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OF-0084

Corporate Environmental Programs
General Electric Company
100 Woodlawn Avenue, Pittsfield, MA 01201

January 9, 2002

Mr. Dean Tagliaferro
US Environmental Protection Agency
c/o Roy Weston, Inc.
One Lyman Street
Pittsfield, MA 01201

Ms. J. Lyn Cutler
Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

Re: Upper ½-Mile Reach of Housatonic River Removal Action (GECD800)
Monthly Report – December 2001

Dear Mr. Tagliaferro and Ms. Cutler:

In accordance with the approved Removal Action Work Plan – Upper ½ Mile Reach of Housatonic River, enclosed please find the December 2001 Monthly Report.

Please call me with any questions.

Yours truly,

Andrew T. Silfer, P.E.
Senior Technical Manager

ATS/dmn
Enclosures

cc: J. R. Bieke, Esquire, Shea & Gardner
M. T. Carroll, GE
R. Goff, ACE
R. Howell, EPA
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J. H. Maxymillian Technologies
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1.0 Overview:

During December 2001, General Electric Company (GE) and its contractor Maxymillian Technologies Incorporated (MTI) continued work on the Upper ½ Mile Reach Removal Action. The primary work included performing response activities to address the presence of dense non-aqueous-phase liquid (DNAPL) in Cell J1. In addition, work tasks associated with the Lyman Street Source Control activities were continued this month. Although the Lyman Street Source Control activities are not part of the Upper ½ Mile Reach Removal Action as described in the Work Plan, they were undertaken to facilitate work in the Upper ½ Mile Reach in the vicinity of the Lyman Street Bridge.

Weekly status meetings were held on December 3, 10, and 17, 2001. No work was performed on December 24, 25, and 31, 2001 due to the Christmas and New Years holidays.

2.0 Chronological description of the tasks performed:

Refer to the figure (Exhibit A) referenced in Section 4.0 and attached to this report for an orientation of the sheetpile cells and their respective locations.

Bank soil removal activities in Cell J2 were initiated and completed during the month of December. The post-removal survey was also performed; the results will be reported with the sediment removal survey results, when complete.

Response and investigation activities to address the presence of DNAPL in Cell J1 were also continued during the month of December. After the centerline sheetpiles were driven deeper (in the month of November), the water pumps were turned back on and Cell J1 was dewatered. Following dewatering of the cell, the low lifting holes were sealed and leaks were plugged along the centerline sheetpiles of Cell J1. The Waterloo source control sheetpile wall installation activities were then initiated.

The Waterloo containment wall installation activities began by completing excavation of bank soils and river sediments along the alignment of the source control sheetpile wall in Cell J1. A preliminary survey was then performed to locate the layout of the Waterloo sheetpile wall. Installation of the sheetpiles for the Waterloo wall was initiated at the downstream wing wall near the Cell J1 sewer crossing. Approximately 20 linear feet of sheetpiles were driven in place down the slope of the bank at 90° to form the downstream wing wall. Waterloo sheetpile installation then proceeded upstream parallel to the river for a distance of approximately 90 feet, and then turned 45° up the bank to install approximately 30 feet of the upstream wing wall. Connector cutoff sheetpiles were driven near the downstream wing wall of the Waterloo wall and the upstream sewer crossing sheetpile wall to provide a sealed connection between the two walls. Following installation of the Waterloo sheetpiles, the tops of the sheets were cut to design elevation and removed. A

work stand for future grouting activities was constructed along the bank side of the Waterloo wall.

At the request of the Environmental Protection Agency (EPA) to continue the DNAPL investigation program in Cell J1 and to identify the depth to the gray fine sand layer (an apparent confining layer), six additional sediment borings were installed in the riverbed. Three borings were completed in the downstream riverbed area, and three borings were completed in the upstream riverbed area. In addition, a supplemental survey was performed in Cell I1 to record restored riverbed elevations along the centerline sheetpile wall for use in determining final restored elevations and depth of backfill to be placed for Cell J1.

Sampling/monitoring activities completed during the month of December included backfill, waste characterization, air, and water column. Isolation sand layer backfill samples were collected and submitted for Total Organic Carbon (TOC) and polychlorinated biphenyl (PCB) analysis and a general backfill soil sample was collected and submitted for PCB analysis. Waste characterization samples were collected from the DNAPL-impacted material removed from Cell J1 and submitted for analysis of PCBs, volatile organic compounds (VOCs), semivolatle organic compounds (SVOCs), and metals. Air monitoring for particulate matter was conducted on a daily basis. The monthly PCB air monitoring event was conducted on December 13 and 14, 2001. Water column [PCB and total suspended solids (TSS)] monitoring was also continued during removal activities in the month of December.

During the month of December, GE Buildings 33X and 33-north were used as temporary storage facilities for Toxic Substances Control Act (TSCA) material and non-TSCA material, respectively, prior to final disposition at the appropriate On-Plant Consolidation Area (OPCA). In addition, Building 65 and a storage area near Building 68 were used as a temporary storage areas for DNAPL-impacted material removed from Cell J1. During December, the transfer of excavated TSCA material temporarily staged in Building 33X was initiated and completed. The soil/sediment was subjected to a paint filter test to confirm that the material did not contain excess water prior to transfer to the Building 71 OPCA. In addition, approximately 670 tons of DNAPL-impacted material removed from Cell J1 and temporarily stockpiled in Building 65 and near Building 68 were transported off-site for appropriate disposal.

Lyman Street Source Control Activities

Work efforts for the Lyman Street source control barrier wall installation were continued during December. Initial activities involved performance of bank soil removal activities along the wall alignment, as well as performance of the Cell J3 bank soil removal activities. During removal activities in this area, seven piezometers (P1 – P7) located near the Waterloo source control wall alignment were removed and abandoned. Installation activities for the source control wall began by placing a template/work stand to aid in

locating and driving the Waterloo sheetpiles. A preliminary survey was then performed to locate the layout of the Lyman Street source control wall. Installation of the sheetpiles for the Waterloo wall began at the downstream end wing wall (near the Lyman Street Bridge) and continued in the upstream direction. Initially subsurface obstructions were encountered in the downstream installation area and the obstructions (boulders and a concrete thrust block) were removed to facilitate driving the sheetpiles in this area. Approximately 40 linear feet of sheetpiles were driven in place along Lyman Street to form the downstream wing wall. Waterloo sheetpile installation then proceeded upstream, parallel to the river for a distance of approximately 300 feet, and then turned 45° up the bank for approximately 40 feet to form the upstream wing wall. The total length of the installed Waterloo source control sheetpile wall is approximately 380 feet.

After the sheetpiles were completely driven, the tops of Waterloo sheetpiles were trimmed to design elevation and removed. In addition, the toe of the bank (between the Waterloo source control barrier wall and the silt fence along the edge of the river) was stabilized by placing seed and erosion control mats over the area.

3.0 Sampling/test results received:

Table 1 presents the general backfill sample results.

Table 2 presents the isolation sand backfill soil sample results.

Tables 3 through 5 present the disposal characterization sample results for Cell J1 DNAPL-impacted material.

Tables 6A and 6B present the daily water column monitoring results for turbidity and the results of the water column samples collected for TSS and PCB analysis.

Table 7 presents ambient air monitoring results for PCBs for monitoring event conducted on December 13 and 14, 2001.

Table 8 presents the results of the December air monitoring for particulate matter.

4.0 Diagrams associated with the tasks performed:

A figure presented as Exhibit A shows the location and the progress of work for Cells H, I, and J along the Upper ½ Mile Reach and is attached to this report for reference.

A summary chart (Exhibit B) has been developed to assist in tracking the analytical and physical testing requirements of the various sources of backfill (e.g., isolation material, soil back fill, riprap rock, etc.). Exhibit B includes the volume of backfill materials used, the analytical and physical testing frequencies required by the Work Plan, and the testing that has been performed to date.

5.0 Identification of reports received and prepared:

During the month of December, meeting summaries from the weekly project status meetings were submitted. Also, for work completed in November 2001, the monthly reports required by the Consent Decree and the Upper 1/2-Mile Reach Removal Action Work Plan were both submitted. In addition, during December, GE submitted the following documents:

- *2001 Annual Vegetation Monitoring Report*, dated December 14, 2001;
- Analytical sample results for general backfill soil (Submittal #25).
- Analytical sample results for isolation sand backfill (Submittal #26).
- Revised Figure 2 of Cell J1 DNAPL Proposal presenting boring locations and approximate depth to the gray fine sand layer; and
- Figure presenting supplemental survey information for Cell I1.

6.0 Photo documentation of activities performed:

- See attached Figure 1.

7.0 Brief description of work to be performed in January 2002:

For the next reporting period, the following activities are anticipated to be performed:

- Continue response activities to address DNAPL encountered in Cell J1;
- Possibly initiate restoration activities in Cell J1;
- Continue source control activities for the Lyman Street parking area;
- Maintain temporary stockpiles of material in Buildings 33-north, 33X, and 65 (non-TSCA, TSCA, and DNAPL-impacted material, respectively); and
- Continue to conduct air monitoring and water column monitoring associated with response activities for the Upper 1/2-Mile Reach.

8.0 Attachments to this report:

Table 1 – General backfill sample results.

Table 2 – Isolation sand backfill soil sample results.

Table 3 – PCB disposal characterization sample results for Cell J1 DNAPL-impacted material.

Table 4 – VOC/SVOC disposal characterization sample results for Cell J1 DNAPL-impacted material.

Table 5 – Metals disposal characterization sample results for Cell J1 DNAPL-impacted material.

Table 6A – Daily water column monitoring results.

Table 6B – Water column samples for total suspended solids (TSS) and PCB analysis.

Table 7 – Ambient air monitoring results for PCBs for event conducted in December.

Table 8 – Results of the December air monitoring for particulate matter

Exhibit A – Figure showing the progress of work within the Upper 1/2-Mile Reach

Exhibit B – Backfill quantity and sample summary chart.

Figure 1 - Photo documentation

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
GENERAL BACKFILL SOIL SAMPLING
DATA RECEIVED DURING DECEMBER 2001

(Results are presented in dry weight parts per million, ppm)

Sample ID	Date Collected	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCBs
DH-BF-13	11/26/01	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]	ND(0.055) [ND(0.054)]

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical, Inc. for analysis of PCBs.
2. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
3. Duplicate sample results are presented in brackets.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER UPPER 1/2 MILE REACH
ISOLATION SAND BACKFILL SAMPLING
DATA RECEIVED DURING DECEMBER 2001

(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: Date Collected:	BSG-BF-14 11/26/01	BSG-BF-15 11/26/01	BSG-BF-16 11/26/01	BSG-BF-17 11/26/01	BSG-BF-18 11/26/01	BSG-BF-19 11/26/01
PCBs							
Aroclor-1016		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Aroclor-1221		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Aroclor-1232		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Aroclor-1242		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Aroclor-1248		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Aroclor-1254		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Aroclor-1260		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Total PCBs		NS	ND(0.056)	NS	NS	NS	ND(0.057)
Total Organic Carbon (TOC)							
TOC - Replicate 1		4200	NS	8500	11000	6200	NS
TOC - Replicate 2		4100	NS	7100	9300	7300	NS
TOC - Replicate 3		1800	NS	5200	7200	5300	NS
TOC - Replicate 4		4900	NS	NA	NA	NA	NS
TOC - Average		3700	NS	6900	9100	6200	NS
TOC - % RSD		35	NS	24	20	16	NS

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs and TOC.
2. NA - Not Analyzed - Laboratory did not report results for this analyte.
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
4. NS - Not Sampled - Parameter was not requested on sample chain of custody form.
5. % RSD - Percent relative standard deviation.

TABLE 3

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
Cell J-1 SEDIMENT DISPOSAL CHARACTERIZATION SAMPLING
PCB SAMPLE DATA RECEIVED DURING DECEMBER 2001

(Results are presented in dry weight parts per million, ppm)

Sample ID	Date Collected	Aroclor-1016, -1221, 1-232, -1242, -1248, & -1254	Aroclor-1260	Total PCBs
HR-J1-SP65-1	12/11/01	ND(30) [ND(40)]	890 [890]	890 [890]
HR-J1-SP65-2	12/11/01	ND(200)	5400	5400
HR-J1-SP65-3	12/11/01	ND(32)	960	960
HR-J1-SP65-4	12/11/01	ND(21)	490	490
HR-J1-SP65-5	12/11/01	ND(3.1)	37	37
HR-J1-SP65-6	12/11/01	ND(2.6)	62	62
HR-J1-SP65-7	12/11/01	ND(3.0)	60	60
HR-J1-SP65-8	12/11/01	ND(2.1)	51	51
HR-J1-SP65-9	12/11/01	ND(27)	680	680
HR-J1-SP65-10	12/11/01	ND(1.1)	18	18
HR-J1-SP65-11	12/11/01	ND(1.1)	19	19
HR-J1-SP65-12	12/11/01	ND(4.0)	88	88
HR-J1-SP65-13	12/11/01	ND(5.4)	170	170
HR-J1-SP65-14	12/11/01	ND(1.1)	20	20
HR-J1-SP65-15	12/11/01	ND(10)	280	280
HR-J1-SP65-16	12/11/01	ND(1.1)	17	17
HR-J1-SP65-17	12/11/01	ND(5.4)	130	130
HR-J1-SP65-18	12/11/01	ND(27)	550	550
HR-J1-SP68-1	12/11/01	ND(5.4) [ND(5.4)]	200 [130]	200 [130]
HR-J1-SP68-2	12/11/01	ND(5.4)	190	190
HR-J1-SP68-3	12/11/01	ND(10)	360	360
HR-J1-SP68-4	12/11/01	ND(5.2)	140	140
HR-J1-SP68-5	12/11/01	ND(4.3)	110	110
HR-J1-SP68-6	12/11/01	ND(11)	260	260
HR-J1-SP68-7	12/11/01	ND(11)	210	210
HR-J1-SP68-8	12/11/01	ND(11)	400	400
HR-J1-SP68-9	12/11/01	ND(1.0)	36	36

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles (including TCE), semivolatiles, and TCLP-metals.
2. Please reference Tables 13-5 and 13-6 for a summary of volatile, and semivolatile sample data and TCLP-metals sample data respectively.
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.

TABLE 4

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
Cell J-1 SEDIMENT DISPOSAL CHARACTERIZATION SAMPLING
VOC, SVOC, AND TCE SAMPLE DATA RECEIVED DURING DECEMBER 2001

(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: Date Collected:	HR-J1-SP65-C1 12/11/01	HR-J1-SP68-C1 12/11/01
Volatile Organics			
None Detected		--	--
Semivolatile Organics			
1,2,4-Trichlorobenzene		2.0 [2.8]	1.3
1,4-Dichlorobenzene		0.042 J [0.12 J]	0.051 J
2-Methylnaphthalene		0.057 J [ND(0.35)]	0.078 J
Acenaphthene		0.70 [0.17 J]	2.0
Acenaphthylene		0.41 [ND(0.35)]	0.75
Anthracene		0.96 [0.22 J]	1.9
Benzo(a)anthracene		1.2 [0.45]	2.5
Benzo(a)pyrene		1.1 [0.37]	1.8
Benzo(b)fluoranthene		0.87 [0.28 J]	1.3
Benzo(g,h,i)perylene		0.46 [0.17 J]	0.53
Benzo(k)fluoranthene		0.31 J [0.11 J]	0.39
Chrysene		0.84 [0.35 J]	1.8
Dibenzo(a,h)anthracene		0.28 J [ND(0.35)]	ND(0.37)
Di-n-Butylphthalate		0.092 J [0.049 J]	0.060 J
Fluoranthene		1.8 [0.95]	4.8
Fluorene		0.31 J [0.086 J]	1.2
Hexachlorobenzene		0.20 J [0.23 J]	ND(0.37)
Indeno(1,2,3-cd)pyrene		0.37 [0.15 J]	0.50
Naphthalene		0.080 J [ND(0.35)]	0.044 J
N-Nitrosodiphenylamine		0.27 J [ND(0.35)]	0.30 J
Phenanthrene		1.0 [0.24 J]	3.0
Pyrene		5.5 [2.5]	12

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles (including TCE), semivolatiles, and TCLP-metals.
2. Please reference Tables 13-4 and 13-6 for a summary of PCB sample data and TCLP-metals sample data respectively.
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
4. J - Indicates an estimated value less than the practical quantitation limit (PQL).
5. Duplicate sample results are presented in brackets.
6. -- Indicates that all constituents for the parameter group were not detected.

TABLE 5

GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
 Cell J-1 SEDIMENT DISPOSAL CHARACTERIZATION SAMPLING
 TCLP-METALS SAMPLE DATA RECEIVED DURING DECEMBER 2001

(Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: Date Collected:	TCLP Maximum Concentrations	HR-J1-SP65-C1 12/11/01	HR-J1-SP68-C1 12/11/01
Inorganics				
Arsenic		5	ND(0.187) [ND(0.187)]	ND(0.187)
Barium		100	0.0984 [0.212]	0.243
Cadmium		1	ND(0.0178) [ND(0.0178)]	ND(0.0178)
Chromium		5	ND(0.0178) [ND(0.0178)]	ND(0.0178)
Lead		5	ND(0.191) [ND(0.191)]	ND(0.191)
Mercury		0.2	ND(0.00200) [ND(0.00200)]	ND(0.00200)
Selenium		1	ND(0.184) [ND(0.184)]	ND(0.184)
Silver		5	ND(0.0308) [ND(0.0308)]	ND(0.0308)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles (including TCE), semivolatiles, and TCLP-metals.
2. Please reference Tables 13-4 and 13-5 for a summary of PCB sample data and volatile, and semivolatile sample data respectively.
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
4. Duplicate sample results are presented in brackets.

TABLE 6A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

DECEMBER 2001

UPPER 1/2 MILE REACH REMOVAL ACTION
HOUSATONIC RIVER PCB/TSS/TURBIDITY MONITORING DURING CONSTRUCTION

Location	Date	Water Depth (ft)	Water Temp. (°C)	Estimated Flow ¹⁶ (cfs)	Turbidity (ntu) ¹³			Sample ID	Total PCB Concentration ¹⁴ (ug/l)	Filtered PCB Concentration (ug/l)	TSS (mg/l)
					High	Low	Daily Composite				
Upstream of Newell St. Bridge	12/3/2001	1.6	2	47	3	3	3	---	---	---	---
Downstream of Lyman St. Bridge	12/3/2001	2.7	2		3	3	3	---	---	---	---
Upstream of Newell St. Bridge	12/4/2001	1.6	0	45	5	4	5	---	---	---	---
Downstream of Lyman St. Bridge	12/4/2001	2.7	0		5	4	4	---	---	---	---
Upstream of Newell St. Bridge	12/5/2001	1.5	3	43	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	12/5/2001	2.7	3		3	2	2	---	---	---	---
Upstream of Newell St. Bridge	12/6/2001	1.5	4	41	3	2	3	HR-12-6-01-U1	0.158	ND(0.0250)	2.90
Downstream of Lyman St. Bridge	12/6/2001	2.7	4		3	2	5	HR-12-6-01-D1	0.416	ND(0.0250)	4.10
Upstream of Newell St. Bridge	12/7/2001	1.5	5	36	2	2	2	---	---	---	---
Downstream of Lyman St. Bridge	12/7/2001	2.5	5		7	2	3	---	---	---	---
Upstream of Newell St. Bridge	12/10/200	1.4	0	28	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	12/10/200	2.4	0		2	2	2	---	---	---	---
Upstream of Newell St. Bridge	12/11/200	1.5	1	27	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	12/11/200	2.5	1		3	2	2	---	---	---	---
Upstream of Newell St. Bridge	12/12/200	1.4	2	28	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	12/12/200	2.5	2		4	2	3	---	---	---	---
Upstream of Newell St. Bridge	12/13/200	1.4	4	32	4	2	4	---	---	---	---
Downstream of Lyman St. Bridge	12/13/200	2.5	4		5	2	6	---	---	---	---
Upstream of Newell St. Bridge	12/14/200	1.4	3	43	10	2	3	---	---	---	---
Downstream of Lyman St. Bridge	12/14/200	2.5	3		4	2	3	---	---	---	---
Upstream of Newell St. Bridge	12/17/200	1.6	0	47	14	3	7	---	---	---	---
Downstream of Lyman St. Bridge	12/17/200	2.8	0		7	2	6	---	---	---	---
Upstream of Newell St. Bridge	12/18/200	---	2	197	80	18	47	---	---	---	---
Downstream of Lyman St. Bridge	12/18/200	---	2		29	15	26	---	---	---	---
Upstream of Newell St. Bridge	12/19/200	---	3	147	10	6	8	---	---	---	---
Downstream of Lyman St. Bridge	12/19/200	---	3		8	5	11	---	---	---	---
Upstream of Newell St. Bridge	12/20/200	2.5	4	107	6	3	5	HR-12-20-01-U1	NR	NR	NR
Downstream of Lyman St. Bridge	12/20/200	3.6	4		8	2	4	HR-12-20-01-D1	NR	NR	NR
Upstream of Newell St. Bridge	12/21/200	2.6	5	101	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	12/21/200	3.6	5		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	12/26/200	1.9	0	62	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	12/26/200	2.9	0		2	2	2	---	---	---	---

TABLE 6A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

DECEMBER 2001

UPPER 1/2 MILE REACH REMOVAL ACTION
HOUSATONIC RIVER PCB/TSS/TURBIDITY MONITORING DURING CONSTRUCTION

Location	Date	Water Depth (ft)	Water Temp. (°C)	Estimated Flow ¹⁶ (cfs)	Turbidity (ntu) ¹³			Sample ID	Total PCB Concentration ¹⁴ (ug/l)	Filtered PCB Concentration (ug/l)	TSS (mg/l)
					High	Low	Daily Composite				
Upstream of Newell St. Bridge	12/27/200	1.7	0	53	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	12/27/200	2.8	0		3	2	2	---	---	---	---
Upstream of Newell St. Bridge	12/28/200	1.7	0	39	NS	NS	NS	---	---	---	---
Downstream of Lyman St. Bridge	12/28/200	2.8	0		2	1	2	---	---	---	---

Notes:

1. PCB and TSS samples were collected by Blasland, Bouck & Lee, Inc. and analyzed by Northeast Analytical, Inc. or on 9/27/00 CT&E Environmental Services Inc.
2. Water depth taken at sampling point (i.e. middle of river).
3. ft - Feet
4. °C - degrees Celsius
5. cfs - cubic feet per second
6. ntu - nephelometric turbidity units
7. --- - No data obtained
8. ND(0.25) - Compound was analyzed for but not detected at the quantitation limit indicated in parentheses.
9. NR - Not yet reported
10. ug/l - micrograms per liter
11. mg/l - milligrams per liter
12. [] - Duplicate sample result
13. Turbidity Action Level = Turbidity downstream ≤ Turbidity upstream + 50 ntu
14. PCB Action Level = PCBs downstream ≤ PCBs upstream + 5 ug/l
15. NS - Not sampled due to frozen river conditions or high flow.
16. Flow data was obtained from the USGS Station 01197000 in Coltsville, MA at approximately midday. (Flow data is provisional and may be subject to revision).

TABLE 6B

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
HOUSATONIC RIVER PCB/TSS MONITORING DURING CONSTRUCTION
DATA RECEIVED DURING DECEMBER 2001

(Results are presented in parts per million, ppm)

Sample ID	Location	Date Collected	Aroclor 1016, 1221, 1232, 1242, & 1248	Aroclor 1254	Aroclor 1260	Total PCBs	TSS
HR-11-20-01-U1	Upstream of Newell St. Bridge	11/20/01	ND(0.0000250)	0.0000487 AF	ND(0.0000250)	0.0000487	2.30
HR-11-20-01-D1	Downstream of Lyman St. Bridge	11/20/01	ND(0.0000250)	0.0000624 AF	0.0000407	0.000103	2.40
HR-11-20-01-U1 (FILTERED)	Upstream of Newell St. Bridge	11/20/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--
HR-11-20-01-D1 (FILTERED)	Downstream of Lyman St. Bridge	11/20/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--
HR-12-6-01-U1	Upstream of Newell St. Bridge	12/6/01	ND(0.0000250)	0.000123 AF	0.0000347	0.000158	2.90
HR-12-6-01-D1	Downstream of Lyman St. Bridge	12/6/01	ND(0.0000250)	0.000316 AF	0.000100	0.000416	4.10
HR-12-6-01-U1 (FILTERED)	Upstream of Newell St. Bridge	12/6/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--
HR-12-6-01-D1 (FILTERED)	Downstream of Lyman St. Bridge	12/6/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to Northeast Analytical Services, Inc. for analysis of filtered and unfiltered PCBs and Total Suspended Solids (TSS).
2. ND(0.10) - Analyte was not detected. The value in parentheses is the associated detection limit.
3. AF - Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
4. --- - Not analyzed.

TABLE 7

GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
 AMBIENT AIR PCB DATA RECEIVED DURING DECEMBER 2001

Date	BM-1 ug/m ³	AM-5 ug/m ³	AM-5 co-located ug/m ³	AM-6 ug/m ³	AM-7 ug/m ³	AM-8 ug/m ³
12/13 - 12/14/01	0.0072	0.0087	0.0076	0.0043	0.011	0.0082
Notification Level	0.05	0.05	0.05	0.05	0.05	0.05

Notes:

- BM-1: Background monitoring location west of Bldg. 42.
- AM-5: Air monitoring location north bank, east of Bldg. 63.
- AM-6: Air monitoring location south bank, north edge of GE Newell St. parking area.
- AM-7: Air monitoring location north bank, south end of GE Lyman St. Parking Lot.
- AM-8: Air monitoring location south bank, corner of Hathaway and Sackett Streets.

TABLE 8

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
AMBIENT AIR PARTICULATE MATTER DATA RECEIVED DURING DECEMBER 2001

Date	Sampler Location	Average Site Concentration (mg/m ³)	BM-1 (mg/m ³)	Average Period (Hours:Min)	Predominant Wind Direction
12/03/01	AM-6 (south side of river)	0.022	0.021	10:45	SW
12/04/01	AM-6 (south side of river)	0.025	0.023	9:15	SSW
12/05/01	AM-6 (south side of river)	0.022	0.022	10:15	WNW
12/06/01	AM-6 (south side of river)	0.017	0.013	10:45	W
12/07/01	AM-6 (south side of river)	0.011	0.010	10:45	NW
12/10/01	AM-6 (south side of river)	0.017	0.014	10:30	Calm
12/11/01	AM-6 (south side of river)	0.031	0.024	9:15	NNE
12/12/01	AM-6 (south side of river)	0.017	0.018	9:45	E
12/13/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
12/14/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
12/17/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
12/18/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
12/19/01	AM-6 (south side of river)	0.011	0.007	10:30	W
12/20/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
12/21/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
12/24/01 ²	AM-6 (south side of river)	NA	NA	NA	NA
12/25/01 ²	AM-6 (south side of river)	NA	NA	NA	NA
12/26/01	AM-6 (south side of river)	0.017	0.013	9:00	SW
12/27/01	AM-6 (south side of river)	0.011	0.009	9:30	W
12/28/01	AM-6 (south side of river)	0.017	0.015	9:15	SW, SSW
Notification Level		0.120			

BM-1: Background monitoring location west of Bldg. 42.

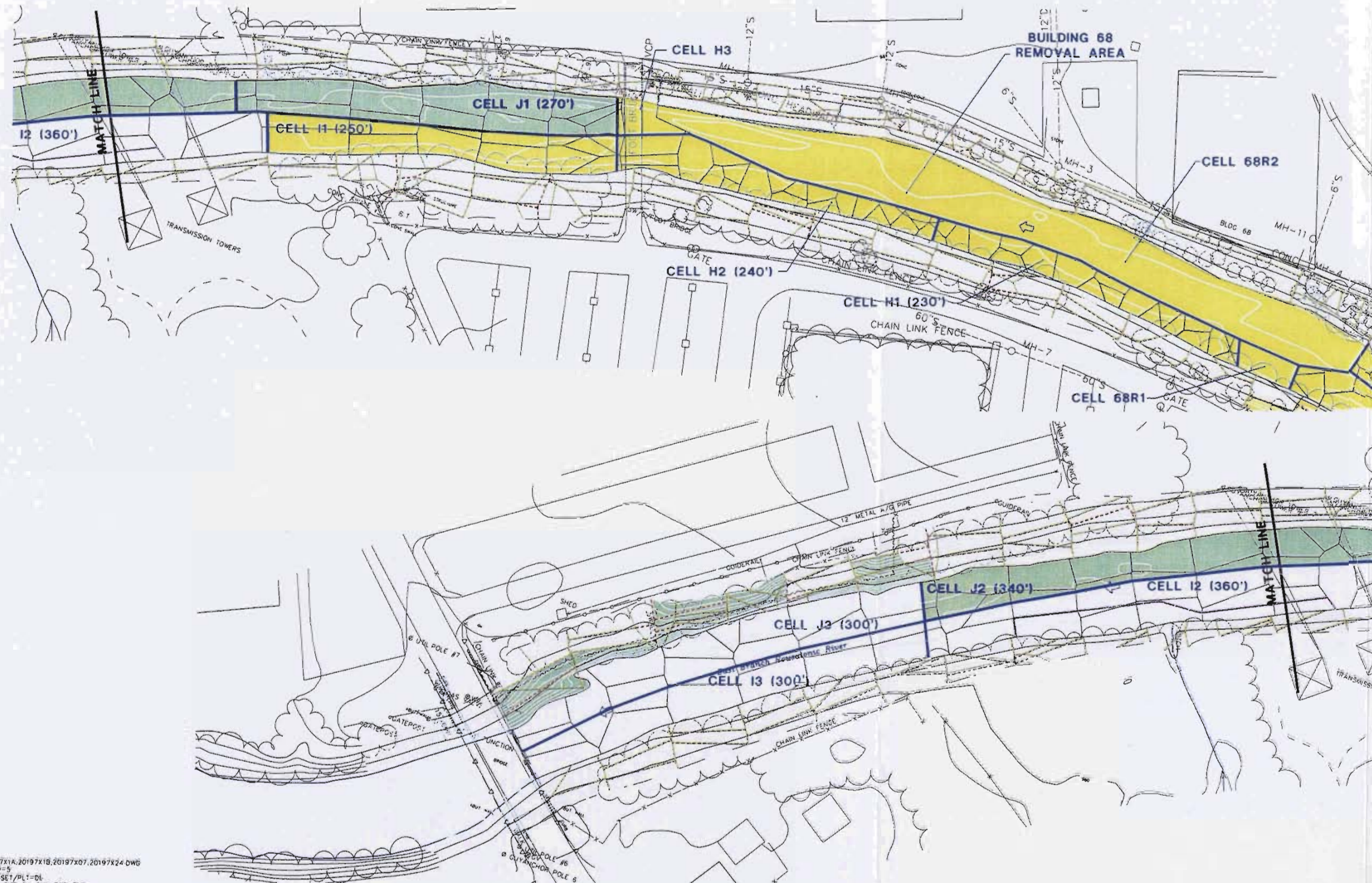
AM-6: Air monitoring location in the GE parking lot located off of Newell Street.

¹ Sampling was not performed due to precipitation/threat of precipitation.

² Sampling was not performed due to the Christmas holiday.

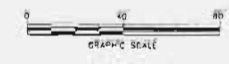
Exhibit A - Upper 1/2 Mile Reach Removal Action

Sediment and Bank Soil Removal Areas (Cells H-J)



- LEGEND:**
- UPPER 1/2-MILE REMOVAL AREAS COMPLETED
 - UPPER 1/2-MILE REMOVAL AREAS IN PROGRESS
 - PROPOSED CONTAINMENT BARRIER LOCATION
 - EXISTING CONTAINMENT BARRIER LOCATION
 - 0'-1' BANK SOIL POLYGON
 - 1'-3' BANK SOIL POLYGON
 - TOP OF BANK
 - CAP AND ARMOR TIE-IN BUFFER
 - REMOVAL CELL

- NOTES:**
1. MAPPING IS BEST AVAILABLE INFORMATION AS OF 12/10/98 BASED ON MAPPING PROVIDED BY LOCKWOOD MAPPING, INC. PREPARED FROM 1990 AERIAL PHOTOGRAPHY; DATA PROVIDED BY GENERAL ELECTRIC; AND BLASLAND AND BOUCK, P.C. CONSTRUCTION PLANS RIVERBANK AND RIVER BED TOPOGRAPHIC INFORMATION PROVIDED BBL FROM OCTOBER 12-23, 1998 FIELD SURVEY.
 2. COORDINATE GRID BASED ON 1927 STATE PLAN COORDINATES.
 3. ELEVATION DATUM REFERENCED TO NGVD 1929.
 4. CELL LOCATIONS AND DISTANCES ARE APPROXIMATE



2: 20197X1A, 20197X1B, 20197X07, 20197X24.DWG
 LWAN: 9-5
 P: PAGESET/PL1-DL
 11/6/01 SYR-54-GWS RCB BLS
 20197030/CELL02/20197013.DWG

1/2-Mile Removal Action Backfill Tracking Log

Material	Testing Required	Frequency (per cy)	Submittal from MTI		Submittal to EPA		Sample Date	Number of Samples	Quantity Approved for Placement	Quantity Placed (cy)	Comments
			No.	Date	No.	Date					
Isolation Layer (Pittsfield Sand & Gravel)	Grain Size	500	12	11/17/99	Letter	11/19/99	11/01/99	1	1000	770	
			12C	03/30/00	Letter	04/20/00	03/24/00	1			
	TOC	500	12	11/17/99	Letter	11/19/99	11/02/99	1			
			12C	03/30/00	Letter	04/20/00	03/30/00	1			
	PCBs	500	NA	NA	Letter	11/19/99	09/20/99	4			
			NA	NA	7	12/01/99	11/19/99	2			
			NA	NA	Letter	04/20/00	03/29/00	2			
	VOCs	2000	NA	NA	Letter	11/19/99	09/20/99	4			
	SVOCs	2000	NA	NA	Letter	11/19/99	09/20/99	4			
	Metals	2000	NA	NA	Letter	11/19/99	09/20/99	4			
TPH	2000	NA	NA	7	12/01/99	11/19/99	2				
Isolation Layer (Bushika Sand & Gravel)	Grain Size	500	12A	01/03/00	Letter	01/06/00	12/28/99	1	4000	3947	
			12B	01/24/00	11	02/14/00	01/19/00	1			
			12D	05/08/00	13	05/19/00	05/02/00	1			
			12E	09/11/00	14	09/27/00	09/07/00	1			
			12F	09/29/00	17	10/04/00	09/26/00	1			
			12G	11/30/00	20	12/06/00	10/20/00	1			
			12H	03/08/01	21	03/14/01	03/05/01	1			
			12I	06/19/01	Letter	06/27/01	06/12/01	1			
			12J	07/05/01	Letter	07/09/01	06/20/01	1			
			TOC	500	12A	01/03/00	Letter	01/06/00			
	12B	01/24/00			11	02/14/00	01/19/00	1			
	12D	05/08/00			13	05/19/00	05/02/00	1			
	12E	09/11/00			14	09/27/00	09/06/00	1			
	12F	09/29/00			17	10/04/00	09/26/00	1			
	12G	11/30/00			20	12/06/00	10/20/00	1			
	12H	03/08/01			21	03/14/01	03/05/01	1			
	12I	06/19/01			Letter	06/27/01	06/12/01	1			
	12J	07/05/01			Letter	07/09/01	06/20/01	1			
	NA	NA			Letter	09/24/01	09/20/01	3			
	PCBs	500	NA	NA	Letter	10/31/01	10/26/01	3			
			NA	NA	26	12/14/01	11/14/01	2			
			NA	NA	10	01/14/00	01/05/00	2			
			NA	NA	11	02/14/00	02/02/00	2			
			NA	NA	13A	06/28/00	06/02/00	2			
			NA	NA	16A	10/04/00	09/26/00	3			
			NA	NA	18A	10/05/00	09/28/00	2			
			NA	NA	20A	01/09/01	12/05/00	2			
			NA	NA	21A	04/04/01	03/19/01	2			
			NA	NA	24	08/23/01	07/23/01	1			
	VOCs	2000	NA	NA	10	01/14/00	01/05/00	2			
			NA	NA	18A	10/05/00	09/28/00	2			
			NA	NA	26	12/14/01	11/14/01	2			
	SVOCs	2000	NA	NA	10	01/14/00	01/05/00	2			
			NA	NA	18A	10/05/00	09/28/00	2			
			NA	NA	26	12/14/01	11/14/01	2			
	Metals	2000	NA	NA	10	01/14/00	01/05/00	2			
			NA	NA	18A	10/05/00	09/28/00	2			
			NA	NA	26	12/14/01	11/14/01	2			
	TPH	2000	NA	NA	10	01/14/00	01/05/00	2			
			NA	NA	11	02/14/00	02/02/00	2			
NA			NA	18A	10/05/00	09/28/00	2				
NA			NA	26	12/14/01	11/14/01	2				
Rip-Rap (9")	Grain Size	2000	15A	11/30/99	Letter	12/01/99	11/23/99	1	4000	2887	
			15B	10/04/00	19	10/11/00	09/28/00	1			
Rip-Rap (12")	Grain Size	2000	18	01/04/00	Letter	01/06/00	12/29/99	1	2000	1020	

Notes:
Quantities placed include Cells A, B, C, D, DNAPL, E, F, G, H and I1.
NA = Not Applicable
TBD = To be determined

1/2-Mile Removal Action Backfill Tracking Log

Material	Testing Required	Frequency (per ___ cy)	Submittal from MTI		Submittal to EPA		Sample Date	Number of Samples	Quantity Approved for Placement	Quantity Placed (cy)	Comments
			No.	Date	No.	Date					
Soil Backfill/Granular Fill (Brown's Pit)	Grain Size	2000	13/13A	11/17 & 11/18/99	8	12/01/99	11/16/99	1	2500	2221	
			27	10/02/01	25	12/12/01	11/26/01	1			
	PCBs	500	NA	NA	8A	12/15/99	12/08/99	2			
			NA	NA	14	05/31/00	05/18/00	2			
			NA	NA	22	03/14/01	02/28/01	2			
			NA	NA	24	08/23/01	07/23/01	1			
			NA	NA	25	12/12/01	11/14/01	2			
	VOCs	2000	NA	NA	8A	12/15/99	7/21-7/28/99	6			
	SVOCs	2000	NA	NA	25	12/12/01	11/14/01	2			
			NA	NA	8A	12/15/99	7/21-7/28/99	6			
	Metals	2000	NA	NA	25	12/12/01	11/14/01	2			
			NA	NA	8A	12/15/99	7/21-7/28/99	6			
	TPH	2000	NA	NA	25	12/12/01	11/14/01	2			
			NA	NA	8A	12/15/99	12/01/99	3			
Topsoil (Woodmont)	TOC	500	11/14	11/16 & 11/17/99	9	12/15/99	11/08/99	2	500	509	*Samples collected as part of off-site residential fill program * * *
	pH	500	11/14	11/16 & 11/17/99	9	12/15/99	11/08/99	2			
	PCBs	500	NA	NA	9	12/15/99	12/08/99	4			
	VOCs	2000	NA	NA	9	12/15/99	08/24/99	4			
	SVOCs	2000	NA	NA	9	12/15/99	08/24/99	4			
	Metals	2000	NA	NA	9	12/15/99	08/24/99	4			
	TPH	2000	NA	NA	9	12/15/99	12/08/99	2			
Topsoil (Lahey's)	TOC	500	11A	05/09/01	23	05/15/01	04/30/01	1	500	133	
	pH	500	11A	05/09/01	23	05/15/01	04/30/01	1			
	PCBs	500	NA	NA	23	05/15/01	04/11/01	3			
	VOCs	2000	NA	NA	23	05/15/01	04/11/01	3			
	SVOCs	2000	NA	NA	23	05/15/01	04/11/01	3			
	Metals	2000	NA	NA	23	05/15/01	04/11/01	3			
	TPH	2000	NA	NA	23	05/15/01	04/11/01	3			

Notes:

Granular Fill and Soil Backfill have been combined as the same material

Quantities placed include Cells A, B, C, D, DNAPL, E, F, G, H and I1.

NA = Not Applicable

TBD = To be determined

½-MILE RIVER REMOVAL ACTION
MONTHLY PROGRESS REPORT
DECEMBER 2001
FIGURE 1: PHOTO DOCUMENTATION

PHOTO NO. 1

LOCATION: Cell J1

DESCRIPTION: Waterloo sheetpile wall.

DATE: January 3, 2002.



PHOTO NO. 2

LOCATION: Lyman Street area, Cell J3

DESCRIPTION: Waterloo sheetpile wall.

DATE: December 6, 2001.



PHOTO NO. 3

LOCATION: Cell J2

DESCRIPTION: Bank excavation.

DATE: December 7, 2001.

