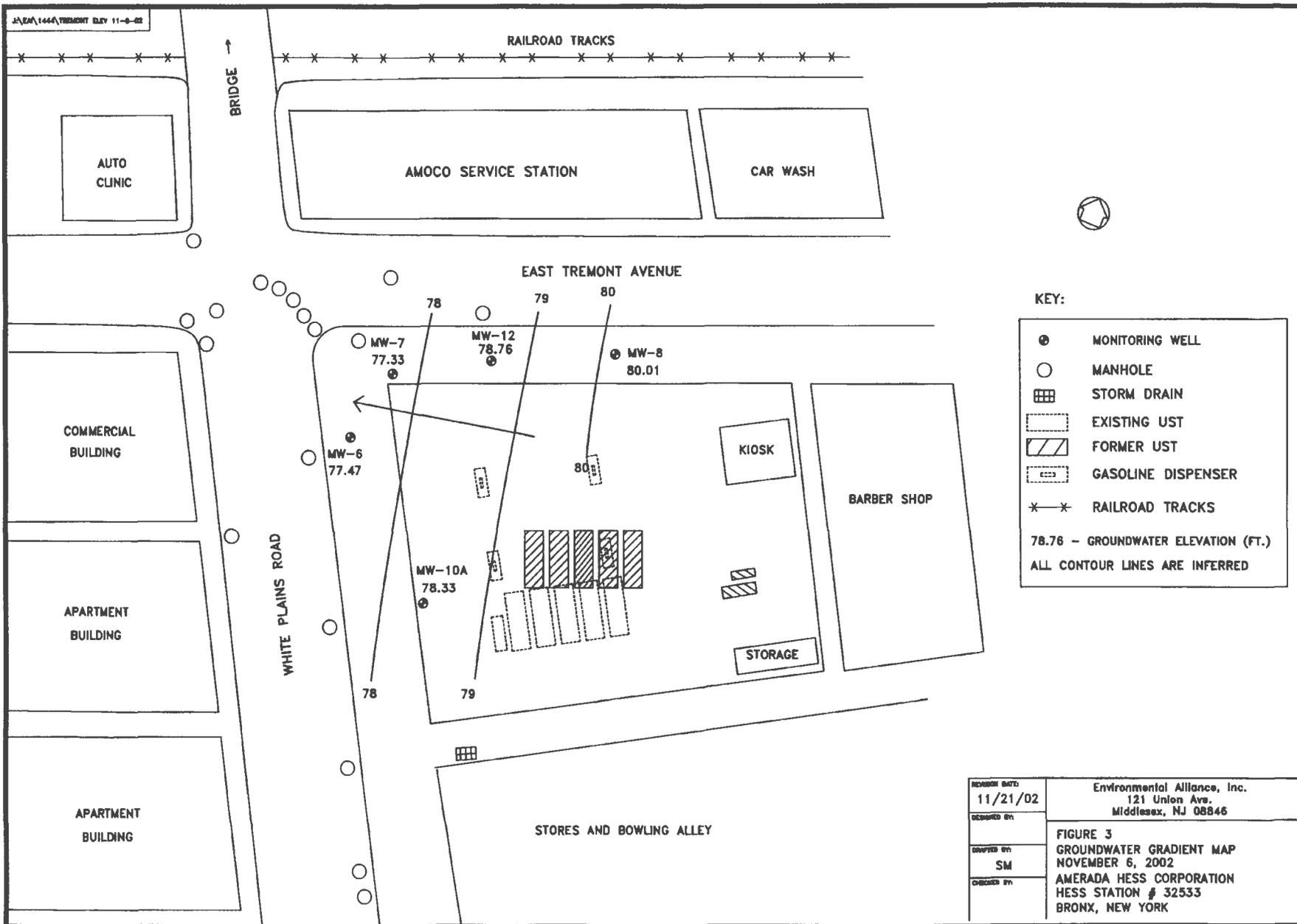


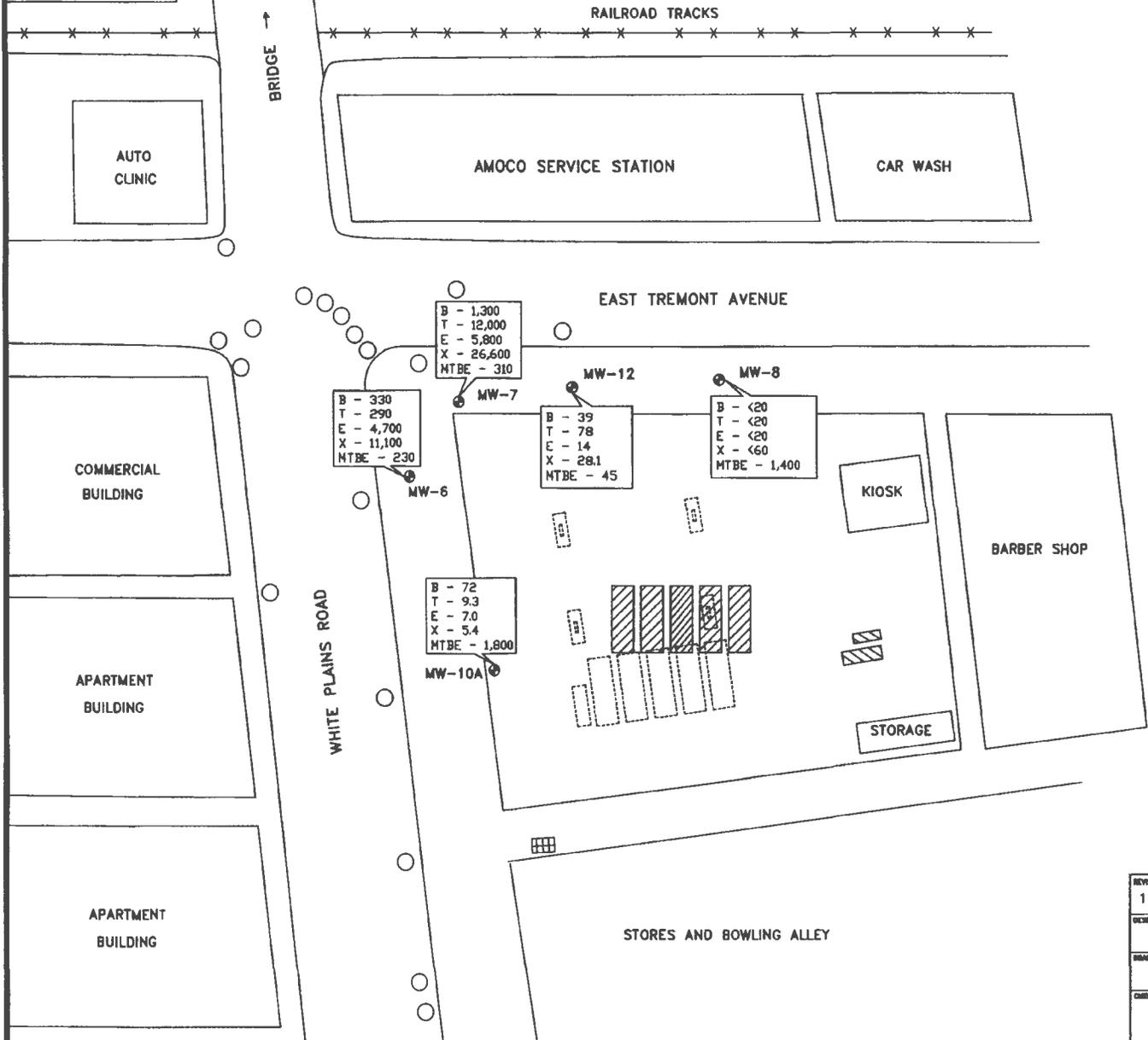
KEY:

	MONITORING WELL
	POST EXCAVATION SOIL SAMPLE
	EXISTING UST
	FORMER 4,000-GALLON UST
	FORMER 2,000-GALLON UST
	FORMER 550-GALLON UST
	GASOLINE DISPENSER
	FORMER GASOLINE DISPENSER

= 40 FEET (APPROX.)

REVISION DATE 11/12/02	Environmental Alliance, Inc. 121 Union Avenue Middlesex, NJ 08846
DESIGNED BY:	
DRAFTED BY: SM	FIGURE 2 SOIL SAMPLE LOCATION MAP HESS STATION # 32533 BRONX, NEW YORK
CHECKED BY:	





KEY:

- MONITORING WELL
- MANHOLE
- ▤ STORM DRAIN
- ▨ EXISTING UST
- ▧ FORMER UST
- ▩ GASOLINE DISPENSER
- ×-× RAILROAD TRACKS

B - BENZENE
 T - TOLUENE
 E - ETHYLBENZENE
 X - XYLENES
 MTBE - METHYL TERT-BUTYL ETHER

All data reported in micrograms per liter (ug/l)

REVISION DATE: 11/21/02	Environmental Alliance, Inc. 121 Union Ave. Middlesex, NJ 08846
DRAWN BY: SM	FIGURE 4 GROUNDWATER ANALYTICAL DATA MAP NOVEMBER 6, 2002 AMERADA HESS CORPORATION HESS STATION # 32533 BRONX, NEW YORK
CHECKED BY:	