

**General Motors Corporation
Powertrain Group
902 East Hamilton Avenue
Flint, Michigan 48550**

**Former Tank Farm 94
Document Review**

**Global Environmental Engineering Inc.
Project No. F298**

October 13, 1997



**Global
Environmental
Engineering Inc.**

TABLE 2: SOIL LABORATORY ANALYTICAL RESULT SUMMARY

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)								Solvents	Lead	
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs					
Samples collected during WW Engineering & Science Investigation												
SB-7B SS-2	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,900
SB-7B SS-5	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,800
SB-7A SS-6	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	7,900
MW-15 SS-6	7/14/92	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	6,900
MW-10 SS-4	7/9/92	ND	ND	ND	ND	ND	273	NA	Naphthalene	820	NA	17,000
TB-6 SS-5	7/9/92	270	ND	ND	ND	ND	ND	NA	ND	NA	NA	15,000
MW-7D SS-4	7/7/92	matrix in- terference	17,000	95,000	370,000	ND	370,000	ND	Phenanthrene Pyrene	690 820	ND	36,000
MW-7D SS-11	7/7/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18,000
TB-8B SS-3	8/1/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,800
MW-9 SS-6	7/7/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8,700
MW-10B SS-5	8/1/92	6300	ND	ND	160,000	ND	160,000	ND	Naphthalene	1700	ND	6,800
MW-11 SS-7	7/7/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16,000

Sample ID	Sample Analytical Parameters (reported in ug/kg)									
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs	Solvents	Lead		
SBT-30-10-1 (Floor)	12/19/95	ND	ND	ND	NA	Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	2000 730 2300 1600 740 720 550 720 460	NA	NA	
SBT-48-M-10 (Floor)	12/21/95	14	16	830	2,041	ND	NA	NA	NA	
SBT-TK11-10 (Floor)	1/2/96	50	170,000	86,000	350,000	Naphthalene Acenaphthene	700 22000	NA	NA	
Samples collected during Global Environmental Engineering Investigation										
EW-4 (8-10')	3/11/97	ND	ND	ND	ND	ND	ND	ND	NA	7000
EW-5 (8-10')	3/11/97	ND	ND	ND	ND	ND	ND	ND	NA	3700
EW-6 (12-14')	3/11/97	ND	ND	ND	ND	ND	ND	ND	NA	11000

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)										Lead
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAS	Solvents				
SWBT-55-10-3 (Sidewall)	12/21/95	65	22	21	ND	NA	ND	NA	NA	NA	NA	NA
SWBT-70-10-2 (Floor)	12/20/95	12,000	5,600	19,000	73,700	NA	NA	NA	NA	NA	NA	NA
SWBT-70-10-3-R (Sidewall)	1/2/96	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA	NA
SWBT-80-10-3 (Floor)	1/3/96	ND	14	ND	ND	NA	Acenaphthalene	1900	NA	NA	NA	NA
SWBT-80-10-4 (Sidewall)	1/4/96	ND	ND	ND	ND	NA	Benzo(a)anthracene	790	NA	NA	NA	NA
SBT-100-10-4 (Sidewall)	1/4/96	ND	270	ND	ND	NA	Fluoranthene	490	NA	NA	NA	NA
SWBT-120-10-3 (Sidewall)	1/3/96	ND	ND	ND	ND	NA			NA	NA	NA	NA
SWBT-140-10-3 (Sidewall)	1/3/96	11	41	18	ND	NA			NA	NA	NA	NA
P-145 (Sidewall)	1/4/96	ND	100	66	140	NA	Fluorene Pheanthrene Fluoranthene	4700 9700 15000	NA	NA	NA	NA
SWBT-150-10-3 (Sidewall)	1/4/96	ND	ND	ND	ND	NA			NA	NA	NA	NA
SWBT-10-2 (Floor)	12/19/95	ND	ND	ND	ND	NA			NA	NA	NA	NA
SBT-10-10 (Floor)	12/18/96	32,000	10,000	110,000	420,000	NA			NA	NA	NA	NA
TR-15-1 (Floor)	12/19/95	19	ND	ND	ND	NA			NA	NA	NA	NA

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)								Lead
		Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	PNAs	Solvents	Lead	
TB-13 SS-3	7/14/92	720	3,335	1,460	4,405	NA	Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,i)perylene Chrysene Dibenzo(ah)anthracene Fluoranthene Fluorene Indeno (123-cd)pyrene Naphthalene Pyrene	1400 1700 5700 23000 18000 24000 4600 27000 3700 31000 2900 4600 870 3200	NA	4,300
TB-14B SS-2	8/1/92	ND	ND	ND	ND	ND	ND	ND	ND	4,600
MW-15B SS-8	8/1/92	ND	ND	ND	ND	ND	ND	ND	ND	9,400
Samples collected during Woodward Clyde investigation/excavation										
SB-1 (14-16')	4/10/95	ND	39	51	ND	NA	ND	ND	NA	NA
SB-1 (19-21')	4/10/95	290 <i>10x</i>	820	23,000 <i>10x</i>	62,000 <i>10x</i>	NA	ND	ND	NA	NA
SB-2 (9-11')	4/10/95	ND	16	17	85	NA	ND	ND	NA	NA
SB-2 (14-16')	4/10/95	ND	ND	ND	ND	NA	ND	ND	NA	NA
SB-3 (9-11')	4/10/95	ND	ND	ND	ND	NA	ND	ND	NA	NA
SB-4 (6-8')	4/10/95	9,600 <i>10x</i>	20,000 <i>1x</i>	68,000 <i>10x</i>	250,000 <i>10x</i>	NA	Anthracene Benzo(a)anthracene Benzo(a)pyrene Chrysene Dibenzo(ah)anthracene Fluoranthene Naphthalene Phenanthrene Pyrene	5300 8100 6000 12000 20000 17000 4600 14000 16000	NA	NA
SB-4 (9-11')	4/10/95	17	29	39	180	NA	ND	ND	NA	NA

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)									
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs	Solvents	Lead		
WM-08-1 (Sidewall)	12/18/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	
SBT-15-08 (Floor)	12/18/96	37	23	59	245	NA	ND	NA	NA	NA	
SBT-48-10 (Floor)	12/20/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	
SBT-70-10 (Floor)	12/15/95	180	ND	ND	ND	NA	NA	NA	NA	NA	
SBT-80-10 (Floor)	1/3/96	260	860	600	2,400	NA	NA	NA	NA	NA	
SBT-100-10 (Floor)	1/3/96	210	2,400	670	2,700	NA	NA	NA	NA	NA	
SBT-120-10 (Floor)	1/3/96	24	400	140	690	NA	ND	NA	NA	NA	
SBT-140-10 (Floor)	1/3/96	ND	78,000	45,000	190,000	NA	Acenaphthalene	5700	NA	NA	
SBT-150-10 (Floor)	1/3/96	100	670	790	3,200	NA	Acenaphthalene	1600	NA	NA	
NS-10 (Floor)	1/4/96	25	ND	ND	ND	NA	ND	NA	NA	NA	
SS-08-W-1 (Sidewall)	12/20/95	24	ND	11	ND	NA	ND	NA	NA	NA	
WSO-08-1 (Sidewall)	12/20/95	3,800	16,000	1,900	11,600	NA	NA	NA	NA	NA	
SWBT-15-10-3 (Sidewall)	12/19/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	
SWBT-30-10-2 (Sidewall)	12/20/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	
SWBT-50-10-2 (Sidewall)	12/20/95	91	20	300	689	NA	2-Methylnaphthalene	410	NA	NA	

**General Motors Corporation
Powertrain Group
902 East Hamilton Avenue
Flint, Michigan 48550**

**Former Tank Farm 94
Document Review**

**Global Environmental Engineering Inc.
Project No. F298**

October 13, 1997

October 13, 1997

Ms. Lynn Niedzwiecki
GM Powertrain Group
902 East Hamilton Avenue
Flint, Michigan 48550
Mail Code: 485-184-151

RE: Former Tank Farm 94
CLCD North - Building 84

Dear Ms. Niedzwiecki:

Enclosed please find the Report summarizing the file review and recent groundwater sample analytical results for the former UST Tank Farm 94.

If you have any questions or require any additional information please feel free to contact me at (810) 238-9190.

Sincerely,

GLOBAL ENVIRONMENTAL ENGINEERING INC.

Mark W. Keyes
Project Manager

enclosures.

cc: Robert Metcalf
Ed Biessel

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1.0 INTRODUCTION

Global Environmental Engineering Inc. (Global) was retained by General Motors Corporation, Powertrain Group (GMPTG) to review the existing files relating to the former Tank Farm 94 and prepare a chronology of site activities. Tank Farm 94 was associated with Building 84, located at 902 East Hamilton Avenue, Flint, Michigan.

2.0 FILE REVIEW

The UST locations and soil borings completed by WW Engineering & Sciences, 1992 investigation is illustrated on Figure 1. The results of the soil remediation and verification sample locations collected by Woodward Clyde, 1995, are illustrated on Figure 2. A summary of the groundwater and soil sample analytical results is presented in Tables 1 and 2, and a summary of the Michigan Department of Environmental Quality Risk Based Screening Levels is presented in Tables 3 and 4. A summary of the UST contents, date of installation and capacities is contained in Table A.

2.1 Available Documents

The following documents relating to Tank Farm 94 were made available by GMPTG and reviewed by Global:

- | | |
|--------------------|---|
| October 20, 1992 - | "Remedial Subsurface Investigation Report," WW Engineering & Science |
| February 17, 1994- | "Status Report Soil and Groundwater Remediation Tank Farm 94," Advanced Environmental, Inc. |
| June 9, 1994 - | "Corrective Action Plan and Soil and Groundwater Feasibility Analysis GM Former Tank Farm 94," Advanced Environmental, Inc. |
| April 21, 1995 - | "Soil Investigation, Engine Test Cell Addition," Construction Testing Services, Inc. |
| March 1, 1996 - | Excavation Soil Sampling Summary Report, Buick V6," Woodward-Clyde Consultants. |
| March 6, 1996 - | Extraction Well sample analytical results. |
| March 25, 1997 - | Extraction Well sample analytical results. |

2.2 Chronology

The former Tank Farm 94 consisted of 10 underground storage tanks (USTs) used to store various grades of gasoline and stoddard solvent. The capacity, date of installation and contents of the Tank Farm 94 USTs were detailed on Buick Motor Division Storage Tank Layout drawing number 42361 - M, drawn in 1973, last revised in 1983. Table A summarizes the UST information:

Table A
Former Tank Farm 94 - UST Summary

UST No.	Capacity (gallons)	Year Installed	Contents
94	6000	1972	Lead Free Gasoline
95	6000	1972	Lead Free Gasoline
96	6000	1972	Nonusable Waste Storage
97	6000	1971	Stoddard Solvent
98	6000	1971	Return Flow from Tank #97
99	15,000	1971	GM 6141
100	6000	1966	Indolene Clear
101	15,000	1954	Indolene Clear
102	15,000	1954	GM 6141
103	5000	1959	Indolene 30

In November 1989, eight groundwater monitoring wells were installed as part of a leak detection system. Sampling of the wells in December 1989, indicated a release from the UST system. In February 1990, the USTs were tightness tested and the release was confirmed. The USTs were then emptied, cleaned and temporarily filled with water. A confirmed release was reported on February 16, 1990. An Initial Abatement Report, an Initial Site Characterization Report, and a

Free Product Recovery Report were submitted to the Michigan State Police/Fire Marshal Division on April 30, 1991.

From May to July 1991, nine of the USTs were removed and one of the USTs was closed in place. Tank number 98 was left in place. The location of the former USTs is illustrated on the attached Figure 1.

In June 1992, WW Engineering & Science, Inc. completed a investigation to delineate the horizontal and vertical extent of soil and groundwater impact related to the release. WW Engineering & Science, Inc. concluded that additional investigation was not necessary and a feasibility analysis be conducted to select a corrective action. Several remediation options were discussed, however, no specific corrective action was proposed.

In February 1994, Advanced Environmental, Inc. prepared a Status Report summarizing the previous investigations and compared the existing data to the then applicable Michigan Department of Natural Resources (MDNR) Type C closure criteria. In June 1994, Advanced Environmental, Inc. prepared a Corrective Action Plan and Soil and Groundwater Feasibility Analysis. Due to a proposed building addition to be constructed in the zone of impact, the closure objectives were changed from a Type C closure to a Type B closure. The Corrective Action Plan was designed to remediate the release to MDNR Type B cleanup criteria, utilizing a pump and treat groundwater remediation system with limited soil excavation and disposal. (Note that the Type B criteria has been replaced with the current categories and criteria established under Part 213 of NREPA.)

From December 1995 to January 1996, approximately 5200 cubic yards of soil were excavated from the former UST area and treated on-site by thermal desorption. During the soil removal all of the monitoring wells, except MW15, installed by WW Engineering & Sciences were removed. Soil samples collected by Woodward-Clyde Consultants from the excavation indicated elevated petroleum concentrations above the Tier I Industrial direct contact cleanup criteria in one location (SBT-10-10). Following the completion of the soil removal three groundwater extraction wells (EW101, EW102, and EW103) were installed and plumbed to the exiting tank farm collection sump, in preparation for operating the groundwater treatment system. In February 1996, pumps were installed in the three wells. The pumps were then operated only long enough to purge the wells

and collect groundwater samples. The City of Flint was contacted regarding discharge of the treated groundwater to both the sanitary and/or the storm sewers, however because of permitting restrictions neither option was available and the pumps were not operated. Figure 2 illustrates the location of the excavation samples and extraction wells.

3.0 SITE MONITORING

The locations of the remaining groundwater monitoring and extraction wells are illustrated on Figure 3.

3.1 Groundwater Monitoring Well Installation

In February 1997, Global drilled three soil borings to complete the delineation of the UST investigation. Two of the soil borings were converted into groundwater monitoring wells to determine the current groundwater conditions and the third soil boring (EW104) was drilled to resample the elevated excavation sample, SBT-10-10. Global collected groundwater samples in March 1997, from the two new wells (EW105 and EW106), the three extraction wells (EW101 - EW103) and one of the original investigation wells (MW15). Of the original groundwater monitoring wells installed by WW Engineering & Sciences, Inc. only MW15, located to the north of Building 84B was still intact. The original groundwater monitoring wells were removed during the soil remediation.

3.2 Sample Collection and Analytical Results

Groundwater data indicated elevated levels of benzene ($27\mu\text{g/l}$) in EW102 and MTBE ($97\mu\text{g/l}$) in EW106. Only the elevated benzene concentration exceeds the MDEQ Health Based Drinking Water Cleanup Criteria, but is below the Industrial Direct Contact Criteria. Well locations are illustrated on the attached Figure 3. The March 1997 groundwater analytical results are presented in Table 1.

4.0 CONCLUSION

Based on the March 1997, analytical results of the groundwater, the project will be incorporated into a site wide quarterly monitoring program until such a time as the site meets a suitable closure criteria.

5.0 SIGNATURE


The information contained in this report for the GMPTG is based on documents provided by GM and recent site investigation activities:

Prepared by :



Mark W. Keyes, Project Manager

Reviewed by :

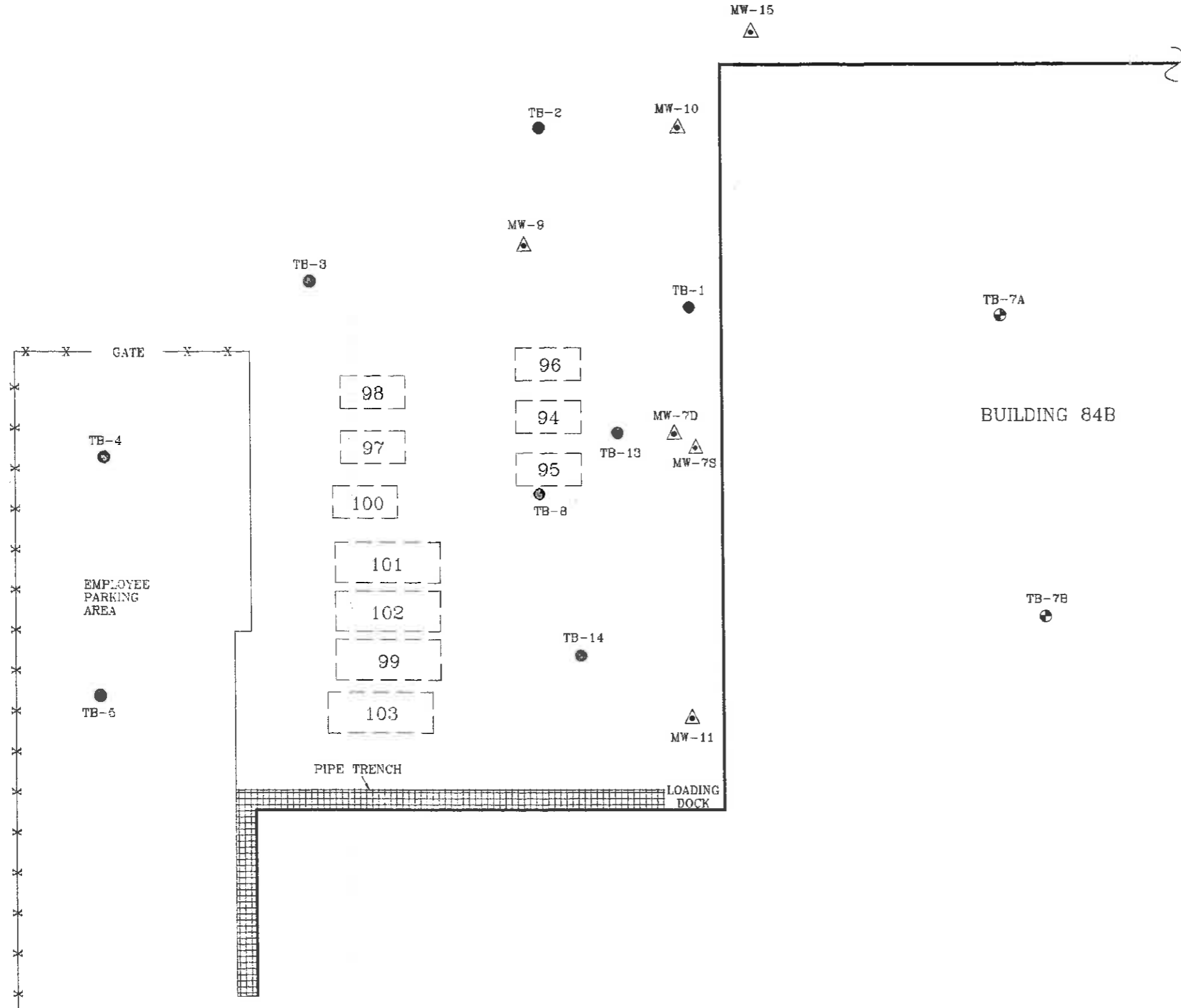
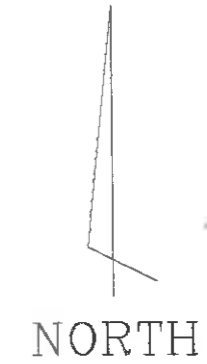


Amanda L. Kurzman, Project Manager

Date:

October 13, 1997

FIGURE 1



UST	Contents	
94	Gasoline	Lead Free Gasoline
95	Gasoline	Lead Free Gasoline
96	Non Usable	Waste Storage
97	Gasoline	Stoddard Solvent
98	Varsol Stoddard	Return Flow from #97
99	Gasoline	GM 6141
100	Gasoline	Indolene Clear
101	Howell EEE	Indolene Clear
102	Howell EEE	GM 6141
103	Regular Gasoline	Indolene 30

LEGEND:

- Soil Boring Locations
- ▲ Monitoring Well Locations
- X-X Fence (TYP.)
- □ Underground Storage Tanks

WW Engineering & Science 1992 Investigation


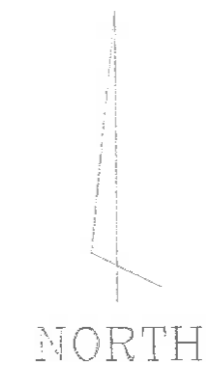
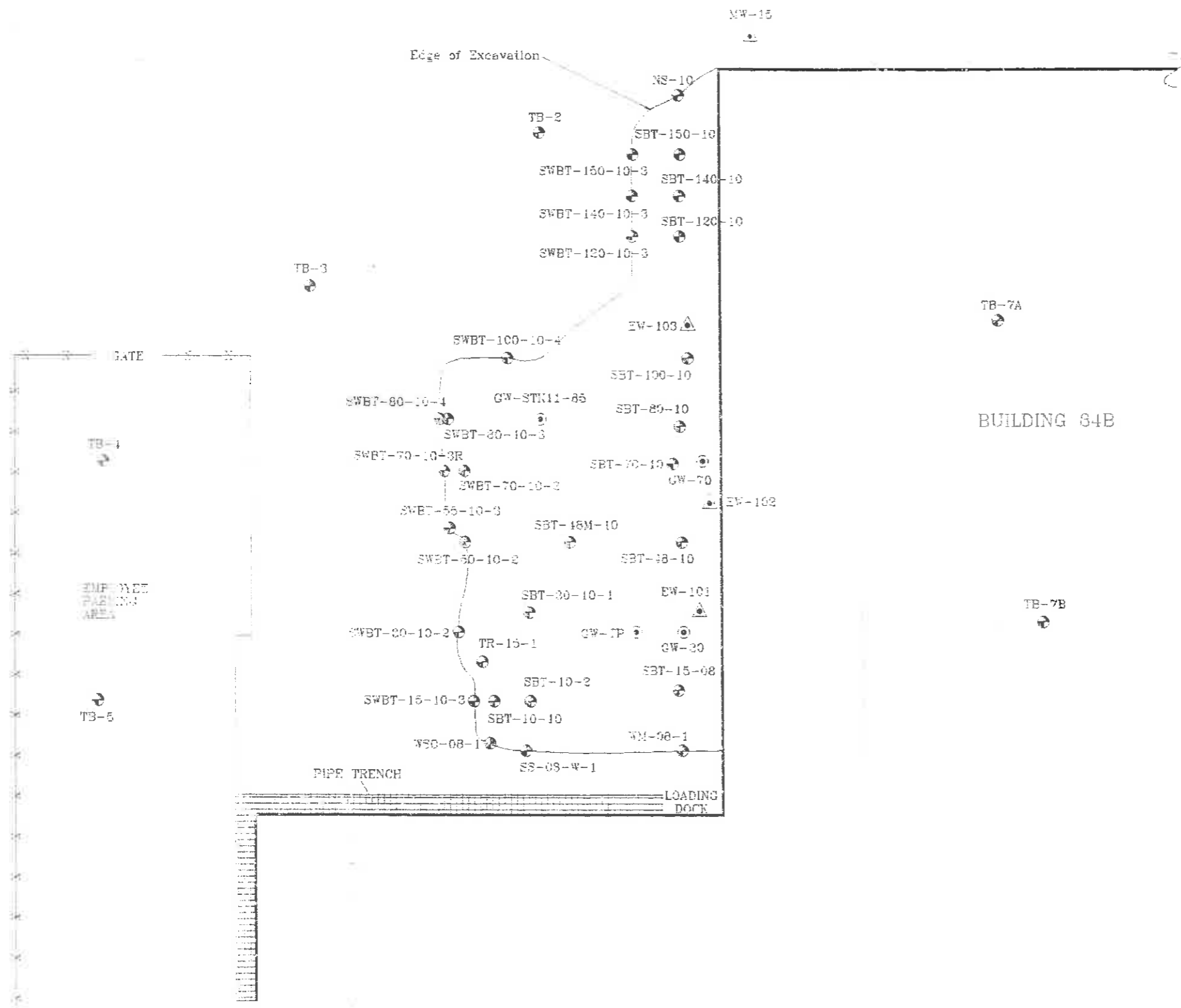




GM TANK FARM #94	
TITLE: SOIL BORING & MONITORING WELL LOCATIONS FORMER TANK FARM #94 FLINT, MICHIGAN	
DATE: 6/5/97	SCALE: 1"=40'
 Global Environmental Engineering Inc.	APPROVED BY: M.W.K.
	PREPARED BY: C.G.S.
	FIGURE NUMBER: 1
PROJECT NUMBER: F298	

FIGURE 2



LEGEND:

-  Soil Sample Locations
-  Water Sample Locations
-  Monitoring Well Locations
-  Fence (TYP.)

Woodward Clyde 1995 Soil Remediation


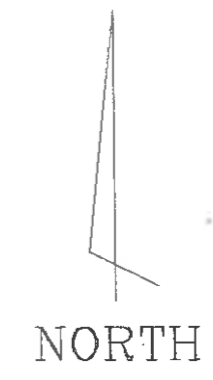
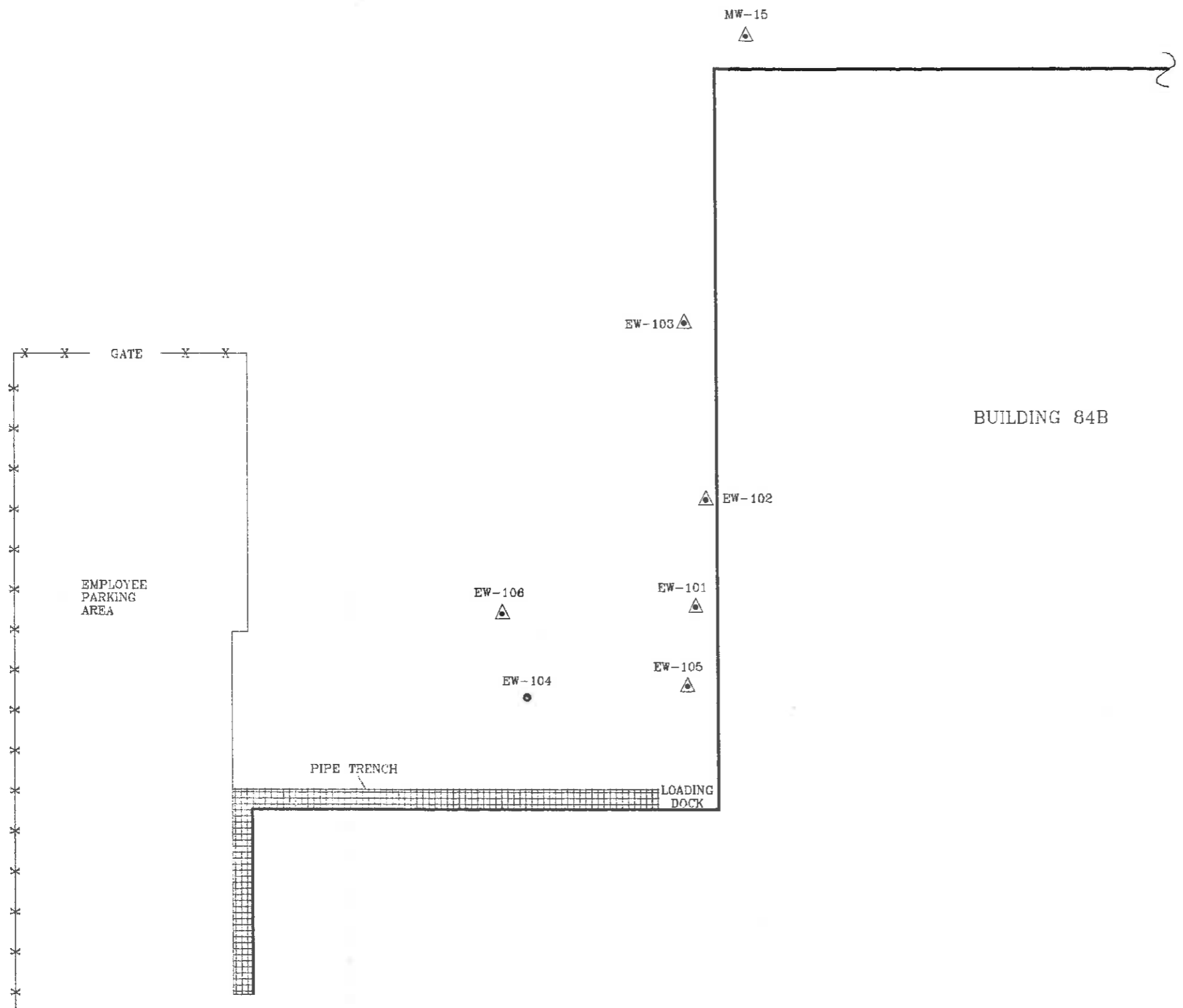
GM TANK FARM #94	
TITLE: SOIL REMEDIATION/VERIFICATION SAMPLE LOCATIONS FORMER TANK FARM #94 FLINT, MICHIGAN	
DATE: 6/5/97	SCALE: 1"=40'
 Global Environmental Engineering Inc.	APPROVED BY: M.W.K.
	PREPARED BY: C.G.S.
	FIGURE NUMBER 2
PROJECT NUMBER: F298	

FIGURE 3



LEGEND:

- Soil Boring Location
- ▲ Monitoring Well Locations
- X-X Fence (TYP.)

Global Environmental Engineering 1997 Investigation


GM TANK FARM #94	
TITLE: MONITORING & EXTRACTION WELL LOCATIONS FORMER TANK FARM #94 FLINT, MICHIGAN	
DATE: 6/5/97	SCALE: 1"=40'
 Global Environmental Engineering Inc.	APPROVED BY: M.W.K.
	PREPARED BY: C.G.S.
	FIGURE NUMBER: 3
PROJECT NUMBER: F298	

TABLE 1

TANK FARM 94
 GENERAL MOTORS CORPORATION - FLINT, MICHIGAN
 TABLE 1: GROUNDWATER LABORATORY ANALYTICAL RESULT SUMMARY

Sample ID	Date	Sample Analytical Parameters (reported in ug/l)										Solvents	Lead
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs						
Samples collected during WW Engineering & Science Investigation													
TB-13	7/14/92	10,525	2,350	2,950	9,475	NA	Naphthalene	41	NA	NA	66		
MW-11MWS-1	7/28/92	ND	ND	ND	ND	51	ND	ND	ND	ND	ND		
MW-10MWS-1	7/28/92	60	58	1,000	ND	ND	Naphthalene	100	ND	ND	ND		
MW-9MWS-1 (Dup)	7/28/92	25	1.6	ND	ND	ND	ND	ND	ND	ND	ND		
MW-9MWS-1	7/28/92	28	1.7	ND	ND	ND	ND	ND	ND	Vinyl Chloride	5.4	ND	
MW-7DMWS-1	7/28/92	ND	ND	ND	12,000	ND	ND	ND	ND	ND	ND	ND	
MW-7SMWS-1	7/28/92	3,100	660	3,700	MISS	MISS	Naphthalene	120	MISS	MISS	ND	ND	
Bldg 84b SB-7B Test Site #4	5/9/92	ND	ND	ND	ND	ND	NA	NA	ND	1,2-Dichloroethene Methylene Chloride Vinyl Chloride	4.0 11 4.0	ND	
Bldg 84b SB-7A Test Site #2	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	1,2-Dichloroethene	2.0	ND	
MW-15MWS-1	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	Vinyl Chloride	1.3	ND	
TB-14 Dup	8/1/92	20	24	ND	96	ND	Naphthalene	110	ND	ND	2.3		
TB-14B	8/1/92	80	410	2.7	630	ND	Naphthalene	110	ND	ND	1.1		
TB-14	7/13/92	3,600	2,250	1,400	6,126	NA	Naphthalene	54	NA	NA	57		
Samples collected during Woodward Clyde Investigation/Excavation													
GW-30	12/19/95	20	2.5	1.3	7.5	NA	NA	NA	NA	NA	NA	NA	
GW-70	12/19/95	1,700	120	210	850	NA	NA	NA	NA	NA	NA	NA	
GW-STK11-85	1/2/96	51	13,000	7,000	38,000	NA	ND	ND	NA	NA	NA	NA	
GW-TP	12/19/95	63	51	14	49	NA	NA	NA	NA	NA	NA	NA	

Sample ID	Date	Sample Analytical Parameters (reported in ug/l)									
		Benzene	Toluene	Ethylbenzene	Xylene	MTEB	PNA's	Solvents	Lead		
EW 101	2/20/96	2.3	ND	ND	3.6	520	ND	NA	NA	NA	
EW 101 (After)	2/20/96	8	1.2	ND	4.1	520	ND	NA	NA	NA	
EW 102	2/20/96	64	1.3	33	20	ND	ND	NA	NA	NA	
EW 102 (After)	2/20/96	59	1.7	32	22	ND	ND	NA	NA	NA	
EW 103	2/20/96	10	8.3	1.2	7.8	ND	ND	NA	NA	NA	
EW 103 (After)	2/20/96	5.9	11	1.4	8.6	ND	ND	NA	NA	NA	
Samples collected during Global Environmental Engineering Investigation											
EW 101	3/4/97	ND	ND	ND	ND	NA	ND	NA	NA	ND	
EW-102	3/4/97	27	ND	ND	ND	NA	ND	NA	NA	ND	
EW-103	3/4/97	ND	ND	ND	ND	NA	ND	NA	NA	ND	
MW-15	3/4/97	ND	ND	ND	ND	NA	ND	NA	NA	ND	
EW-105	3/18/97	ND	ND	ND	ND	ND	ND	NA	NA	ND	
EW-106	3/18/97	ND	ND	ND	ND	97	ND	NA	NA	ND	

TABLE 2

TANK FARM 94
 GENERAL MOTORS CORPORATION - FLINT, MICHIGAN
 TABLE 2: SOIL LABORATORY ANALYTICAL RESULT SUMMARY

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)								Solvents	Lead
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs				
Samples collected during WW Engineering & Science Investigation											
SB-7B SS-2	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	3,900
SB-7B SS-5	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	6,800
SB-7A SS-6	5/9/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	7,900
MW-15 SS-6	7/14/92	ND	ND	ND	ND	NA	NA	NA	NA	NA	6,900
MW-10 SS-4	7/9/92	ND	ND	ND	273	NA	Naphthalene	820	NA	NA	17,000
TB-8 SS-5	7/9/92	270	ND	ND	ND	NA	ND	NA	NA	NA	15,000
MW-7D SS-4	7/7/92	matrix in- terference	17,000	95,000	370,000	ND	Phenanthrene Pyrene	690 820	ND	ND	36,000
MW-7D SS-11	7/7/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	18,000
TB-8B SS-3	8/1/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	4,800
MW-9 SS-6	7/7/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	8,700
MW-10B SS-5	8/1/92	6300	ND	ND	160,000	ND	Naphthalene	1700	ND	ND	6,800
MW-11 SS-7	7/7/92	ND	ND	ND	ND	ND	ND	ND	ND	ND	16,000

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)							Solvents	Lead
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs	Lead		
TB-13 SS-3	7/14/92	720	3,335	1,460	4,405	NA	Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(ghi)perylene Chrysene Dibenzo(ah)anthracene Fluoranthene Fluorene Indeno (123-cd)pyrene Naphthalene Pyrene	1400 1700 5700 23000 18000 24000 4600 27000 3700 31000 2900 4600 870 3200	NA	4,300
TB-14B SS-2	8/1/92	ND	ND	ND	ND	ND	ND	ND	ND	4,600
MW-15B SS-8	8/1/92	ND	ND	ND	ND	ND	ND	ND	ND	9,400
Samples collected during Woodward Clyde investigation/excavation										
SB-1 (14-16')	4/10/95	ND	39	51	ND	NA	ND	ND	NA	NA
SB-1 (19-21')	4/10/95	290	820	23,000	62,000	NA	ND	ND	NA	NA
SB-2 (9-11')	4/10/95	ND	16	17	85	NA	ND	ND	NA	NA
SB-2 (14-16')	4/10/95	ND	ND	ND	ND	NA	ND	ND	NA	NA
SB-3 (9-11')	4/10/95	ND	ND	ND	ND	NA	ND	ND	NA	NA
SB-4 (6-8')	4/10/95	9,600	20,000	68,000	250,000	NA	Anthracene Benzo(a)anthracene Benzo(a)pyrene Chrysene Dibenzo(ah)anthracene Fluoranthene Naphthalene Phenanthrene Pyrene	5300 8100 6000 12000 20000 17000 4600 14000 16000	NA	NA
SB-4 (9-11')	4/10/95	17	29	39	180	NA	ND	ND	NA	NA

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)									
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs	Solvents	Lead		
WM-08-1 (Sidewall)	12/18/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA
SBT-15-08 (Floor)	12/18/96	37	23	59	245	NA	ND	NA	NA	NA	NA
SBT-48-10 (Floor)	12/20/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA
SBT-70-10 (Floor)	12/15/95	180	ND	ND	ND	NA	NA	NA	NA	NA	NA
SBT-80-10 (Floor)	1/3/96	260	860	600	2,400	NA	NA	NA	NA	NA	NA
SBT-100-10 (Floor)	1/3/96	210	2,400	670	2,700	NA	NA	NA	NA	NA	NA
SBT-120-10 (Floor)	1/3/96	24	400	140	690	NA	ND	NA	NA	NA	NA
SBT-140-10 (Floor)	1/3/96	ND	78,000	45,000	190,000	NA	Acenaphthalene	5700	NA	NA	NA
SBT-150-10 (Floor)	1/3/96	100	670	790	3,200	NA	Acenaphthalene	1600	NA	NA	NA
NS-10 (Floor)	1/4/96	25	ND	ND	ND	NA	ND	NA	NA	NA	NA
SS-08-W-1 (Sidewall)	12/20/95	24	ND	11	ND	NA	ND	NA	NA	NA	NA
WSO-08-1 (Sidewall)	12/20/95	3,800	18,000	1,900	11,600	NA	NA	NA	NA	NA	NA
SWBT-15-10-3 (Sidewall)	12/19/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA
SWBT-30-10-2 (Sidewall)	12/20/95	ND	ND	ND	ND	NA	ND	NA	NA	NA	NA
SWBT-50-10-2 (Sidewall)	12/20/95	91	20	300	689	NA	2-Methylnaphthalene	410	NA	NA	NA

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)								Solvents	Lead
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs				
SWBT-55-10-3 (Sidewall)	12/21/95	65	22	21	ND	NA	ND	NA	NA	NA	
SWBT-70-10-2 (Floor)	12/20/95	12,000	5,600	19,000	73,700	NA	NA	NA	NA	NA	
SWBT-70-10-3-R (Sidewall)	1/2/96	ND	ND	ND	ND	NA	ND	NA	NA	NA	
SWBT-80-10-3 (Floor)	1/3/96	ND	14	ND	ND	NA	Acenaphthalene	1900	NA	NA	
SWBT-80-10-4 (Sidewall)	1/4/96	ND	ND	ND	ND	NA	Benzo(a)anthracene	790	NA	NA	
SBT-100-10-4 (Sidewall)	1/4/96	ND	270	ND	ND	NA	Fluoranthene	490	NA	NA	
SWBT-120-10-3 (Sidewall)	1/3/96	ND	ND	ND	ND	NA	ND	ND	NA	NA	
SWBT-140-10-3 (Sidewall)	1/3/96	11	41	18	ND	NA	ND	ND	NA	NA	
P-145 (Sidewall)	1/4/96	ND	100	66	140	NA	Fluorene Phenanthrene Fluoranthene	4700 9700 15000	NA	NA	
SWBT-150-10-3 (Sidewall)	1/4/96	ND	ND	ND	ND	NA	ND	ND	NA	NA	
SWBT-10-2 (Floor)	12/19/95	ND	ND	ND	ND	NA	ND	ND	NA	NA	
SBT-10-10 (Floor)	12/18/96	32,000	10,000	110,000	420,000	NA	NA	NA	NA	NA	
TR-15-1 (Floor)	12/19/95	19	ND	ND	ND	NA	NA	NA	NA	NA	

TABLE 3

TANK FARM 94**GENERAL MOTORS CORPORATION - FLINT, MICHIGAN****TABLE 3: RISK-BASED SCREENING LEVELS - GROUNDWATER**

Chemical	Risk-Based Screening Levels - Groundwater		
	Health-Based Drinking Water (Residential)	Health-Based Drinking Water (Comm./Industrial)	Direct Contact
Benzene	5	5	9,300
Toluene	790	790	526,000
Ethylbenzene	74	74	169,000
Xylenes	280	280	186,000
MTBE	240	690	1,700,000
Lead	4	4	Insufficient Data
Naphthalene	260	750	31,000
1,2-Dichloroethene	70	70	170,000
Methylene Chloride	5	5	110,000
Vinyl Chloride	2	2	290

Sample ID	Date	Sample Analytical Parameters (reported in ug/kg)										Solvents	Lead
		Benzene	Toluene	Ethylbenzene	Xylene	MTBE	PNAs						
SBT-30-10-1 (Floor)	12/19/95	ND	ND	ND	ND	NA	Phenanthrene	2000	NA	NA	NA	NA	NA
							Anthracene	730					
							Fluoranthene	2300					
							Pyrene	1600					
							Benzo(a)anthracene	740					
							Chrysene	720					
							Benzo(b)fluoranthene	550					
					Benzo(k)fluoranthene	720							
					Benzo(a)pyrene	460							
SBT-48-M-10 (Floor)	12/21/95	14	16	830	2,041	NA	ND					NA	NA
SBT-TK11-10 (Floor)	1/2/96	50	170,000	86,000	350,000	NA	Naphthalene	700				NA	NA
							Acenaphthene	22000					
Samples collected during Global Environmental Engineering investigation													
EW-4 (8-10')	3/11/97	ND	ND	ND	ND	ND	ND					NA	7000
EW-5 (8-10')	3/11/97	ND	ND	ND	ND	ND	ND					NA	3700
EW-6 (12-14')	3/11/97	ND	ND	ND	ND	ND	ND					NA	11000

TABLE 4

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GENERAL MOTORS CORPORATION - FLINT, MICHIGAN

TABLE 4: RISK-BASED SCREENING LEVELS - SOIL

Chemical	Risk-Based Screening Levels - Soil		
	Leaching to Groundwater	20X Drinking Water Criteria	Direct Contact (Residential)
Benzene	100	100	88,000
Toluene	16,000	3,950	620,000
Ethylbenzene	1,500	1,480	380,000
Xylenes	5,600	5,600	400,000
MTBE	4,800	1,200	10,000,000
Lead	21,000 (Type A Default)	20	400,000
Acenaphthene	300,000	26,000	76,000,000
Acenaphthylene	520	520	15,000,000
Anthracene	6,900,000	146,000	420,000,000
Benzo(a)anthracene	E	24	14,000
Benzo(b)fluoranthene	E	24	14,000
Benzo(k)fluoranthene	E	240	140,000
Benzo(ghi)perylene	E	520	1,500,000
Chrysene	E	2,400	1,400,000
Dibenzo(ah)anthracene	E	2.4	1,400
Fluoranthene	3,000,000	17,600	51,000,000
Fluorene	390,000	17,600	51,000,000
Indeno(123-cd)pyrene	E	24	14,000
2-Methylnaphthalene	5,200	5,200	15,000,000
Naphthalene	17,000	5,200	15,000,000
Phenanthrene	12,000	Insufficient Data	1,500,000

Chemical	Risk-Based Screening Levels - Soil		
	Leaching to Groundwater	20X Drinking Water Criteria	Direct Contact (Residential)
Pyrene	1,800,000	3,000,000	32,000,000
1,2-Dichloroethene	1,400	1,400	1,000,000
Methylene Chloride	100	100	340,000
Vinyl Chloride	40	40	1,200