

PROPOSED ADDENDUM #1 RFI SCOPE OF WORK

PREPARED FOR:

GE APPARATUS SERVICE CENTER TONAWANDA, NEW YORK

October 7, 1998

PREPARED BY:

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October 7, 1998

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New York State Department of Environmental Conservation 270 Michigan Avenue Buffalo, New York 14203-2999

Attention:

Mr. Frank Shattuck, P.E.

Regional Solid and Hazardous

Materials Engineer

RE:

Proposed Addendum #1

RFI Scope of Work

GE Apparatus Service Center

Tonawanda, New York

Dear Mr. Shattuck:

1.0 INTRODUCTION

On behalf of General Electric Company (GE), Dames & Moore has developed this addendum to the scope of work for the *RCRA Facility Investigation (RFI) Work Plan (Work Plan)*, dated December 4, 1996, for the GE Apparatus Service Center in Tonawanda, New York. As you are aware, GE is currently implementing the RFI program, in accordance with the *RFI Work Plan*. The *Work Plan*, which was developed by ERM-Northeast, Inc., was amended by GE's responses to the New York State Department of Environmental Conservation's (NYSDEC's) comments on the *Work Plan*. The NYSDEC's comments were provided in a letter, dated March 13, 1998. GE's responses were presented in a letter, dated April 28, 1998.

Dames & Moore has developed this addendum to the RFI scope of work based on the results obtained during the field portion of the on-going RFI. Section 2.0 summarizes the results from the RFI completed to date. Section 3.0 presents the objectives of the proposed addendum. Section 4.0 describes the proposed scope of work. The revised schedule is summarized in Section 5.0.

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2.0 SUMMARY OF RFI FIELD RESULTS

This section summarizes the results of the relevant portions of the field investigation completed to date. A detailed discussion of these results will be included in the final RFI report.

2.1 Surface Soil and Sediment Sampling Results

During the RFI, Dames & Moore completed the following surface soil and sediment sampling work:

- Collected 26 surface soil samples in the northeast part of the site, near the railroad tracks;
- Field screened the 26 surface soil samples for PCBs using RaPID immunoassay polychlorinated biphenyl (PCB) field screening kits;
- Submitted 11 of the 26 surface soil samples and two duplicate samples for laboratory analysis for PCBs (EPA Method 8082); and
- Collected one sediment sample from the truck bay trench for laboratory analysis for PCBs (EPA Method 8082).

A summary of the surface soil field screening results with RaPID immunoassay PCB kits is presented in Table 1. A summary of the laboratory analytical results for the surface soil and sediment samples is in Table 2. The surface soil sampling locations are shown in Figure 1. The field screening results and the laboratory analytical results for the 26 surface soil samples are provided in Figure 2.

As shown in Table 1, PCBs were detected in 24 of the 26 surface soil samples analyzed by the RaPID immunoassay PCB field screening kits. The concentrations ranged from 0.3 mg/kg to 379.9 mg/kg. The greatest PCB concentration was found in soil sample S-24, which was collected near the northeast corner of the building, immediately north of the railroad tracks.

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Eleven surface soil samples were selected for laboratory analysis for PCBs using EPA Method 8082. The concentrations of PCBs in the 11 surface soil samples ranged from 0.1 mg/kg to 75 mg/kg. The greatest PCB concentration (75 mg/kg) detected by the laboratory was found in surface soil sample S-37, which was collected near the southwest corner of the fenced area near the railroad tracks. PCBs were also detected in the sediment sample from the truck bay trench at 240 mg/kg, which suggests that the sediments in this area have been impacted by PCBs.

PCB concentrations exceeding the NYSDEC's Recommended Soil Cleanup Objective (NYSDEC TAGM HWR-4046, January 24, 1994) for PCBs of 1 mg/kg in surface soils were detected at 20 of the 26 surface soil samples locations using the RaPID immunoassay PCB field screening kits and nine of the 11 laboratory analyzed soil samples. PCB concentrations above 1 mg/kg were detected along the northern, eastern and southeastern portion of the fenced area near the railroad tracks. Based on the scope of work completed to date, the extent of PCBs above 1 mg/kg in the surface soils has not been delineated.

2.2 Subsurface Soil Sampling Results

During the RFI, Dames & Moore completed the following subsurface soil sampling work:

- Installed 11 shallow soil borings and three deep soil borings;
- Conducted continuous split-spoon sampling;
- Collected 99 subsurface soil samples;
- Field screened 54 out of the 99 subsurface soil samples for PCBs using RaPID immunoassay
 PCB field screening kits; and
- Submitted 37 subsurface soil samples for laboratory analysis for PCBs (EPA Method 8082)
 and 19 soil samples for volatile organic compounds (VOCs) (EPA Method 8021).

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The soil boring locations are in Figure 1. The remainder of this section summarizes the analytical results.

PCB Sampling Results

Subsurface soil samples were screened in the field using RaPID immunoassay PCB kits and a Photoionization Detector (PID). The field screening results are in Table 3 (monitoring wells and shallow soil borings) and Table 4 (deep soil borings). The laboratory analytical results are in Table 5 (monitoring wells and shallow soil borings) and Table 6 (deep soil borings). The results are also summarized in Figure 3. Table 7 summarizes the test kit results and the laboratory results for PCBs for all soil samples collected for the on-going RFI.

PCBs were detected in the subsurface soil samples, but at concentrations that did not exceed the NYSDEC's Recommended Soil Cleanup Objective for PCBs of 10 mg/kg in subsurface soils. The exceptions were subsurface soil samples collected from 2 to 4 feet below grade from monitoring well boring MW-2, which was installed near the sewer lines east of the building, and from 4 to 6 feet below grade from monitoring well boring MW-3, which was installed in the former rinse water tank excavation. The PCB concentration in the soil sample collected from 2 to 4 feet below grade from MW-2 was 33 mg/kg (EPA Method 8082). The PCB concentration in the soil sample collected from 4 to 6 feet below grade from MW-3 was 29.23 mg/kg (RaPID kit) and 66 mg/kg (EPA Method 8082).

PCB concentrations in soil samples from the monitoring well boring MW-4, which was installed southwest of the building proximate to where the sewer lines exit the site, ranged from not detected (at depth from 14 to 16 feet below grade) to 5.7 mg/kg (at depth from 8 to 8.5 feet below grade which is believed to be near the base of the sewer trench). This suggests that although some PCBs may have migrated along the sewer lines, no impacts above the NYSDEC's Recommended Soil

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Cleanup Objective for PCBs were detected in the soils at the location of MW-4. The areal extent of PCBs in soils along the sewer lines, between monitoring wells MW-2 and MW-4, is not fully defined.

VOC Sampling Results

Selected soil samples collected near the former rinse water tank and the container storage area were analyzed for VOCs using EPA Method 8021. Levels of VOCs were detected at concentrations that were generally less than the NYSDEC's Recommended Soil Cleanup Objectives. The concentrations of chlorobenzene of 34 mg/kg in the soil sample collected from 4 to 6 feet below grade from monitoring well boring MW-3, and 1,1-dichloroethane of 0.008 mg/kg in the duplicate sample of the soil sample collected from 6 to 8 feet below grade from boring B-17, were detected above their respective cleanup objectives. No VOCs were detected in soil samples from monitoring well MW-4, which is near where the sewer lines exit the site, southwest of the GE building.

2.3 Groundwater Sampling Results

During the RFI, Dames & Moore collected groundwater samples from the three newly installed wells (MW-2, MW-3, and MW-4). Prior to sampling, the measured depth to water in these three wells ranged from 6.3 feet in MW-3 to 9.9 feet in MW-4. Based on these gauging data, monitoring well MW-4, which is southwest of the building, is downgradient of wells MW-2 and MW-3.

The three groundwater samples were analyzed for VOCs (EPA Method 8021) and PCBs (EPA Method 8082). The laboratory analytical results for the groundwater samples are in Table 8. Concentrations of both VOCs and PCBs were detected above groundwater standards in the samples from MW-2 (near the sewer lines, east of the building) and from MW-3 (former rinse water tank excavation).

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The detected concentrations of VOCs in groundwater from MW-4 (chloroform and methylene chloride) were less than groundwater standards. PCBs were not detected in the groundwater sample from MW-4.

3.0 OBJECTIVES

The objectives of the addendum scope of work are to:

- Further evaluate the extent of PCBs in the surface soils near the railroad tracks;
- Further evaluate the extent of PCBs and VOCs in the soils and groundwater near the former rinse water tank;
- Further evaluate the extent of PCBs and VOCs along the sewer lines, between the locations of MW-2/MW-3 and MW-4 (near where the sewer lines exit the site); and
- Evaluate whether there may be an active source of PCBs in the sediments in the truck bay trench.

4.0 RFI ADDENDUM SCOPE OF WORK

For the RFI addendum, Dames & Moore proposes these five tasks:

- TASK 1 Collect Additional Surface Soil Samples
- TASK 2 Install Additional Soil Borings and Monitoring Wells near the Former Rinse Water

 Tank
- TASK 3 Monitor Groundwater
- TASK 4 Install Additional Soil Borings Along the Sewer Lines
- TASK 5 Evaluate Truck Bay Trench



The results from these five tasks will be evaluated and included in the final RFI report. The remainder of this section describes these five tasks.

4.1 TASK 1 - Collect Additional Surface Soil Samples

Based on the surface soil sampling results available to date, the extent of soils containing PCBs above 1 mg/kg, which is the NYSDEC's Recommended Soil Cleanup Objective for PCBs in surface soils, has not been defined. Dames & Moore will collect an additional 10 to 15 surface soil samples in the general areas annotated in Figure 4. We anticipate that GE will assist Dames & Moore in obtaining permission from the owners of the adjacent properties (if applicable) to collect surface soil samples off-site.

Each soil sample will be screened in the field using a RaPID immunoassay PCB field screening kit. Based on the field screening results, we anticipate that up to five samples will be sent to the laboratory for confirmatory analysis for PCBs (EPA Method 8082). The laboratory quality assurance/quality control (QA/QC) procedures will be as specified in the *RFI Work Plan*.

4.2 TASK 2 - Install Additional Soil Borings and Monitoring Wells near the Former Rinse Water Tank

Based on the soil boring results, the extent of subsurface soils near the former rinse water tank that contain PCBs above the NYSDEC's recommended soil cleanup objective for PCBs of 10 mg/kg in subsurface soils has not been defined. Dames & Moore will install up to five additional soil borings around the former rinse water tank excavation to further define the extent of PCB-contaminated soils. The proposed additional soil boring locations are shown in Figure 4.

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Dames & Moore anticipates that the total depth of each boring will be between 10 and 15 feet. Continuous split spoon samples will be collected from each boring, and the samples will be screened using RaPID immunoassay PCB field screening kits. The borings will be advanced until the field screening data no longer indicates the presence of PCBs. Based on the field screening results, we anticipate that up to five samples will be sent to the laboratory for confirmatory analysis for PCBs (EPA Method 8082). The laboratory QA/QC procedures will be as specified in the *RFI Work Plan*.

Up to three additional monitoring wells will be installed at selected soil borings locations to further evaluate the groundwater conditions outside of the former rinse water tank excavation. These wells will be constructed of two-inch diameter PVC screen and riser and will be developed using the procedures specified in the *RFI Work Plan*. Furthermore, the locations, ground elevations, and top-of-casing elevations (where applicable) of the new soil borings and wells will be surveyed and annotated on the site map.

4.3 TASK 3 - Monitor Groundwater

Approximately one week after the installation and development of the three new wells, the three new wells and three previously installed wells will be gauged to obtain water level elevations. Following the gauging event, the six wells will be purged of three to five volumes of water (or purged dry) to allow for collection of representative groundwater samples. The groundwater samples will be collected and handled in accordance with the procedures specified in the *RFI Work Plan*. The samples will be analyzed for VOCs (EPA Method 8021) and PCBs (EPA Method 8082). The laboratory QA/QC procedures will be as specified in the *RFI Work Plan*.

4.4 TASK 4 - Install Additional Soil Borings Along the Sewer Lines

Based on the results from the soil samples collected along the sewer lines, the extent of PCBs between the eastern end of the building and monitoring well MW-4 is not known. Dames & Moore



will install up to four additional soil borings to further define the extent of PCB-contaminated soils along the sewer lines. The proposed additional soil boring locations are shown in Figure 4.

The anticipated total depths for each boring will be between 10 and 15 feet. Continuous split spoon samples will be collected from each boring, and the samples will be screened using RaPID immunoassay PCB field screening kits. The borings will be advanced until the field screening data no longer indicates the presence of PCBs. Based on the field screening results, we anticipate that up to five samples will be sent to the laboratory for confirmatory analysis for PCBs (EPA Method 8082). The laboratory QA/QC procedures will be as specified in the *RFI Work Plan*.

4.5 TASK 5 - Evaluate Truck Bay Trench

PCBs were detected in the sediment samples collected from the former truck bay trench. The source of the PCBs is uncertain. Dames & Moore will review the current operations near the truck bay trench to evaluate whether there is an active source of PCBs in the trench. Additionally, we will collect one sediment sample from the sump located in the truck-bay, and analyze this sample for PCBs (EPA Method 8082). According to GE personnel, this sump is not connected to the sewer system, and its contents are periodically pumped out for off-site disposal.

Furthermore, we will review the locations of all subsurface utilities near the trench. Finally, we will estimate the volume of sediment in the trench and evaluate the cleanup and disposal costs for these sediments.



5.0 REVISED SCHEDULE

Dames & Moore will initiate the activities related to the implementation of this addendum within two weeks from receipt of the NYSDEC's approval of this addendum. We have estimated that the implementation of the addendum, including the laboratory analyses, will take approximately six weeks. The revised project timeline is shown in Figure 5.

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GE and Dames & Moore appreciate the NYSDEC's assistance with this project. If you have any questions or comments, please call us.

Very truly yours,

DAMES & MOORE

Teresa M. Misiolek

Project Manager

Scott Sklenar, P.G.

Group Leader - Lake Ontario Subregion

copy: Bryce MacDonald, GE Schenectady

Tony Hejmanowski, GE Tonawanda Pete Smith, Dames & Moore Buffalo

TABLE 1

SUMMARY OF FIELD SCREENING RESULTS IMMUNOASSAY TEST KIT SURFACE SOIL SAMPLES

GE - Tonawanda, NY RFI Program

	Total PCBs
Soil Sample	(mg/kg)
S-20	0.4
S-21	7.0
S-22	226.9
S-23	17.6
S-24	379.9
S-25	10.0
S-26	23.5
S-27	54.4
S-28	0.4
S-29	4.1
S-30	2.1
S-31	2.9
S-32	14.7
S-33	2.1
S-34	1.5
S-35	34.3
S-36	32.4
S-37	89.7
S-38	23.5
S-39	0.3
S-40	0.9
S-41	ND
S-42	6.2
S-43	ND
S-44	4.7
S-45	1.2

Note: table summarizes the field test screening results of surface soils using a "RaPid Assay" immunoassay PCB field test kit

ND = Not detected (at detection limit of <0.25 mg/kg)

LABORATORY ANALYTICAL RESULTS SUMMARY OF DETECTED COMPOUNDS SURFACE SOIL AND SEDIMENT SAMPLES

GE - Tonawanda, NY RFI Program

PCB Aroclor	Units	RCSB ^A	SED2	S-20	S-22	DUP4-PCB (S-22)	S-24	DUP5-PCB (S-24)	S-27
PCBs SW846 8082	082								
Aroclor 1254	mg/kg	1.0	240.0	240.0 ND(<0.019	7.8	6.5	ND(<4.0)	ND(<4.0) ND(<20.0)	2.8
Aroclor 1260	mg/kg	1.0	ND(<23.0)	690'0		ND(<1.8) ND(<1.8)	42.0	0.09	11.0
TOTAL PCBs:	mg/kg	1.0	240.0	690'0	7.8	6.5	42.0	0.09	13.8

PCB Aroclor	Units	RCSB ^A	S-28	S-35	S-37	S-39	S-40	S-42	S-44
PCBs SW846 8082	082								
Aroclor 1254	mg/kg	1.0	0.54	2.3	19	0.0	0.47	ND(<0.21) ND(<0.20)	ND(<0.20)
Aroclor 1260	mg/kg	1.0	2.0	6.5	99	0.0	1.4	3.1	0.52
TOTAL PCBs: mg/kg	mg/kg	1.0	1.2	8.800	75.0	0.1	1.9	3.1	0.5

ND(<5.0) = Not detected above specified detection limit A Recommended Soil Cleanup Objective from NYSDEC TAGM HWR-4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994

SUMMARY OF FIELD SCREENING RESULTS IMMUNOASSAY TEST KIT AND PID SCREENING MONITORING WELL AND SHALLOW SOIL BORINGS

GE - Tonawanda, NY RFI Program

	MW	W-2	MW-3	/-3	MW-4	4,	B-13	3	B-14	4	8-15	2	91-B	2
Depth	PCBs	PID												
(feet)	(mg/kg)	(mdd)	(mg/kg)	(ppm)	(mg/kg)	(mdd)								
0-2,	NA	BKG	NA	15.0	NA	BKG	0.79	4.0	QN	50	QN	20	QN	4.5
2-4'	NA	BKG	NA	BKG	NA	BKG	1.04	9.5	QN	10	QN	24	ΩN	4.5
4-6'	NA	NR	29.23	14.6	NA	BKG	:				:		0.22	40.0
,8-9	NA	BKG	NA	17.0	5.7	8.0			••				89'0	25.0
8-10'	-		NA	4.0	NA	0.9	-		***		1		0.17	20.0
.71-01			0.83	3.0	QN	BKG	-						••	
12-14'	-		•		NA	BKG	:		••		***			
14-16'			1		QΝ	12.0	-		••		1			
		-										1		

NA = Not Analyzed using immunoassay test kit

-- = boring not advanced to that depth

BKG = PID reading below site background level of 0.2 ppm

NR = No PID reading obtained

ND = No PCBs detected during immunoassay analysis (at detection limit of 0.25 mg/kg)

SUMMARY OF FIELD SCREENING RESULTS IMMUNOASSAY TEST KIT AND PID SCREENING MONITORING WELL AND SHALLOW SOIL BORINGS

GE - Tonawanda, NY RFI Program

	B-1,	17	B-18	8	B-19	6	B-20	03	B-21	_	B-22	2	B-23	13
Depth	PCBs	PID	PCBs	PID	PCBs	PID	PCBs	PID	PCBs	PID	PCBs	PID	PCBs	PID
(feet)	(mg/kg)	(mdd)	(ppm) (mg/kg) (ppm)	(mdd)	(mg/kg)	(mdd)	(mg/kg) (ppm)	(mdd)	(mg/kg) (ppm)	(mdd)	(mg/kg) (ppm)	(mdd)	(mg/kg)	(mdd)
0-2,	NA	Ŗ	QN	4.0	0.17	10.0	QN	0.5	ND	BKG	ND	19.0	2.37	3.0
2-4'	QN	6.4	0.42	BKG	9.65	5.0	ΩN	4.5	ND	3.1	NA	NA	98.0	4
4-6'	0.17	40.0	QX	24.0	ND	11.0	••		ŧ		NA	NA	0.58	40
.8-9	Q	44.0	QN	54.0	ND	4.0			1		-		ND	14
8-10'	Ð	25.0	QN	8.0	ND	32.0			-		•			
10-12'			•		-		-		•		-		•	
14'	-		-		•		-		-		-		ł	
14-16'	1		1				•				-		1	

NA = Not Analyzed using immunoassay test kit

-- boring not advanced to that depth

BKG = PID reading below site background level of 0.2 ppm

NR = No PID reading obtained

ND = No PCBs detected during immunoassay analysis (at detection limit of 0.25 mg/kg)

TABLE 4

SUMMARY OF FIELD SCREENING RESULTS IMMUNOASSAY TEST KIT AND PID SCREENING DEEP SOIL BORINGS

GE - Tonawanda, NY RFI Program

	DH	3-1	DE	3-2	DE	3-3
Depth (feet)	PCBs (mg/kg)	PID (ppm)	PCBs (mg/kg)	PID (ppm)	PCBs (mg/kg)	PID (ppm)
0-2'	0.013	BKG	0.038	BKG	ND	BKG
2-4'	NA	BKG	NA	BKG	NA	BKG
4-6'	NA	BKG	0.076	BKG	NA	4.0
6-8'	0.46	BKG	NA	BKG	NA	4.0
8-10'	NA	BKG	0.051	BKG	ND	16.0
10-12'	ND	BKG	NA	BKG	NA	16.5
12-14'	NA	BKG	NA	BKG	NA	8.0
14-16'	NA	BKG	· NA	BKG	ND	8.0
16-18'	ND	BKG	NA	BKG	NA	3.0
18-20'	NA	BKG	NA	BKG	ND	2.0
20-22'	NA	NR	NA	NR	NA	NR
22-24'	0.35	BKG	0.18	BKG	NA	0.9
24-26'	NA	BKG	NA	BKG	ND	4.0
26-28'	NA	BKG	NA	BKG	NA	3.5
28-30'	ND	BKG	0.25	BKG	ND	7.0

NA = Not Analyzed using immunoassay test kit

-- = boring not advanced to that depth

BKG = PID reading below site background level of 0.2 ppm

NR = No PID reading obtained

ND = No PCBs detected during immunoassay analysis (at detection limit of 0.25 mg/kg)

TABLE 5

GE - Tonawanda, NY RFI PROGRAM

Compound	Units	Soil Action	MW-2	MW-2	MW-3	MW-3	A5 [MW-3]	MW-4	MW-4	MW-4	B-13
		Level ^A	(2-4')	(4-6')	(4-6')	(10-11')	(10-12')	(8-8.5')	(10-11')	(14-16')	(0-2')
Volatile Organic Compounds - SW-846 802	- SW-846 8021										
Chlorobenzene	ug/kg	2,000	ND(<2.5)	ND(<2.4)	34,000	33	ND(<2.3)	ND(<2.4)	ND(<2.3)	ND(<2.4)	NA
1,2-dichlorobenzene	ug/kg	SN	ND(<2.5)	ND(<2.4)	ND(<620)	2.7	ND(<2.3)	ND(<2.4)	ND(<2.3)	ND(<2.4)	NA
1,3-dichlorobenzene	ug/kg	SN	ND(<2.5)	31	ND(<620)	69	ND(<2.3)	ND(<2.4)	ND(<2.3)	ND(<2.4)	NA
1,4-dichlorobenzene	ug/kg	SN	ND(<2.5)	24	780	31	ND(<2.3)	ND(<2.4)	ND(<2.3)	ND(<2.4)	NA
1,1-dichloroethane	ug/kg	7.7	ND(<1.2)	ND(<1.2)	ND(<310)	ND(<1.1)	ND(<1.1)	ND(<1.2)	ND(<1.0)	ND(<1.2)	NA
m-, p-xylenes	ug/kg	200,000	ND(<1.2)	1.2	ND(<310)	1.2	ND(<1.1)	ND(<1.2)	ND(<1.0)	ND(<1.2)	NA
o-Xylene	ug/kg	200,000	ND(<1.2)	ND(<1.2)	ND(<310)	ND(<1.1)	ND(<1.1)	ND(<1.2)	ND(<1.0)	ND(<1.2)	NA
, 000 / 0/10 - a./ a											
Aroclor 1248	mg/kg	10 ^B	ND(<2.1)	ND(<2.0)	ND(<21)	ND(<.19)	ND(<.019)	ND(<2.1)	ND(<.02)	ND(<.02)	ND(<2)
Aroclor 1254	mg/kg	10 ^B	ND(<2.1)	ND(<2.0)	ND(<21)	0.89	0.95	ND(<2.1)	ND(<.02)	ND(<.02)	1.3
Aroclor 1260	mg/kg	10 _B	33.0	2.2	0.99	2.1	3.0	5.7	0.028	ND(<.02)	3.4
TOTAL PCBs:	mg/kg	10 ^B	33.0	2.2	6.99	2.99	3.95	5.7	0.028	ND(<.02)	4.7

NA = Not Analyzed

ND(<5.0) = Not detected above specified detection limit

A From Health Based Criteria For Systems Tox. (Table 8-7, RFI Guidance Doc. Vol 1)

B NYSDEC TAGM HWR-4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994

GE - Tonawanda, NY RFI PROGRAM

Compound	Units	Soil Action	B-13	B-13	B-14	B-14	B-14	B-15	B-15	B-15	B-16
		Level	(2)	(4')	(0-2.)	(2')	(4')	(0-2.)	(2')	(4')	(4-6')
Volatile Organic Compounds - SW-846 8021	- SW-846 8021										
Chlorobenzene	ug/kg	2,000	NA	NA	NA	NA	NA	NA	NA	NA	ND(<2.3)
1,2-dichlorobenzene	ug/kg	NS	NA	NA	NA	NA	NA	NA	NA	NA	ND(<2.3)
1,3-dichlorobenzene	ug/kg	NS	NA	NA	NA	NA	NA	NA	NA	NA	ND(<2.3)
1,4-dichlorobenzene	ug/kg	SN	NA	NA	NA	NA	NA	NA	NA	NA	ND(<2.3)
1,1-dichloroethane	ug/kg	7.7	NA	NA	NA	NA	NA	NA	NA	NA	ND(<1.1)
m-, p-xylenes	ug/kg	200,000	NA	NA	NA	NA	NA	NA	NA	NA	ND(<1.1)
o-Xylene	ug/kg	200,000	NA	NA	NA	NA	NA	NA	NA	NA	ND(<1.1)
PCBs SW846 8082											
Aroclor 1248	mg/kg	10 ^B	ND(<.19)	ND(<.19)	ND(<.021)	ND(<.021)	ND(<.021)	ND(<.2)	ND<.02	ND(<.021)	NA
Aroclor 1254	mg/kg	10 ^B	0.85	0.87	ND(<.021)	0.026	ND(<.021)	ND(<.2)	ND<.02	ND(<.021)	NA
Aroclor 1260	mg/kg	10 ^B	1.9	1.4	0.089	ND(<.021)	ND(<.021)	1.2	ND<.02	ND(<.021)	NA
TOTAL PCBs:	mg/kg	10 ^B	2.75	2.27	680.0	0.026	ND(<.021)	1.2	ND<.02	ND(<.021)	NA

NA = Not Analyzed

ND(<5.0) = Not detected above specified detection limit

A From Health Based Criteria For Systems Tox. (Table 8-7, RFI Guidance Doc. Vol 1)

B NYSDEC TAGM HWR-4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994

GE - Tonawanda, NY RFI PROGRAM

Compound	Units	Soil Action	B-16	B-17	B-17	DUP1	B-18	B-18	B-19	B-19	B-20
		Level ^A	(8-10')	(4-6')	(-8,)	voc	(2-4")	(6-8')	(2-4')	(8-10')	(0-2')
Volatile Organic Compounds - SW-846 802	- SW-846 8021										
Chlorobenzene	ug/kg	2,000	NA	NA	ND(<2.3)	ND(<2.3)	NA	NA	NA	ND(<2.3)	NA
1,2-dichlorobenzene	ug/kg	SN	NA	NA	ND(<2.3)	ND(<2.3)	NA NA	NA	NA	ND(<2.3)	NA
1,3-dichlorobenzene	ug/kg	SN	NA	NA	ND(<2.3)	ND(<2.3)	VN.	NA	NA	ND(<2.3)	NA
1,4-dichlorobenzene	ug/kg	SN	NA	NA	ND(<2.3)	ND(<2.3)	NA	NA	NA	ND(<2.3)	NA
1,1-dichloroethane	ug/kg	7.7	NA	NA	5.9	8.3	NA	NA	NA	ND(<1.2)	NA
m-, p-xylenes	ug/kg	200,000	NA	NA	ND(<1.1)	ND(<1.1)	NA	NA	NA	ND(<1.2)	NA
o-Xylene	ug/kg	200,000	NA	NA	ND(<1.1)	ND(<1.1)	NA	NA	NA	ND(<1.2)	NA
PCBs SW846 8082											
Aroclor 1248	mg/kg	10 ^B	ND(<:019)	ND(<.02)	NA	NA	ND(<.021)	ND(<.02)	0.21	NA	ND(<.02)
Aroclor 1254	mg/kg	10 ^B	ND(<:019)	ND(<.02)	NA	NA	ND(<.021)	ND(<.02)	ND(<.044)	NA	0.028
Aroclor 1260	mg/kg	10 ^B	ND(<.019)	0.1	NA	NA	0.28	ND(<.02)	0.55	NA	0.058
TOTAL PCBs:	mg/kg	10 ^B	ND(<.019)	0.1	NA	NA	0.28	ND(<.02)	0.76	NA .	0.086

NA = Not Analyzed

ND(<5.0) = Not detected above specified detection limit

A From Health Based Criteria For Systems Tox. (Table 8-7, RFI Guidance Doc. Vol 1)

B NYSDEC TAGM HWR-4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994

GE - Tonawanda, NY RFI PROGRAM

Compound Units Soil Action B-21 B-21 B-22 B-23 B-24 B-24 B-24 B-24 B-24 B-24												
Units Soil Action B-20 B-21 B-21 B-22 B-23 B-23												
site Compounds - SW-846 8021 Level* (2-4) (0-2) (0-2) (4-6) (2) (4) (6) site Compounds - SW-846 8021 uic Compounds - SW-846 8021 NA	Compound	Units	Soil Action	B-20	B-21	B-21	B-22	B-22	B-23	B-23	B-23	B-23
stic Compounds - SW-846 8021 Light 2,000 NA			Level	(2-4')	(0-2,)	(2.)	(0-2')	(4-6')	(2')	(4")	(9)	(8')
c. ug/kg 2,000 NA <	Volatile Organic Compounds	- SW-846 8021										
state ug/kg NS NA <	Chlorobenzene	ug/kg	2,000	NA	NA	NA	NA	NA	NA	NA	ND(<.023)	NA
solution ug/kg NS NA	1,2-dichlorobenzene	ug/kg	SN	NA	NA	NA	NA	NA	NA	NA	ND(<.023)	NA
solution NS NA <	1,3-dichlorobenzene	ug/kg	NS	NA	NA	NA	NA	NA	NA	NA	ND(<.023)	NA
hane ug/kg 7.7 NA ND(<-011) ND(<-011) NA ND(<-011) ND(<-011)<	1,4-dichlorobenzene	ug/kg	NS	NA	NA	NA	NA	NA	NA	NA	ND(<.023)	NA
8082 ug/kg 200,000 NA	1,1-dichloroethane	ug/kg	7.7	NA	NA	NA	NA	NA	NA	NA	ND(<.011)	NA
8082 BOR, ODD, ODD NA NA NA NA NA NA NA NA ND(<-011) 8082 mg/kg 10 ^B ND(<-02)	m-, p-xylenes	ug/kg	200,000	NA	NA	NA	NA	NA	NA	NA	ND(<.011)	NA
1082 mg/kg 10 ^B ND(<.02) ND(<.02) ND(<.018) ND(<.019) ND(<.21) ND(<.021)	o-Xylene	ug/kg	200,000	NA	NA	NA	NA	NA	NA	NA	ND(<.011)	NA
1082 mg/kg 10 ^B ND(<.02) ND(<.02) ND(<.02) ND(<.02) ND(<.018) ND(<.019) ND(<.21) ND(<.021)												
mg/kg 10° ND(<,02) ND(<,02) ND(<,018) ND(<,019) ND(<,21) ND(<,21) ND(<,02) mg/kg 10° ND(<,02)	PCBs SW846 8082		a	ļ		60	(0 t 0 ·) (1 t	30.0	3	(10.7)	(00 -) (11)	30
mg/kg 10 ^B 0.027 0.03 0.65 ND(<.018) ND(<.019) ND(<.21) ND(<.21) ND(<.02) mg/kg 10 ^B ND(<.02)	Aroclor 1248	mg/kg	10°	ND(<.02)	ND(<.02)	ND(<:02)	ND(<.018)	ND(<.019)	ND(<.2)	ND(<.21)	ND(<.02)	ND(<.02)
mg/kg 10 ^B ND(<.02) 0.17 1.8 ND(<.018) 0.16 3.1 2.0 ND(<.02) mg/kg 10 ^B 0.027 0.2 2.45 ND(<.018)	Aroclor 1254	mg/kg	10 ^B	0.027	0.03	0.65	ND(<:018)	ND(<.019)	ND(<.2)	ND(<.21)	ND(<:02)	ND(<.02)
mg/kg 10 ^B 0.027 0.2 2.45 ND(<018) 0.16 3.1 2.0 ND(<.02)	Aroclor 1260	mg/kg	10 ^B	ND(<.02)	0.17	1.8	ND(<.018)	0.16	3.1	2.0	ND(<:02)	ND(<.02)
mg/kg 10 0.02/ 0.2 2.45 (100/-0.10) 0.10 (0.10 (1.00/-0.1)			80.	2000		2 46	(010)	21.0	7		MD(7.00)	(6) //1/4
	TOTAL PCBs:	mg/kg	0.1	0.07/	7:0	2.43	(010.~)UNI	0.10	2.1	4.0	IND(~.02)	(70:~)/Th

 $\label{eq:ND} NA = Not \ Analyzed \\ ND(<5.0) = Not \ detected \ above \ specified \ detection \ limit$

A From Health Based Criteria For Systems Tox. (Table 8-7, RFI Guidance Doc. Vol 1)

B NYSDEC TAGM HWR-4046, Determination of Soil Cleanup Objectives and Cleanup Levels, January 24, 1994

Dames & Moore 10/7/98

LABORATORY ANALYTICAL RESULTS SUMMARY OF DETECTED COMPOUNDS DEEP SOIL BORINGS

GE - Tonawanda, NY RFI PROGRAM

Analyte	Units	DB-1	DB-1	DB-2 (4-6')	DUP-TOC MB-2: 28-30')	DB-2 (28-30°)	DB-3	DB-3
Hd	ns	7.98	7.99	8.26	NA	8.16	8.00	8.17
TOC	mg/kg	3,150	3,480	784	4,290	458	2,610	1,480
Volatile Organic Compounds SW-846 8021	spunoc	Not Detected	Not Detected	Not Detected	NA	Not Detected	Not Detected	Not Detected
PCBs SW846 8082		Not Detected	Not Detected	Not Detected	NA	Not Detected	Not Detected	Not Detected

NA - Not Analyzed

TABLE 7
TEST KIT VERSUS LABORATORY ANALYTICAL RESULTS
SOIL SAMPLES

GE - Tonawanda, NY RFI Program

	Test Kit	Lab
Sample	Total PCBs	Total PCBs
Number	(mg/kg)	(mg/kg)
MW-3 (4-6')	29.23	66.0
MW-3 (10-11')	0.83	2.99
MW-4 (10-11')	ND	5.70
MW-4 (14-16')	ND	0.28
A5 [MW-3] (10-12')	0.18	3.95
B-13 (0-2')	1.04	ND(<.02)
B-14 (2')	ND	0.03
B-14 (4')	ND	ND(<.021)
B-15 (0-2')	ND	1.20
B-15 (2')	ND	ND(<.02)
B-18 (6-8')	ND	ND(<.02)
B-20 (0-2')	ND	0.09
B-20 (2-4')	ND	0.03
B-21 (0-2')	ND	0.20
B-21 (2')	ND	2.45
B-23 (2')	2.37	3.10
B-23 (4')	0.86	2.00
B-23 (6')	0.58	ND(<.02)
B-23 (8')	ND	ND(<.02)
DB-1 (6-8')	0.46	ND(<.019)
DB-1 (22-24')	0.35	ND(<.021)
DB-2 (4-6')	0.076	ND(<.020)
DB-2 (28-30')	0.25	ND(<.021)
DB-3 (8-10')	ND	ND(<.020)
DB-3 (28-30')	ND	ND(<.019)
S-20	0.4	0.069
S-22	226.9	7.8
S-24	379.9	42.0
S-27	54.4	13.8
S-28	0.4	1.2
S-35	34.3	8.8
S-37	89.7	75.0
S-39	0.3	0.1
S-40	0.9	1.9
S-42	6.2	3.1
S-44	4.7	0.52

LABORATORY ANALYTICAL RESULTS SUMMARY OF DETECTED COMPOUNDS WATER SAMPLES

GE - Tonawanda, NY RFI PROGRAM

		NVS Water									
Compound	Units	Standard	MW-2	MW-3	DUPIGW (MW-3)	MW-4	SEW-1	EQB-1	EQB-2	TRIP BLANK (7/13/98)	EQB-3
Volatile Organic Compounds - SW-846 8021	W-846 8021										
Benzene	l/gu	ND ^B (5) ^C	ND(<1.0)	11	11	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)
Bromodichloromethane	l/gu	95	ND(<0.5)	ND(<2.5)	ND(<2.5)	ND(<0.5)	89.0	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)
Chlolrobenzene	l/gu	20	ND(<1.0)	540	540	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)
Chloroform	ug/l	100	1.9	ND(<2.5)	ND(<2.5)	1.9	1.3	2.0	NA	ND(<0.5)	1.7
1,3-dichlorobenzene	ug/l	NS _D (5) ^C	6.5	29	28	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)
1,4-dichlorobenzene	ug/l	4.7	6.2	46	43	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)
1,1-dichloroethane	ug/l	50	4.2	ND(<2.5)	ND(<2.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)
1,1-dichloroethene	l/gu	20:0	6.4	ND(<2.5)	ND(<2.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	٧N	ND(<0.5)	ND(<0.5)
cis-1,2-Dichloroethene	l/gn	\$	19:0	ND(<2.5)	ND(<2.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)
Ethylbenzene	ug/l	\$	9'1	ND(<5.0)	ND(<5.0)	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)
Methylene chloride	l/gn	5	0.91	ND(<2.5)	ND(<2.5)	0.56	ND(<0.5)	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)
Toluene	l/gn	5	1.2	ND(<5.0)	ND(<5.0)	ND(<1.0)	ND(<1.0)	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)
1,1,1-trichloroethane	l/gn	50	3.3	ND(<2.5)	ND(<2.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)
m-, p-xylenes	l/gn	5	5.8	ND(<2.5)	ND(<2.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	VΝ	ND(<0.5)	ND(<0.5)
o-Xylene	l/gn	5	2.3	ND(<2.5)	ND(<2.5)	ND(<0.5)	ND(<0.5)	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)
PCBs SW846 8082											
Aroclor 1248	l/gn	0.09	7.0	15	21	ND(<0.5)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)
Aroclor 1254	l/gu	60:0	ND(<5.6)	ND(<5.6)	ND(<5.8)	ND(<0.5)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)
Aroclor 1260	l/gu	60:0	76	19	98	ND(<0.5)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)
TOTAL PCBs:	ug/l	0.09	83.0	76.0	107.0	ND(<0.5)	ND(<0.50)	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)

NA= Not Analyzed
ND(<5.0) = Not detected above specified detection limit

- A NYS Groundwater Quality Standards (6NYCRR Part 700)
- B Not Detected (6NYCRR Part 700), NYSDOH Drinking Water Standard (10NYCRR Part 5) of 5 ug/l
 - C NYSDOH Drinking Water Standard (10NYCRR Part 5) of 5 ug/l
- D No Standard (NS) provided in 6NYCRR Part 700

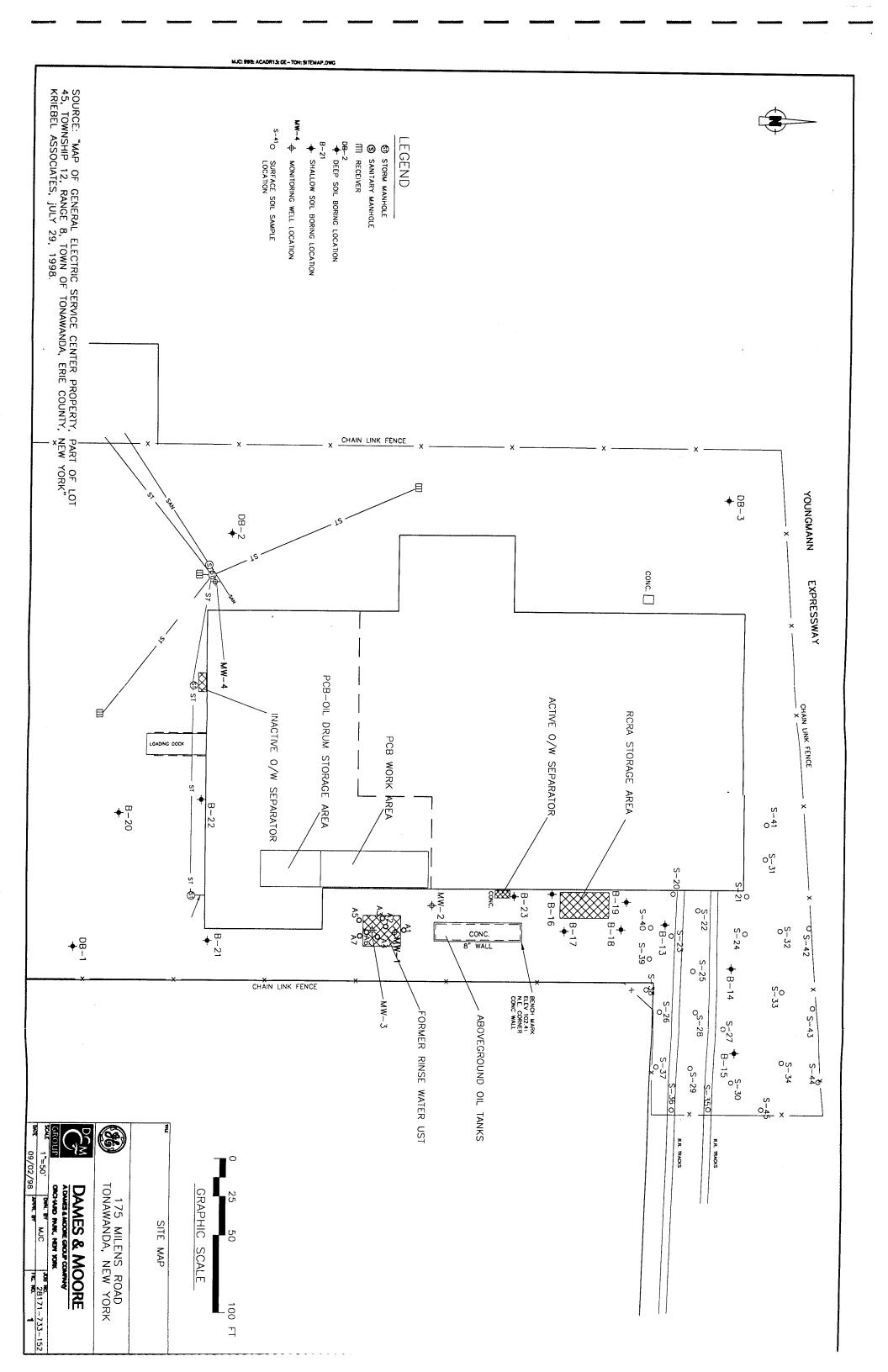
SUMMARY OF DETECTED COMPOUNDS LABORATORY ANALYTICAL RESULTS WATER SAMPLES

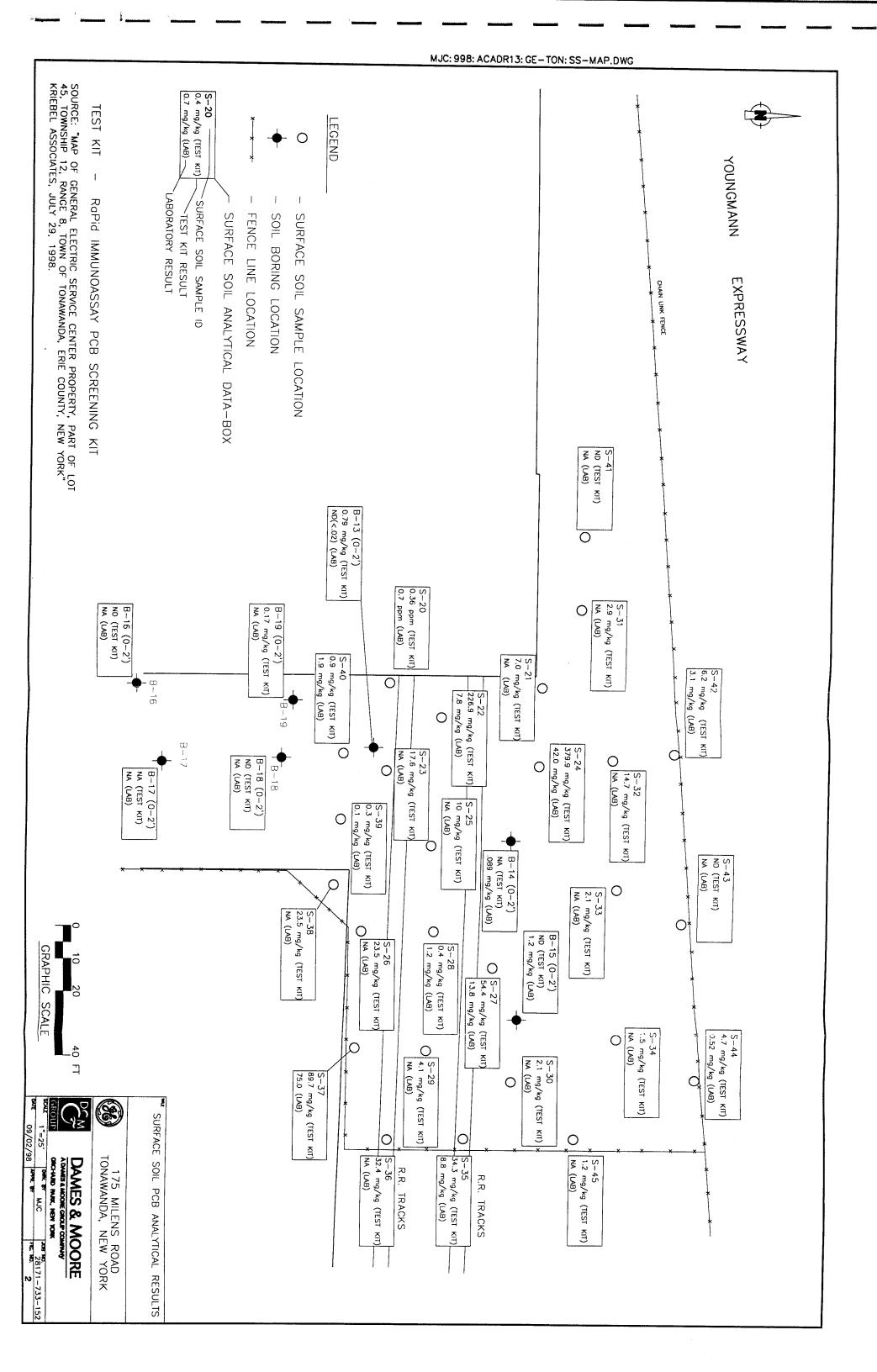
GE - Tonawanda, NY RFI PROGRAM

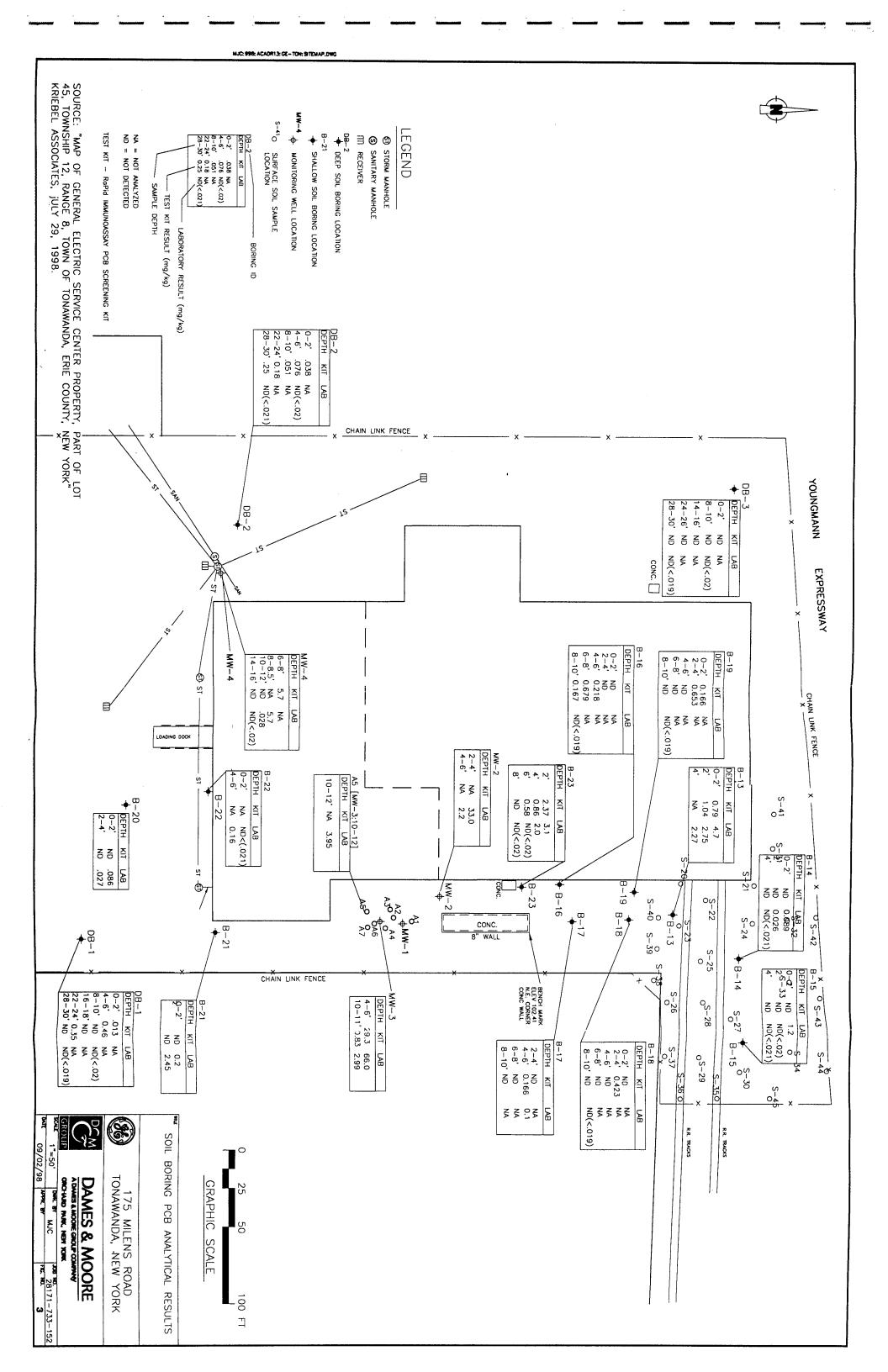
Compound	Units	NYS Water Standard ^A	EQB-4	EQB-5	ебв-6	EQB-7	TRIP BLANK	EQB-8	EQB-9	TRIP BLANK	TRIP BLANK
							(7/13/98)			(2/12/98)	(7/27/98)
Volatile Organic Compounds - SW-846 8021	W-846 8021										
Benzene	ug/l	ND ^B (5) ^C	ND(<1.0)	ND(<1.0)	NA	NA	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)	ND(<1.0)
Bromodichloromethane	l/gn	90	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)
Chlolrobenzene	l/gn	20	ND(<1.0)	ND(<1.0)	NA	NA	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)	ND(<1.0)
Chloroform	l/gu	100	1.4	1.6	NA	NA	ND(<0.5)	NA	1.2	ND(<0.5)	ND(<0.5)
1,3-dichlorobenzene	l/gn	NS _D (5) _C	ND(<1.0)	ND(<1.0)	NA	NA	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)	ND(<1.0)
1,4-dichlorobenzene	l/gn	4.7	ND(<1.0)	ND(<1.0)	NA	NA	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)	ND(<1.0)
1,1-dichloroethane	l/gn	50	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)
1,1-dichloroethene	l/gu	0.07	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)
cis-1,2-Dichloroethene	l/gu	\$	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)
Ethylbenzene	l/gu	\$	ND(<1.0)	ND(<1.0)	NA	NA	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)	ND(<1.0)
Methylene chloride	l/gn	5	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	0.83
Toluene	l/gn	5	ND(<1.0)	ND(<1.0)	NA	NA	ND(<1.0)	NA	ND(<1.0)	ND(<1.0)	ND(<1.0)
1,1,1-trichloroethane	l/gu	50	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)
m-, p-xylenes	I/gu	5	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	0.54
o-Xylene	l/gn	5	ND(<0.5)	ND(<0.5)	NA	NA	ND(<0.5)	NA	ND(<0.5)	ND(<0.5)	ND(<0.5)
PCBs SW346 8082											
Aroclor 1248	ug/l	0.09	ND(<0.50)	NA	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)	NA	NA	NA
Arocior 1254	ug/l	60'0	ND(<0.50)	NA	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)	NA	NA	NA
Aroclor 1260	l/gn	60:0	ND(<0.50)	NA	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)	NA	NA	NA
TOTAL PCBs:	l/gn	0.09	ND(<0.50)	NA	ND(<0.50)	ND(<0.50)	NA	ND(<0.50)	NA	NA AN	NA

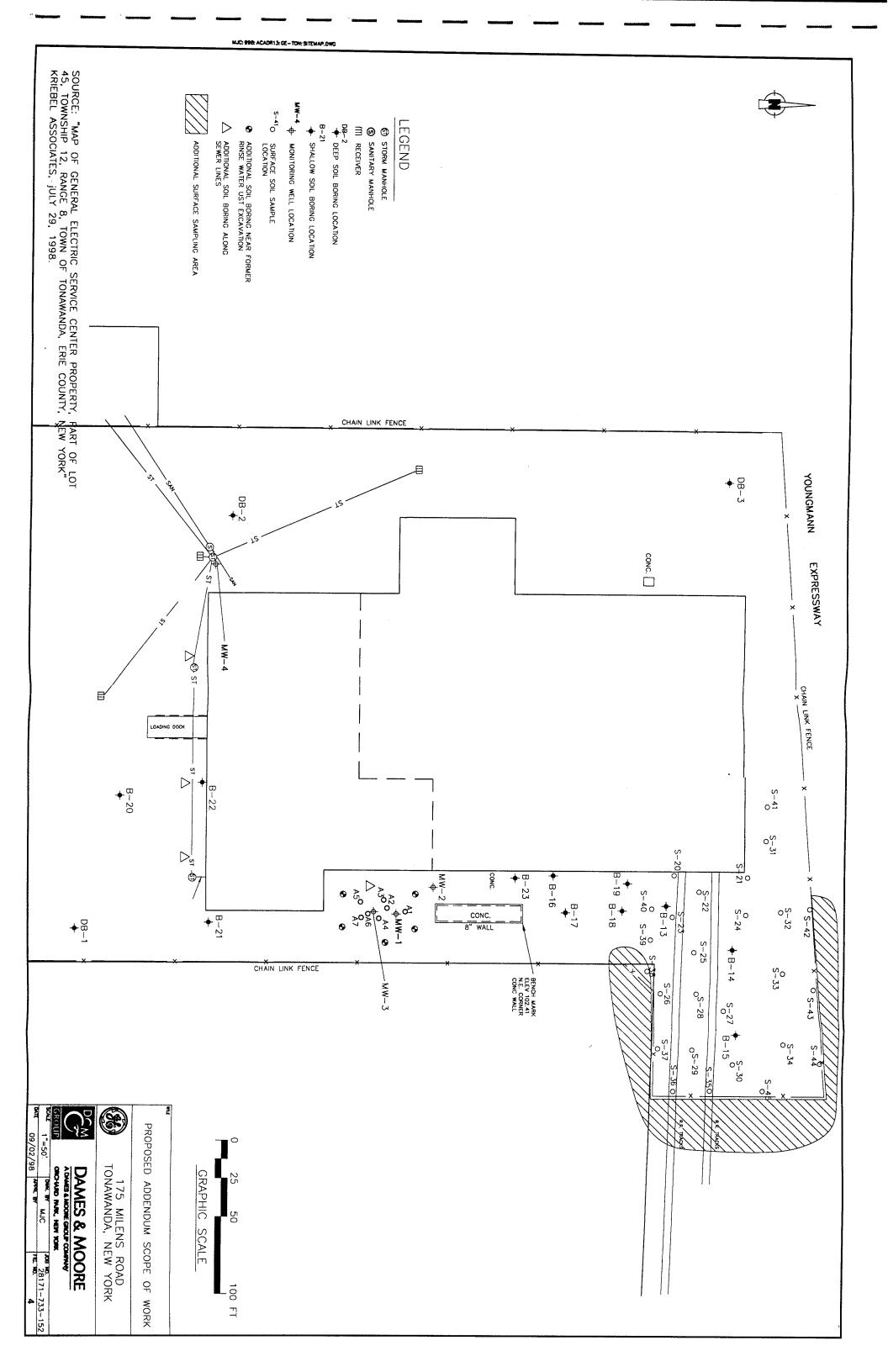
 $\label{eq:NAMAC} NA=Not\ Analyzed $$ND(<5.0) = Not\ detected\ above\ specified\ detection\ limit$

- A NYS Groundwater Quality Standards (6NYCRR Part 700)
- B Not Detected (6NYCRR Part 700), NYSDOH Drinking Water Standard (10NYCRR Part 5) of 5 ug/1
 - C NYSDOH Drinking Water Standard (10NYCRR Part 5) of 5 ug/l
 - D No Standard (NS) provided in 6NYCRR Part 700









D Task Name Start Finish July August Start Approval of RFI Addendum 10/30/98 10/30/98 10/30/98 10/30/98 11/25/98 11/25/98 12/15/99 11/25/98 12/15/99 11/25/99 11	September October November December January February
Approval of RFI Addendum 10/30/98 10/30/98 10/30/98 10/30/98 10/30/98 10/30/98 11/25/98 11/25/98 12/18/99 1/23/98 1/23/99	
Implementation of Addendum Field Scope of Work Laboratory Analyses Data Analysis and Report Preparation Submittal of Draft RFI Report to GE Submittal of RFI Report to NYSDEC 1/29/99	
Laboratory Analyses Data Analysis and Report Preparation Submittal of Draft RFI Report to GE 1/11/99 Submittal of RFI Report to NYSDEC 1/29/99	
Submittal of Draft RFI Report to GE Submittal of RFI Report to NYSDEC 1/29/99	
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6 Century Hill Drive Latham, New York 12110

LETTER OF TRANSMITAZAHDOUS WASTE FACILITIES 8 786 1989 Fax
DIV. OF SOLID & HAZ. MATERIALS

Date: 10.12.98
Via: VPS Overnight

TO: NYSDEC	
50 Wolf Rd	
Albany NY	
Attention: Roger Murphy	#: 2817/-733
We are enclosing Proposed Addes GE-Tonawana	ndum #1 - RF1 Scope of Worl
These are: (As checked below)	
Approved	For your approval
Not approved	For review and comment
No exception observed	Per your request
Make corrections observed	For use on job
Revise and resubmit	For your files
Return corrected copies	
Remarks:	
If an alagumag massized are not listed above nle	osa notify at once
If enclosures received are not listed above, plea	ase notify at once.
Very Truly Yours,	
DAMES & MOORE	
_	
By Like Faith	
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