



SDMS: 287045

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

December 7, 2001

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 – November 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 November 2001 Monthly Report.

Please call me with any questions.

Yours truly,

Andrew T. Silfer/dmn

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
H. Inglis, EPA
D. Jamros, Weston
J. H. Maxymillian Technologies
T. B. McKinsey, BBL
R. McLaren, Esquire, GE
S. Messur, BBL
K. C. Mitkevicius, USACE
T. O'Brien, MA EOEA
B. Olson, EPA
S. Steenstrup, DEP
A. Weinberg, DEP
Public Information Repositories

1.0 Overview:

During November 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 excavation and investigation activities to address the presence of dense non-aqueous-phase liquid (DNAPL) in Cell J1. Also, the Lyman Street Bridge water line relocation activities were fully completed during the month of November. In addition, work tasks associated with the Lyman Street Source Control activities were initiated this month. Although the Lyman Street Bridge water line and 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 bridge and are discussed separately below.

Weekly status meetings were held on November 5, 14, and 26, 2001. No work was performed on November 22 and 23, 2001 due to the Thanksgiving holiday.

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. During the month of November 2001, 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 was used as a temporary storage area for DNAPL-impacted material removed from Cell J1. This material will be sampled and characterized for off-site disposal.

The month of November began by continuing to address the DNAPL observed in Cell J1 during the previous month. On November 1, 2001 a sample (J1-NAPL-L2) of the DNAPL observed in the upstream portion of Cell J1 was collected and submitted for laboratory analysis. On November 2, 2001 a split sample (J1-BERK-L1) of the DNAPL observed in the downstream portion of Cell J1 was collected with a representative of Berkshire Gas and was submitted for laboratory analysis. GE then implemented an investigation program, at the request of the US Environmental Protection Agency (EPA), to further delineate the extent of DNAPL-impacted materials. As part of the investigation program, 6 soil borings were installed along the riverbed within Cell J1. Two of the soil borings were installed downstream of the sewer crossing and four of the borings were installed upstream of the sewer crossing. The results of the borings were inconclusive with regard to determining the extent of DNAPL within Cell J1 (based on visual observations during excavation activities).

Following implementation of the investigation program, sediment excavation activities were initiated with EPA approval, to remove DNAPL-impacted materials in the upstream portion of Cell J1. Excavation activities began by removing river sediment first and then removing

the bank soils adjacent to the river sediment and immediately upstream of the sewer pipeline crossing. Saturated DNAPL-impacted soils were staged at the Building 68 dewatering pad and unsaturated DNAPL-impacted materials were staged at the Building 65 stockpile area. In addition, debris was encountered during Cell J1 DNAPL bank soil excavation activities. A partial drum (approximately 5 gal.) filled with earth and debris, an empty plastic cylinder (approximately 18"x 8"), and an apparent spindle arm were removed, containerized in a DOT-drum, and transferred to Bldg. 12 for subsequent characterization sampling prior to off-site disposal.

Excavation activities were completed to a depth of approximately 4-5 feet (i.e., approximately 2-3 feet deeper than required by the Work Plan) for the upstream portion of Cell J1. However, DNAPL was still observed to be remaining at various locations in the bottom of the cell as well as the bank. Following DNAPL-sediment removal activities in the upstream portion of Cell J1, stone was placed over the bottom of the excavation, as required, to address the presence of small boils that were encountered during excavation.

To aid in delineating the extent of DNAPL present in the Cell J1 upstream bank area, removal of the bank soil above the sewer crossing was completed. Following excavation activities in this area, no visible DNAPL was observed at the removal limits. Three samples of stained soil were also collected from the upstream Cell J1 bank excavation and shake tests were performed on each of the samples. The results indicated NAPL in the sample collected from furthest downstream location (i.e., closest to the sewer pipeline). NAPL was not observed in the other 2 soil samples. Three test pits were then excavated below each of the shake test sample locations to observe for the potential presence of DNAPL. There were no visible signs of DNAPL at any of the three upstream test pit locations.

Excavation activities to remove DNAPL-impacted materials continued with additional sediment and soil excavation in the downstream portion of Cell J1. Sediment removal in this area began near the downstream cutoff wall and DNAPL was not observed following the completion of excavation in this area to a depth of approximately 4 feet. Excavation continued at this depth in the upstream direction and DNAPL was observed on the bottom of the excavation at various locations. To determine whether DNAPL was also present in the downstream bank area, 2 test pits were excavated at the toe of bank at that portion of Cell J1 to observe for the presence of DNAPL. Following excavation of the 2 test pits, no visible DNAPL was observed emanating from the bank in either test pit.

In total, excavation activities to address the presence of DNAPL in the upstream and downstream portions of Cell J1 led to the removal of approximately 700 cubic yards (cy) of material from both the upstream and downstream areas. However, after completion of the excavation activities to the maximum depth, DNAPL remained in the river bottom and in a portion of the bank and it was determined that additional response measures, including deeper excavation and installation of a source control barrier wall, would be performed for Cell J1. To aid in the design of the source control sheetpile wall, 2 deep soil borings were

installed in Cell J1 at the upstream toe of bank in an attempt to determine the depth of till. The borings indicated that till was present at an approximate elevation ranging from 951 to 956 feet above mean sea level. Additionally, 7 soil borings were installed in the upstream and downstream portions of the Cell J1 riverbed to determine the approximate depth to the gray fine sand layer (an apparent confining layer) to evaluate areas of potential additional excavation. The gray fine sand layer was observed at approximately 1-foot below the existing excavation bottom and additional excavation is anticipated to be performed in the upstream and downstream areas of Cell J1. On November 28, 2001, GE submitted to EPA a report on the DNAPL investigations in Cell J1 and a proposal for response actions to address that DNAPL.

To allow for potential additional excavation in Cell J1, various modifications to the sheeting were performed during the month of November. The sewer pipeline was structurally stabilized by driving additional sheetpiles (approximately 12-feet long) along the upstream and downstream sides of the sewer pipeline. Additionally, the centerline sheetpiles were driven to a greater embedment depth. Initially, an attempt was made to drive the centerline sheetpiles deeper within the cell dry; however, the driving was suspended due to hydraulic control and stability concerns. To alleviate hydraulic pressure, the water pumps were turned off and the cell was flooded so that the water elevation was nearly equal on both sides of the sheets (i.e., inside and outside Cell J1). Following flooding of the cell, the centerline sheetpiles were driven approximately 3' -4' deeper into the Cell J1 riverbed.

In addition, during November, the upstream, downstream, and centerline cutoff sheetpile wall installation was completed to form Cell J2 (see Exhibit A for location). After the cutoff walls were installed, Cell J2 was partially dewatered and a pre-removal baseline survey was completed to record the existing elevations in the cell.

Further, during the month of November, the two existing upstream pipes associated with swale Nos. 6 and 7 were plugged to abandon the pipelines. Since these pipes have been abandoned, the rip rap swale protection will not be installed and the bank will be backfilled and seeded.

The fall 2001 planting activities were also completed in November. Installation of tree guards (to minimize herbivore damage) and mulch/salt marsh hay (to minimize invasive species) around canopy plantings was completed following the planting activities. In addition, herbaceous areas were restored by the placement of grass seed and mulch.

Isolation sand layer samples were collected from three locations in Cells G1/G2 as part of 1-year isolation cap monitoring program and submitted for laboratory analysis.

Air monitoring for particulate matter was conducted on a daily basis. The monthly PCB air monitoring event was conducted on November 28.

Water column (PCB and TSS) monitoring was also continued during removal activities in the month of November.

Lyman Street Bridge Water Line Relocation Activities

The Lyman Street Bridge water line relocation activities were fully completed during November. The water line activities included completing the installation of insulation around the exposed pipeline. The Lyman Street bridge water line restoration activities were also completed and included reinstalling the removed curbing, placing and compacting asphalt in the road excavation areas, and replacing the removed sidewalks.

After the Lyman Street waterline pressure test, biologic test, and chlorination test were completed and found to be acceptable, the City of Pittsfield was contacted and service of the Lyman Street water line was resumed.

Lyman Street Source Control Activities

Work efforts for the Lyman Street source control installation began by performing a survey to record existing elevations and to identify the Waterloo containment wall alignment. A silt curtain was installed outside of the existing oil booms in the Housatonic River along the bank of the Lyman Street parking area. As an erosion protection measure, silt fencing was installed along the bank of the Lyman Street parking area. On November 28, 2001, a sheen was observed on the surface of the river within the contained area between the bank and oil booms along the Lyman Street parking area. This observation was verbally reported to the EPA, Massachusetts Department of Environmental Protection (MDEP), and the National Response Center (NRC) on the same date (the NRC issued Tracking Number 587134). Response actions included inspecting the existing oil booms in the river along the toe of bank of the Lyman Street source control area, and replacing/adding oil booms as needed. Bank soil removal activities at the Lyman Street parking area were then initiated while observing for the potential presence of additional sheens. The bank area was excavated from the 2 recovery wells (RW-1 and RW-2) in the Lyman Street parking area downstream to the Lyman Street Bridge. No DNAPL was observed during excavation activities in this area. At the end of the month, the Waterloo source control sheetpiles were delivered to the site.

3.0 Sampling/test results received:

Table 1 presents the Cell J1 (upstream) DNAPL sample results.

Table 2 presents the results of a split sample (with Berkshire Gas) of DNAPL from the downstream portion of Cell J1.

Table 3 presents the Cells G1 and G2 1-year isolation layer monitoring sample results.

Table 4 presents the bank soil backfill samples results.

Table 5 presents the isolation sand backfill sample results.

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

Table 7 presents ambient air monitoring results for PCBs for monitoring event conducted on November 28.

Table 8 presents the results of the November 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 November, meeting summaries from the weekly project status meetings were submitted. Also, for work completed in October 2001, the monthly reports required by the Consent Decree and the Upper ½-Mile Reach Removal Action Work Plan were both submitted. In addition, during November, GE submitted the following documents:

- Letter dated November 5, 2001, notifying EPA and MDEP that GE believes that the finding of DNAPL in Cell J1 constitutes a force majeure event under the Consent Decree; and
- Letter report entitled *Results of Cell J1 DNAPL Investigation and Proposal to Address Presence of DNAPL in Cell J1*, dated November 28, 2001.

6.0 Photo documentation of activities performed:

- See attached Figure 1.

7.0 Brief description of work to be performed in December 2001:

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

- Complete response activities to address DNAPL encountered in Cell J1;
- Continue source control activities for the Lyman Street parking lot area;
- Perform bank excavation activities for Cell J2;
- Transfer stockpiled materials to the OPCAs and off-site, as appropriate;
- 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 – Cell J1 (upstream) DNAPL sample results.

Table 2 – Cell J1 (downstream) DNAPL split sample with Berkshire Gas

Table 3 – Cells G1 and G2 1-year isolation layer monitoring sample results.

Table 4 - Bank soil backfill samples results.

Table 5 - Isolation sand backfill sample results.

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 on November 28.

Table 8 – Results of the November 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
 CELL J1 (Upstream) NAPL SAMPLING
 DATA RECEIVED DURING NOVEMBER 2001

(Results are presented in parts per million, ppm)

Parameter	Sample ID: Date Collected:	HRJ1-NAPL-L2 11/01/01
Volatile Organics		
None Detected		--
PCBs		
None Detected		--
Semivolatile Organics		
Acenaphthene		170
Acenaphthylene		130
Anthracene		660
Benzo(a)anthracene		350
Benzo(a)pyrene		260
Benzo(b)fluoranthene		200
Chrysene		290
Fluoranthene		670
Fluorene		420
N-Nitrosodiphenylamine		350
Phenanthrene		2100
Pyrene		1000

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles and semivolatiles.
2. Only detected constituents are summarized.
3. -- Indicates that all constituents for the parameter group were not detected.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER UPPER 1/2 MILE REACH
CELL J1 NAPL SPLIT SAMPLING
DATA RECEIVED DURING NOVEMBER 2001

(Results are presented in parts per million, ppm)

Parameter	Sample ID: Date Collected:	J1-BERK-L1 11/02/01
Volatile Organics		
Chlorobenzene		710
Ethylbenzene		6.7 J
m&p-Xylene		6.1 J
PCBs		
Aroclor-1260		16000
Total PCBs		16000
Semivolatile Organics		
1,2,4-Trichlorobenzene		420 J
1,2-Dichlorobenzene		190 J
1,3-Dichlorobenzene		1300
1,4-Dichlorobenzene		7900
2-Methylnaphthalene		3600
Acenaphthene		14000
Acenaphthylene		1200
Anthracene		7700
Benzo(a)anthracene		4100
Benzo(a)pyrene		2800
Benzo(b)fluoranthene		2300
Benzo(g,h,i)perylene		1100
Benzo(k)fluoranthene		730 J
Butylbenzylphthalate		170 J
Chrysene		3000
Dibenzofuran		690 J
Fluoranthene		7400
Fluorene		8800
Indeno(1,2,3-cd)pyrene		830 J
Naphthalene		3800
Phenanthrene		29000
Pyrene		9800 J

Notes:

1. Samples were collected by Berkshire Gas, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles and semivolatiles.
2. Only detected constituents are summarized.
3. J - Indicates an estimated value less than the practical quantitation limit (PQL).

TABLE 3

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER UPPER 1/2 MILE REACH
REMOVAL ACTION ISOLATION LAYER SAMPLING
DATA RECEIVED DURING NOVEMBER 2001

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

Sample ID: Sample Depth(Inches): Date Collected:	CAP-MON-1-2 2-4 11/05/01	CAP-MON-1-2 4-6 11/05/01	CAP-MON-1-2 6-8 11/05/01	CAP-MON-2-2 2-4 11/05/01	CAP-MON-2-2 4-6 11/05/01	CAP-MON-2-2 6-8 11/05/01	CAP-MON-3-2 2-4 11/05/01	CAP-MON-3-2 4-6 11/05/01	CAP-MON-3-2 6-8 11/05/01
PCBs									
Aroclor-1016	ND(0.0551)	ND(0.0537)	ND(0.0576)	ND(0.0598) [ND(0.0572)]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Aroclor-1221	ND(0.0551)	ND(0.0537)	ND(0.0576)	ND(0.0598) [ND(0.0572)]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Aroclor-1232	ND(0.0551)	ND(0.0537)	ND(0.0576)	ND(0.0598) [ND(0.0572)]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Aroclor-1242	ND(0.0551)	ND(0.0537)	ND(0.0576)	ND(0.0598) [ND(0.0572)]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Aroclor-1248	ND(0.0551)	ND(0.0537)	ND(0.0576)	ND(0.0598) [ND(0.0572)]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Aroclor-1254	ND(0.0551)	ND(0.0537)	ND(0.0576)	ND(0.0598) [ND(0.0572)]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Aroclor-1260	ND(0.0551)	0.0790	ND(0.0576)	0.0845 [0.0704]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Total PCBs	ND(0.0551)	0.0790	ND(0.0576)	0.0845 [0.0704]	ND(0.0581)	ND(0.0588)	ND(0.0570)	ND(0.0552)	ND(0.0575)
Total Organic Carbon									
TOC - Replicate 1	785	1790	1030	1870 [795]	942	741	616	959	1000
TOC - Replicate 2	699	1480	2280	1350 [1050]	941	710	1260	831	1640
TOC - Replicate 3	1840	1100	1030	1250 [1180]	809	1280	553	1050	1020
TOC - Replicate 4	832	NA	1080	NA	NA	642	362	NA	693
TOC - Average	1040	1450	1350	1490 [1010]	897	844	699	946	1090
TOC - % RSD	51.8	23.5	45.9	22.2 [19.4]	8.54	35.1	56.1	11.6	36.5

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs and Total Organic Carbon.
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.

TABLE 4

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER UPPER 1/2 MILE REACH
BANK SOIL BACKFILL SAMPLING
DATA RECEIVED DURING NOVEMBER 2001

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

Sample ID:	DH-BF-12
Date Collected:	11/14/01
Volatile Organics	
None Detected	-- [--]
PCBs	
None Detected	-- [--]
Semivolatile Organics	
None Detected	-- [--]
Inorganics	
Aluminum	6380 [11500]
Barium	109 [73.9]
Calcium	13000 [14700]
Chromium	7.60 [11.3]
Cobalt	8.97 [10.5]
Copper	8.35 [8.76]
Iron	16100 [18800]
Lead	8.72 [8.28]
Magnesium	10800 [12600]
Manganese	748 [498]
Nickel	11.2 [13.7]
Potassium	1160 [2100]
Sodium	203 [265]
Vanadium	9.11 [14.5]
Zinc	35.9 [42.7]
Conventional Parameters	
Total Petroleum Hydrocarbons	-- [--]

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles, semivolatiles, inorganics, and total petroleum hydrocarbons.
2. Only those constituents detected in one or more samples are summarized.
3. Duplicate sample results are presented in brackets.
4. -- 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
ISOLATION LAYER SAND BACKFILL SAMPLING
DATA RECEIVED DURING NOVEMBER 2001

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

Sample ID:	BSG-BF-11
Date Collected:	11/14/01
Volatile Organics	
None Detected	-- [--]
PCBs	
None Detected	-- [--]
Semivolatile Organics	
None Detected	-- [--]
Inorganics	
Aluminum	8380 [8950]
Barium	45.6 [39.1]
Calcium	27800 [32400]
Chromium	8.91 [8.88]
Cobalt	8.13 [6.19]
Copper	8.27 [7.65]
Iron	16200 [13400]
Lead	7.91 [ND(5.95)]
Magnesium	18300 [19200]
Manganese	583 [341]
Nickel	11.8 [9.08]
Potassium	1900 [2190]
Sodium	258 [284]
Vanadium	13.0 [13.0]
Zinc	41.3 [35.1]
Conventional Parameters	
Total Petroleum Hydrocarbons	-- [--]
Total Organic Carbon - Lloyd Kahn Method	
TOC - Replicate 1	5570 [11400]
TOC - Replicate 2	6390 [10500]
TOC - Replicate 3	6650 [7880]
TOC - Average	6200 [10600]
TOC - % RSD	9.1 [18]

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to Northeast Analytical Services, Inc. for analysis of PCBs, volatiles, semivolatiles, inorganics, total petroleum hydrocarbons, and total organic carbon.
2. Only those constituents detected in one or more samples are summarized.
3. Duplicate sample results are presented in brackets.
4. -- Indicates that all constituents for the parameter group were not detected.

TABLE 6-A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NOVEMBER 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	11/01/200	1.5	4	38	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/01/200	2.6	4		4	2	4	---	---	---	---
Upstream of Newell St. Bridge	11/02/200	1.4	9	37	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/02/200	2.5	9		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/05/200	2.1	4	87	33	3	10	---	---	---	---
Downstream of Lyman St. Bridge	11/05/200	3.1	4		6	3	4	---	---	---	---
Upstream of Newell St. Bridge	11/06/200	1.4	3	32	3	2	4	---	---	---	---
Downstream of Lyman St. Bridge	11/06/200	2.5	3		3	2	4	---	---	---	---
Upstream of Newell St. Bridge	11/07/200	1.4	4	33	5	2	7	---	---	---	---
Downstream of Lyman St. Bridge	11/07/200	2.5	4		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/08/200	1.4	2	41	3	2	2	HR-11-08-01-U1	0.109	ND(0.0250)	2.00
Downstream of Lyman St. Bridge	11/08/200	2.5	2		3	2	3	HR-11-08-01-D1	0.135	ND(0.0250)	1.90
Upstream of Newell St. Bridge	11/09/200	1.5	1	40	4	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/09/200	2.6	1		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/12/200	1.5	1	38	4	3	3	---	---	---	---
Downstream of Lyman St. Bridge	11/12/200	2.5	1		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/13/200	1.5	1	37	3	2	4	---	---	---	---
Downstream of Lyman St. Bridge	11/13/200	2.5	1		4	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/14/200	1.5	1	38	4	3	3	---	---	---	---
Downstream of Lyman St. Bridge	11/14/200	2.5	1		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/15/200	1.5	4	39	5	3	3	---	---	---	---
Downstream of Lyman St. Bridge	11/15/200	2.6	4		5	3	4	---	---	---	---
Upstream of Newell St. Bridge	11/16/200	1.6	3	40	5	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/16/200	2.6	3		2	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/19/200	1.2	4	22	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/19/200	2.3	4		4	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/20/200	1.4	1	25	5	3	3	HR-11-20-01-U1	NR	NR	NR
Downstream of Lyman St. Bridge	11/20/200	2.5	1		5	3	4	HR-11-20-01-D1	NR	NR	NR
Upstream of Newell St. Bridge	11/21/200	1.4	1	27	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/21/200	2.5	1		3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/26/200	1.5	3	37	10	2	5	---	---	---	---
Downstream of Lyman St. Bridge	11/26/200	2.6	3		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/27/200	1.5	8	38	3	2	3	---	---	---	---

TABLE 6-A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NOVEMBER 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				
Downstream of Lyman St. Bridge	11/27/200	2.6	8	30	3	2	3	---	---	---	---

TABLE 6-A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NOVEMBER 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	11/28/200	1.5	8	35	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/28/200	2.6	8		3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/29/200	1.5	5	39	3	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/29/200	2.6	5		3	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/30/200	1.5	6	42	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/30/200	2.6	6		3	2	3	---	---	---	---

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 6-B

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
HOUSATONIC RIVER PCB/TSS MONITORING DURING CONSTRUCTION
DATA RECEIVED DURING NOVEMBER 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-10-25-01-U1	Upstream of Newell St. Bridge	10/25/01	ND(0.0000250)	0.0000450 AF	ND(0.0000250)	0.0000450	1.40
HR-10-25-01-D1	Downstream of Lyman St. Bridge	10/25/01	ND(0.0000250)	0.0000936 AF	0.0000547	0.000148	1.70
HR-10-25-01-U1 (FILTERED)	Upstream of Newell St. Bridge	10/25/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--
HR-10-25-01-D1 (FILTERED)	Downstream of Lyman St. Bridge	10/25/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--
HR-11-8-01-U1	Upstream of Newell St. Bridge	11/8/01	ND(0.0000250)	0.0000769 AF	0.0000320	0.000109	2.00
HR-11-8-01-D1	Downstream of Lyman St. Bridge	11/8/01	ND(0.0000250)	0.000101 AF	0.0000344	0.000135	1.90
HR-11-8-01-U1 (FILTERED)	Upstream of Newell St. Bridge	11/8/01	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	--
HR-11-8-01-D1 (FILTERED)	Downstream of Lyman St. Bridge	11/8/01	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 NOVEMBER 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
11/28/01 - 11/29/01	0.006	0.0032	0.0032	0.0029	0.0025	0.0027
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 NOVEMBER 2001

Date	Sampler Location	Average Site Concentration (mg/m ³)	BM-1 (mg/m ³)	Average Period (Hours:Min)	Predominant Wind Direction
11/01/01	AM-6 (south side of river)	0.021	0.021	10:30	SW, SSW
11/02/01	AM-6 (south side of river)	0.035	0.039	10:45	SSW, SW
11/05/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
11/06/01	AM-6 (south side of river)	0.007	0.004	9:00	NW, NNW
11/07/01	AM-6 (south side of river)	0.024	0.020	11:00	WNW, NW
11/08/01	AM-6 (south side of river)	0.013	0.011	10:30	SSW, SW
11/09/01	AM-6 (south side of river)	0.007	0.004	11:00	WNW
11/12/01	AM-6 (south side of river)	0.007	0.003	8:45	NW
11/13/01	AM-6 (south side of river)	0.015	0.013	9:00	W
11/14/01	AM-6 (south side of river)	0.032	0.032	8:45	SSW
11/15/01	AM-6 (south side of river)	0.039	0.043	10:30	SW
11/16/01	AM-6 (south side of river)	0.042	0.041	11:00	WNW
11/19/01	AM-6 (south side of river)	0.043	0.042	9:00	SW
11/20/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
11/21/01	AM-6 (south side of river)	0.006	0.003	9:15	W, SW
11/22/01 ²	AM-6 (south side of river)	NA	NA	NA	NA
11/23/01 ²	AM-6 (south side of river)	NA	NA	NA	NA
11/26/01	AM-6 (south side of river)	0.011	0.009	10:30	NW
11/27/01	AM-6 (south side of river)	0.010	0.011	10:00	SW
11/28/01	AM-6 (south side of river)	0.014	0.015	9:45	NW
11/29/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
11/30/01 ¹	AM-6 (south side of river)	NA	NA	NA	NA
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 lack of site activity on the holiday.

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				Samples collected as part of off-site residential fill program		
			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				Samples collected as part of off-site residential fill program		
	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			MTI Subs. 12I and 12J included with Submittal No. 24 to EPA. Submittal 12J supplements 12I.			
			12J	07/05/01	Letter	07/09/01	06/20/01	1						
			TOC	500	12A	01/03/00	Letter	01/06/00			12/28/99	1		
	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			MTI Subs. 12I and 12J included with Submittal No. 24 to EPA. Submittal 12J supplements 12I. Supplement to 12I and 12J. For next frequency interval (250 CY).			
	12J	07/05/01			Letter	07/09/01	06/20/01	1						
	PCBs	500			NA	NA	Letter	09/24/01			09/20/01	3		
			NA	NA	Letter	10/31/01	10/26/01	3						
			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						
	SVOCs	2000	NA	NA	10	01/14/00	01/05/00	2						
			NA	NA	18A	10/05/00	09/28/00	2						
	Metals	2000	NA	NA	10	01/14/00	01/05/00	2						
			NA	NA	18A	10/05/00	09/28/00	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						
	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 I.
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	2000	2221		
	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				
	VOCs	2000	NA	NA	8A	12/15/99	7/21-7/28/99	6				Samples Collected as part of Allendale School Project
	SVOCs	2000	NA	NA	8A	12/15/99	7/21-7/28/99	6				
	Metals	2000	NA	NA	8A	12/15/99	7/21-7/28/99	6				
TPH	2000	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		
	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				*Samples collected as part of off-site residential fill program
	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

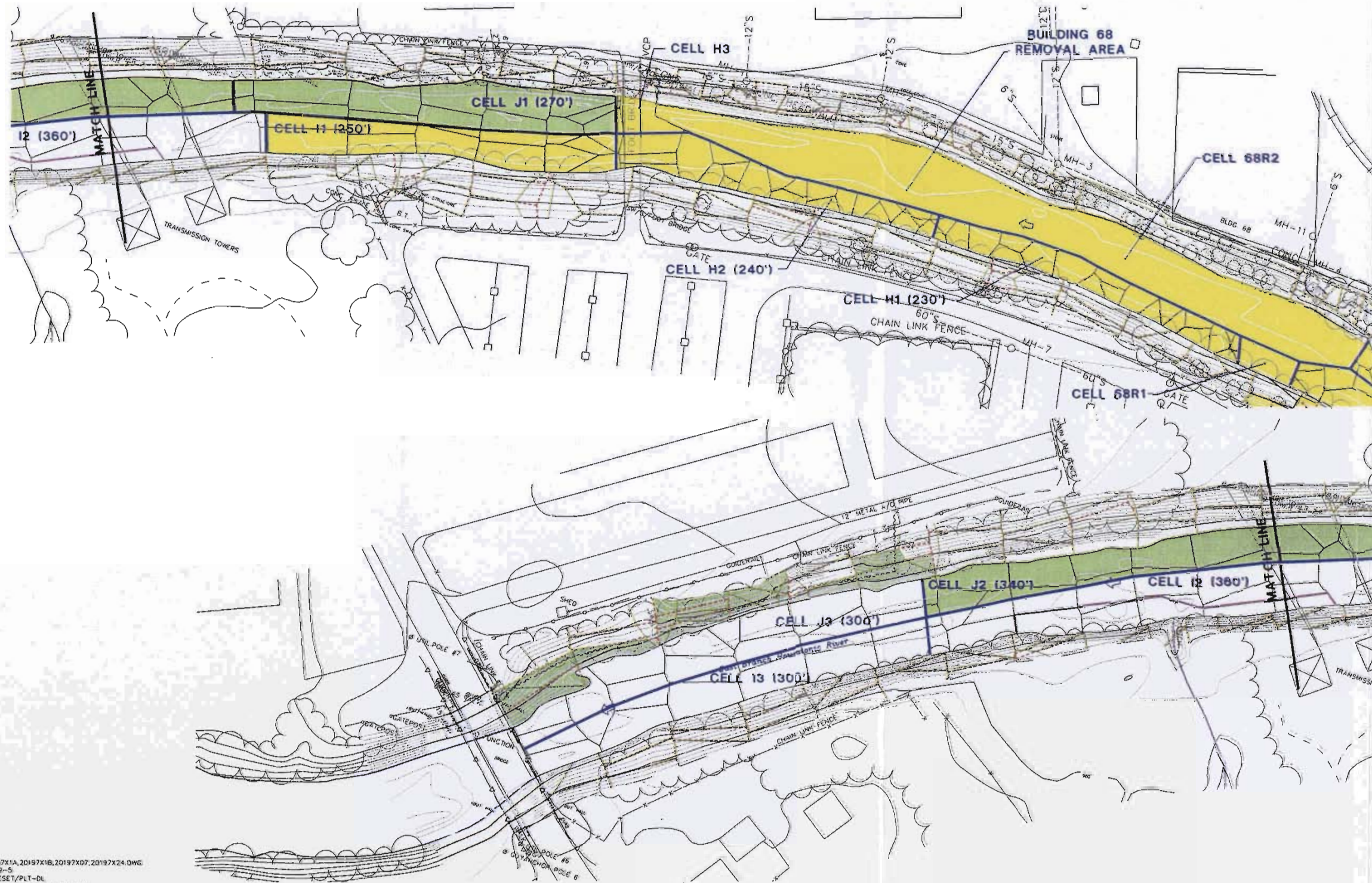
Quantities placed include Cells A, B, C, D, DNAPL, E, F, G, H and I1.

NA = Not Applicable

TBD = To be determined

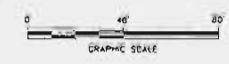
Exhibit A - Upper 1/2 Mile Reach Removal Action

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

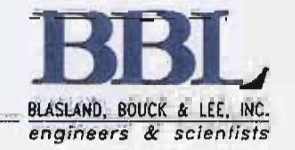


- LEGEND:**
- UPPER 1/2-MILE REMOVAL AREAS COMPLETED
 - UPPER 1/2-MILE REMOVAL AREAS IN PROGRESS
 - PROPOSED CONTAINMENT BARRIER LOCATION
 - EXISTING CONTAINMENT BARRIER LOCATION
 - 0'-1' BANK SOIL POLYGON
 - 1'-3' BANK SOIL POLYGON
 - TOP OF BANK
 - CAP AND ARMOR TIE-IN BUFFER
 - REMOVAL CELL

- 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: RIVERSHANK 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.



X: 20197X1A, 20197X1B, 20197X07, 20197X24.DWG
 LMAN: 9-5
 P: PAGES1/PLT-DL
 11/6/01 SVR-54-GMS, RGB, BLS
 20197030/CELL62/20197013.DWG



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

PHOTO NO. 1

LOCATION: Cell J1

DESCRIPTION: DNAPL Removal activities.

DATE: November 6, 2001.



PHOTO NO. 2

LOCATION: Cell J1

DESCRIPTION: Sheetpile walls along
sewer pipeline crossing.

DATE: November 27, 2001.



PHOTO NO. 3

LOCATION: Cell J3/Lyman St. Area

DESCRIPTION: Bank excavation for Waterloo
Source control barrier wall.

DATE: November 30, 2001.

