



SOMS: 287038-

08-0065

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

December 8, 2000

Mr. Dean Tagliaferro
US Environmental Protection Agency
One Congress Street, Suite 1100
Boston, MA 02114-2023

Ms. Susan Steenstrup
Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

**Re: Upper 1/2-Mile Reach of Housatonic River Removal Action
Monthly Report – November 2000**

Dear Mr. Tagliaferro and Ms. Steenstrup:

In accordance with the approved Removal Action Work Plan - Upper 1/2 Mile Reach of Housatonic River, enclosed please find the November 2000 Monthly Report.

Please call with any questions.

Yours truly,

William A. Home / for

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

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

During November 2000, GE and its contractor Maxymillian Technologies Incorporated (MTI) continued work on the Upper 1/2 Mile Reach Removal Action. This work included successfully regaining hydraulic control in Cell G-2, completing sediment and bank soil removal activities in the upstream part of Cell G-2, and isolating Cell G-3 (downstream/north side) with temporary sheetpile. During this month, GE also completed the remedial design to address the observed coal-tar-related non-aqueous-phase liquid (NAPL) in the downstream portion of Cell G-2. This proposal was submitted to EPA for review on November 17, 2000. The month of November ended with the commencement of the bank soil and sediment removal activities in Cell G-3.

During this work, as discussed further below, GE observed and reported an oil sheen in the downstream part of Cell G-1 and NAPL with coal-tar constituents in a portion of Cell G-3 along the lower north bank area.

Weekly status meetings were held on November 1, 8, 15, and 29. No status meeting was held on November 22 and no work took place on November 23 and 24.

2.0 Chronological description of the tasks performed:

Refer to the diagram (Exhibit A) referenced in Section 4.0 and attached to this report for an orientation of the sheetpile cells and their respective locations. In the month of November, GE Buildings 33-north, 33X and 65 were used as temporary storage facilities for TSCA and non-TSCA material. Building 65 also continues to have temporary stockpiles of potentially NAPL/DNAPL-impacted material. After appropriate sampling and characterization, the material will be disposed of off-site.

Work during the first part of November concentrated on regaining hydraulic control of Cell G-2 through a jetting/grouting operation along the centerline sheetpile, which filled voids in the river bottom with grout. This operation was completed, and after the grout was allowed to cure for 24 hours, the majority of Cell G-2 was successfully de-watered on November 8. EPA required 4 additional borings along the toe of slope in the upstream part of Cell G-2; these were completed on November 10. Dry excavation conditions were achieved and excavation in the upstream and middle part of Cell G-2 resumed on November 10 and 13, respectively.

On November 13, 2000, a thin rainbow-colored oil sheen was observed outside the work area in the downstream part of Cell G-1. On the same date, GE reported this observation to EPA, MDEP, and the National Response Center (NRC). The NRC issued tracking number 548094; MDEP did not issue a tracking number. Oil absorbent boom and pads were deployed and maintained. Within 48 hours, the sheen had dissipated and has not been observed since.

The analytical results from the 4 additional borings in Cell G-2, combined with visual observations of the recently excavated portions of the cell, indicated that the downstream bank area was the only portion of Cell G-2 where NAPL was a continuing concern. GE transmitted preliminary data from its NAPL investigations in Cell G-2 to EPA on November 7, 2000. GE then completed the remedial design details for this cell, which included installation of a 105-foot long, 25-foot deep permanent source control sheetpile barrier on the bank adjacent to Cell G-2. On November 17, 2000, GE submitted to EPA its final report on the NAPL investigations in Cell G-2 and its proposal to address the NAPL in the downstream portion of Cell G-2 through the installation of the permanent source control sheetpile barrier. This document was entitled *Results of Cell G-2 NAPL Investigation and Proposal to Address Presence of LNAPL in Cell G-2*.

GE's contractor continued to work in other areas by clearing trees along the south side of the river adjacent to Cell F-3, H-1, and H-2. The centerline sheetpile between Cell G-3 and F-3 was completed on November 17. EPA provided approval to install the downstream cutoff wall in Cell G-3. This cell was de-watered between November 22 and 27, using the 500,000 gallon storage tank, and existing elevations for bank and sediments were recorded. This information was submitted to EPA for review.

After receiving GE's November 17 proposal, EPA requested additional information on the approximate location of the former oxbow in the Cell G-2 area. Based on review of historical maps and aerial photographs, GE transmitted to EPA on November 27 a revised Figure 5 (from the November 17 proposal), as well as a 1960 aerial photograph, showing the approximate location of the former oxbow.

On November 22, 2000, GE provided written notification to EPA and MDEP of GE's position that the finding of coal-tar NAPL in Cell G-2 and the unrelated loss of hydraulic control and resultant flooding of that cell constituted "force majeure" events under the Consent Decree (CD) for the GE-Pittsfield/Housatonic River Site.

During November, GE received the results from the caged mussel sampling that was conducted on October 30 as part of the caged mussel study to evaluate the impacts of the construction/remediation work. No additional mussel sampling was performed in November.

GE also continued to monitor coal-tar DNAPL from the 6-inch-diameter coal-tar DNAPL recovery well in former Cell C. In November, no measurable amounts of coal-tar DNAPL/water mixture were collected from that well. Monitoring of coal-tar DNAPL at this well will continue.

As the month ended, bank soil removal activities had begun in Cell G-3. On November 28, GE observed the presence of NAPL in Cell G-3 at the lower bank area approximately 100 feet downstream of the interface between Cells G-2 and G-3. On the same date, GE reported this observation to EPA, MDEP, and the NRC. The NRC issued tracking number 549420; MDEP did not issue a tracking number. On November 29, GE collected a sample of NAPL-saturated sediment/soil from the middle part of Cell G-3 for testing.

3.0 Number of samples collected:

Water column monitoring for total suspended solids (TSS) was conducted on a daily basis. Water column PCB samples were collected once every 2 weeks on November 13 and 29, 2000. The TSS and PCB results received to date for the month of November are attached to this report (Table 1A and 1B).

Table 2 presents a summary of analytical results, including PCB, VOC, and SVOC data, for the 4 additional soil boring samples collected from the upstream lower bank area of Cell G-2.

Table 3 presents a summary of analytical results for PCBs from samples of the isolation material as part of the sediment cap monitoring requirements.

Table 4 presents a summary of analytical results, including PCB, VOC, and SVOC data, for the sample of NAPL-saturated sediment collected from the middle part of Cell G-3.

In the month of October, particulate air monitoring was conducted from November 1 to November 30. PCB air monitoring was conducted on November 11-12, 2000. The results are attached to this report (Tables 5 and 6).

Table 7 includes analytical results for PCBs from the caged mussel study received in November.

Table 8 includes the results from monthly monitoring of the coal-tar DNAPL recovery well.

Table 9A and 9B includes analytical results for PCBs and SVOC respectively from split samples associated with EPA's sampling of the recently deposited sediment on top of the completed armored cap in former Cells A and C.

Table 10 includes analytical results for PCB's and TLCP (semivolatiles) from DNAPL impacted material (middle part of Cell G-2) stockpiled in Bldg. 65.

4.0 Diagrams associated with the tasks performed:

A diagram labeled as Exhibit A shows the location of the Cells (A, B, C, D, E, F, and G) 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 any reports received and prepared:

During the month of November, meeting summaries from various weekly project status meetings were submitted to EPA, MDEP and EOE. Also, for work completed in October 2000, the monthly reports required by the CD and the Upper 1/2 Mile Reach Removal Action Work Plan were both submitted on November 9.

In addition, in November, GE submitted the following:

- Letter of November 7, 2000, including preliminary analytical results from the DNAPL/NAPL investigation in Cell G-2.
- Letter of November 9, 2000, summarizing the effects of erosion in Cell G-2 and proposing additional excavation in subsequent cells.
- Letter of November 17, 2000, transmitting the results of Cell G-2 NAPL Investigation and Proposal to Address Presence of LNAPL in Cell G-2.

- Letter of November 22, 2000, providing written notification that the observed coal-tar NAPL in the downstream part of Cell G-2 and the loss of hydraulic control and resultant flooding of Cell G-2 constituted force majeure events under the CD.
- Letter of November 27, 2000 transmitting a revised Figure 5 (from November 17 proposal) and 1960 aerial photograph, showing location of former oxbow in Cell G-2 area.

6.0 Photo documentation of activities performed: See attached Figure 1

7.0 Brief description of work to be performed in December 2000:

Throughout the upcoming weeks in the month of December, the following activities are anticipated to take place:

- Obtain approval from EPA and install temporary intermediate sheetpile wall subdividing Cell G-2.
- Complete restoration in the upstream half of Cell G-2.
- Pending EPA approval implement the remediation for the observed coal-tar NAPL in the downstream portion of Cell G-2 by ordering, receiving, and installing the permanent source control sheetpile barrier. Following installation, complete primary flushing activities for that barrier.
- Complete excavation and restoration activities in the downstream part of Cell G-2, including installation of the northern half of the "W" rock weir.
- Investigate, through excavation, the observed NAPL at the lower bank area in Cell G-3. (Area appears to be isolated and not associated with a potential NAPL source.)
- Complete bank soil and sediment removal activities in Cell G-3 (following completion of the NAPL investigation).
- Dispose NAPL/DNAPL impacted material stockpiled in Building 65 off-site.
- Maintain temporary stockpiles of material in Buildings 33, 33X, and 65 (TSCA and non-TSCA).

- Continue monitoring coal-tar DNAPL recovery well in former Cell C.
- Conduct air and water column monitoring.

8.0 Attachments to this report:

- Table 1A and 1B- Water column monitoring TSS and PCB results.
- Table 2 - Analytical results for soil boring samples from the upstream Cell G-2.
- Table 3 - Analytical results for PCBs from the isolation material (sediment cap).
- Table 4 - Analytical results for Cell G-3 NAPL-saturated sediment sample.
- Tables 5 and 6 – Particulate and PCB air monitoring results.
- Table 7 - analytical results from the caged mussel study.
- Table 8 - monitoring results from the coal-tar DNAPL recovery well.
- Table 9A and 9B – analytical results from sediment on top of the armored cap (former Cells A and C).
- Table 10 – analytical results from Cell G-2 material stockpiled in Bldg. 65.
- Exhibit A - Diagram to show current progress and the locations of cells within the upstream part of the Upper ½ Mile Reach Removal Action.
- Exhibit B – Backfill quantity summary chart.
- Figure 1 - Photo documentation.

TABLE 1A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NOVEMBER 2000

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 ¹⁴ (cfs)	Turbidity (ntu) ¹²			Sample ID	Total PCB Concentration ¹³ (ug/l)	Filtered PCB Concentration (ug/l)	TSS (mg/l)
					High	Low	Daily Composite				
Upstream of Newell St. Bridge	11/1/2000	1.6	7	<50	5	3	4	---	---	---	---
Downstream of Lyman St. Bridge	11/1/2000	3.0	7	99	5	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/2/2000	1.6	7	<50	2	1	2	---	---	---	---
Downstream of Lyman St. Bridge	11/2/2000	2.9	7	85	2	1	2	---	---	---	---
Upstream of Newell St. Bridge	11/3/2000	1.4	7	<50	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/3/2000	2.7	7	58	3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/6/2000	1.7	8	<50	2	1	2	---	---	---	---
Downstream of Lyman St. Bridge	11/6/2000	2.9	8	85	3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/7/2000	1.4	8	<50	11	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/7/2000	2.7	8	58	3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/8/2000	1.3	8	<50	4	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/8/2000	2.7	8	58	6	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/9/2000	1.3	6	<50	7	3	3	---	---	---	---
Downstream of Lyman St. Bridge	11/9/2000	2.6	6	<50	6	3	4	---	---	---	---
Upstream of Newell St. Bridge	11/10/2000	1.8	7	<50	15	7	9	---	---	---	---
Downstream of Lyman St. Bridge	11/10/2000	2.2	7	<50	20	6	14	---	---	---	---
Upstream of Newell St. Bridge	11/13/2000	1.4	7	<50	3	2	2	HR-11-13-00-U1	0.219	0.0508	2.13
Downstream of Lyman St. Bridge	11/13/2000	2.9	7	85	17	2	8	HR-11-13-00-D1	1.76	0.114	36.6
Upstream of Newell St. Bridge	11/14/2000	1.3	9	<50	6	3	3	---	---	---	---
Downstream of Lyman St. Bridge	11/14/2000	2.9	9	85	5	3	3	---	---	---	---
Upstream of Newell St. Bridge	11/15/2000	2.4	6	94	14	9	8	---	---	---	---
Downstream of Lyman St. Bridge	11/15/2000	3.5	6	166	13	9	9	---	---	---	---
Upstream of Newell St. Bridge	11/16/2000	2.3	5	85	8	4	5	---	---	---	---
Downstream of Lyman St. Bridge	11/16/2000	3.5	5	166	15	3	8	---	---	---	---
Upstream of Newell St. Bridge	11/17/2000	1.8	6	<50	4	2	3	---	---	---	---
Downstream of Lyman St. Bridge	11/17/2000	3.1	6	112	3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/20/2000	1.4	3	<50	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/20/2000	2.7	3	58	4	2	3	---	---	---	---
Upstream of Newell St. Bridge	11/21/2000	1.4	5	<50	5	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/21/2000	2.6	5	<50	6	2	3	---	---	---	---

TABLE 1A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

NOVEMBER 2000

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 ¹⁴ (cfs)	Turbidity (ntu) ¹²			Sample ID	Total PCB Concentration ¹³ (ug/l)	Filtered PCB Concentration (ug/l)	TSS (mg/l)
					High	Low	Daily Composite				
Upstream of Newell St. Bridge	11/22/2000	1.4	3	<50	3	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/22/2000	2.7	3	58	3	2	2	---	---	---	---
Upstream of Newell St. Bridge	11/27/2000	1.7	4	<50	7	4	5	---	---	---	---
Downstream of Lyman St. Bridge	11/27/2000	3.1	4	112	7	4	5	---	---	---	---
Upstream of Newell St. Bridge	11/28/2000	1.8	4	<50	6	4	4	---	---	---	---
Downstream of Lyman St. Bridge	11/28/2000	2.9	4	85	7	3	5	---	---	---	---
Upstream of Newell St. Bridge	11/29/2000	1.7	4	<50	3	2	3	HR-11-29-00-U1	NR	NR	NR
Downstream of Lyman St. Bridge	11/29/2000	2.8	4	72	3	2	2	HR-11-29-00-D1	NR	NR	NR
Upstream of Newell St. Bridge	11/30/2000	1.8	5	<50	4	2	2	---	---	---	---
Downstream of Lyman St. Bridge	11/30/2000	3.0	5	99	2	2	2	---	---	---	---

Notes:

1. PCB and TSS samples were collected by Blasland, Bouck & Lee, Inc. and analyzed by Northeast Analytical, 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. Turbidity Action Level = Turbidity downstream ≤ Turbidity upstream + 50 ntu
13. PCB Action Level = PCBs downstream ≤ PCBs upstream + 5 ug/l
14. Flow data is an estimate based on a flow rating curve of water depth vs. flow data calculated by BBL for the period of November 8, 1999 through November 22, 2000.

TABLE 1B

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
HOUSATONIC RIVER PCB/TSS/TURBIDITY MONITORING DURING CONSTRUCTION
DATA RECEIVED DURING NOVEMBER 2000

(Results are presented in parts per million, ppm)

Sample ID	Location	Date Collected	Aroclor 1016, 1221, 1232, & 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	TSS
HR-10-26-00-U1	Upstream of Newell St. Bridge	10/26/2000	ND(0.0000250)	ND(0.0000250)	0.0000254 AF	ND(0.0000250)	0.0000254	ND(1.33)
HR-10-26-00-D1	Downstream of Lyman St. Bridge	10/26/2000	ND(0.0000250)	ND(0.0000250)	0.0000348 AF	ND(0.0000250)	0.0000348	ND(1.33)
HR-10-26-00-U1 (FILTERED)	Upstream of Newell St. Bridge	10/26/2000	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	---
HR-10-26-00-D1 (FILTERED)	Downstream of Lyman St. Bridge	10/26/2000	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	ND(0.0000250)	---
HR-11-13-00-U1	Upstream of Newell St. Bridge	11/13/2000	ND(0.0000250)	0.0000615 PE	0.000157 AF	ND(0.0000250)	0.000219	2.13
HR-11-13-00-D1	Downstream of Lyman St. Bridge	11/13/2000	ND(0.0000250)	0.000121 PE	0.000665 AF	0.000972	0.00176	36.6
HR-11-13-00-U1 (FILTERED)	Upstream of Newell St. Bridge	11/13/2000	ND(0.0000250)	ND(0.0000250)	0.0000508 AF	ND(0.0000250)	0.0000508	---
HR-11-13-00-D1 (FILTERED)	Downstream of Lyman St. Bridge	11/13/2000	ND(0.0000250)	0.0000268 PE	0.0000590 AF	0.0000281	0.000114	---

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. --- - Not analyzed.
4. AF - Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
5. PE - Aroclor 1248 is being used to report an altered PCB pattern exhibited by the sample. Actual Aroclor 1248 is not present in the sample, but is reported to more accurately quantify PCB present in sample that has undergone environmental alteration.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
CELL G2 RIVERBANK SOIL SAMPLING
SAMPLE DATA RECEIVED DURING NOVEMBER 2000

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

Parameter	Sample ID: Sample Depth(Feet): Date Collected:	HR-G2-SB-24 3.9-5 11/10/00	HR-G2-SB-24 8.5-9 11/10/00	HR-G2-SB-25 8-10 11/10/00	HR-G2-SB-26 11-12 11/10/00
Volatile Organics					
Acetone		0.10 [0.059]	0.040	ND(0.028)	0.042
Chlorobenzene		0.082 [0.043]	0.23	ND(0.0070)	0.0090
Toluene		0.011 [0.045]	0.023	ND(0.0070)	ND(0.0071)
PCBs					
Aroclor-1260		62 [120]	ND(0.057)	0.049	ND(0.048)
Total PCBs		62 [120]	ND(0.057)	0.049	ND(0.048)
Semivolatile Organics					
1,3-Dichlorobenzene		0.22 J [ND(0.56)]	0.14 J	ND(0.47)	ND(0.48)
1,4-Dichlorobenzene		1.0 [0.47 J]	1.5	ND(0.47)	ND(0.48)
Benzo(a)anthracene		0.35 J [0.18 J]	ND(0.57)	ND(0.47)	ND(0.48)
Benzo(a)pyrene		0.43 J [0.18 J]	ND(0.57)	ND(0.47)	ND(0.48)
Benzo(b)fluoranthene		0.50 J [0.31 J]	ND(0.57)	ND(0.47)	ND(0.48)
Benzo(g,h,i)perylene		0.16 J [ND(0.56)]	ND(0.57)	ND(0.47)	ND(0.48)
Benzo(k)fluoranthene		0.28 J [ND(0.56)]	ND(0.57)	ND(0.47)	ND(0.48)
Chrysene		0.45 J [0.26 J]	ND(0.57)	ND(0.47)	ND(0.48)
Fluoranthene		0.64 J [0.37 J]	ND(0.57)	ND(0.47)	ND(0.48)
Indeno(1,2,3-cd)pyrene		0.17 J [ND(0.56)]	ND(0.57)	ND(0.47)	ND(0.48)
Phenanthrene		0.20 J [0.14 J]	ND(0.57)	ND(0.47)	ND(0.48)
Pyrene		1.4 [0.77]	ND(0.57)	ND(0.47)	ND(0.48)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to CT&E Environmental Services, Inc. for analysis of PCBs, volatiles, and semivolatiles.
2. Only constituents detected in at least one sample are summarized.
3. ND - Analyte was not detected. The value in parentheses is the associated detection limit.
4. J - Indicates an estimated value less than the practical quantitation limit (PQL).
5. Duplicate results are presented in brackets.

TABLE 3

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
CELL G1, G2 RIVER CAP ISOLATION LAYER SAMPLING
PCB DATA RECEIVED DURING NOVEMBER 2000

(Results are presented in parts per million, ppm)

Sample ID	Depth (Feet)	Date Collected	Aroclor 1016, 1221, 1232, 1242, 1248, & 1254	Aroclor 1260	Total PCBs
CAP-MON-1	2 - 4	11/9/2000	ND(0.039) -	0.027 J	0.027 J
	4 - 6	11/9/2000	ND(0.038) [ND(0.039)]	ND(0.038) [ND(0.039)]	ND(0.038) [ND(0.039)]
	6 - 8	11/9/2000	ND(0.040)	ND(0.040)	ND(0.040)
CAP-MON-2	2 - 4	11/9/2000	ND(0.039)	ND(0.039)	ND(0.039)
	4 - 6	11/9/2000	ND(0.040)	ND(0.040)	ND(0.040)
	6 - 8	11/9/2000	ND(0.039)	ND(0.039)	ND(0.039)
CAP-MON-3	2 - 4	11/9/2000	ND(0.039)	ND(0.039)	ND(0.039)
	4 - 6	11/9/2000	ND(0.039)	0.030 J	0.030 J
	6 - 8	11/9/2000	ND(0.039)	ND(0.039)	ND(0.039)

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to CT&E Environmental Services, Inc. for analysis of PCBs.
2. ND - Analyte was not detected. The value in parentheses is the associated detection limit.

TABLE 4

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
CELL G3 OILY SEDIMENT SAMPLING
SAMPLE DATA RECEIVED DURING NOVEMBER 2000

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

Parameter	Sample ID: Date Collected:	HR-G3-SED-1 11/29/00
Volatile Organics		
Chlorobenzene		3.4
Ethylbenzene		2.0
PCBs		
Aroclor-1254		5.98 AF
Aroclor-1260		4.28
Total PCBs		10.3
Semivolatile Organics		
2-Methylnaphthalene		4.3
Acenaphthene		41
Acenaphthylene		1.6
Anthracene		23
Benzo(a)anthracene		10
Benzo(a)pyrene		7.8
Benzo(b)fluoranthene		6.1
Benzo(g,h,i)perylene		2.7
Benzo(k)fluoranthene		1.8
Carbazole		0.88
Chrysene		7.7
Dibenzo(a,h)anthracene		1.0
Dibenzofuran		0.96
Fluoranthene		24
Fluorene		20
Indeno(1,2,3-cd)pyrene		2.5
Naphthalene		32
Phenanthrene		86
Pyrene		40

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to Northeast Analytical, Inc. for analysis of PCBs, volatiles, and semivolatiles.
2. Only detected constituents are summarized.
3. AF - Aroclor 1254 is being reported as the best Aroclor match.
The sample exhibits an altered PCB pattern.

TABLE 5

**GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS**

**HOUSATONIC RIVER - UPPER 1/2 MILE REACH
AMBIENT AIR PARTICULATE MATTER DATA RECEIVED DURING NOVEMBER 2000**

Date	Sampler Location	Average Site Concentration (mg/m ³)	BM-1 (mg/m ³)	Average Period (Hours:Min)	Predominant Wind Direction
11/1/2000	AM-4 (south side of river)	0.006	0.053	10:15	NNW
11/2/2000	AM-4 (south side of river)	0.009	0.008	10:45	NNW, N
11/3/2000	AM-4 (south side of river)	0.011	0.005	10:15	W
11/6/2000	AM-4 (south side of river)	0.004	0.051	9:45	N, WNW
11/7/2000	AM-4 (south side of river)	0.007	0.056	10:00	NNW
11/8/2000	AM-4 (south side of river)	0.016	0.010	10:00	WSW
11/9/2000	AM-4 (south side of river)	0.015	0.017	8:45	ESE
11/10/00 ¹	AM-4 (south side of river)	NA	NA	NA	NA
11/13/2000	AM-4 (south side of river)	0.013	0.012	9:00	SW
11/14/00 ¹	AM-4 (south side of river)	NA	NA	NA	NA
11/15/2000	AM-4 (south side of river)	0.009	0.004	10:00	W
11/16/2000	AM-4 (south side of river)	0.013	0.011	9:45	W, WSW
11/17/2000	AM-4 (south side of river)	0.013	0.004	9:30	W, SW
11/20/2000	AM-4 (south side of river)	0.024	0.022	9:30	SSW, SW
11/21/2000	AM-4 (south side of river)	0.013	0.008	9:15	W
11/22/00 ¹	AM-4 (south side of river)	NA	NA	NA	NA
11/23/00 ²	AM-4 (south side of river)	NA	NA	NA	NA
11/24/00 ²	AM-4 (south side of river)	NA	NA	NA	NA
11/27/00 ¹	AM-4 (south side of river)	NA	NA	NA	NA
11/28/2000	AM-4 (south side of river)	0.025	0.004	10:15	WNW
11/29/2000	AM-4 (south side of river)	0.010	0.007	9:45	WNW
11/30/00 ¹	AM-4 (south side of river)	NA	NA	NA	NA
Notification Level		0.120			

Notes:

NA - Not Available

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

AM-4: Air monitoring location behind the former F.W. Webb building on 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 Thanksgiving holiday.

TABLE 6

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
AMBIENT AIR PCB DATA RECEIVED DURING NOVEMBER 2000

Date	BM-1 ug/m3	AM-3 ug/m3	AM-3 co-located ug/m3	AM-4 ug/m3	AM-5 ug/m3	AM-6 ug/m3
11/10 - 11/11/00	0.0046	0.0043	0.0044	0.0016	0.0043	0.0022
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-3: Air monitoring location north bank, north of Bldg. 64W. This location is also a co-located site.

AM-4: Air monitoring location south bank, at 261 Newell St. behind building formerly known as F.W. Webb.

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.

TABLE 7

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
HOUSATONIC RIVER CAGED MUSSEL STUDY
PCB AND % LIPID DATA RECEIVED DURING NOVEMBER 2000

(Results are presented in parts per million, ppm)

Sample ID	Location	Date Collected	Aroclor 1016, 1221, 1232, & 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs	% Lipids
LOC1 NB-Q	Upstream of Newell St. Bridge	10/30/2000	ND(0.0514)	ND(0.0514)	0.131 AF	0.0813 AG	0.212	0.520
LOC1 NB-R	Upstream of Newell St. Bridge	10/30/2000	ND(0.0531)	ND(0.0531)	0.192 AF	0.130 AG	0.322	0.785
LOC1 SB-Q	Upstream of Newell St. Bridge	10/30/2000	ND(0.0501)	0.0769 PE	0.286 AF	0.161 AG	0.524	1.01
LOC1 SB-R	Upstream of Newell St. Bridge	10/30/2000	ND(0.0549)	ND(0.0549)	0.135 AF	0.0881 AG	0.223	0.601
LOC2 NB-Q	Downstream of Lyman St. Bridge	10/30/2000	ND(0.102)	0.248 PE	0.902 AF	2.54 AG	3.69	0.533
LOC2 NB-R	Downstream of Lyman St. Bridge	10/30/2000	ND(0.107)	0.242 PE	0.668 AF	2.02 AG	2.93	0.556
LOC2 SB-Q	Downstream of Lyman St. Bridge	10/30/2000	ND(0.105)	0.161 PE	0.526 AF	1.85 AG	2.54	0.772
LOC2 SB-R	Downstream of Lyman St. Bridge	10/30/2000	ND(0.106)	0.233 PE	0.706 AF	2.08 AG	3.02	0.942
LOC3 NB-Q	Upstream of Dawes Ave. Bridge	10/30/2000	ND(0.107)	0.255 PE	0.674 AF	2.02 AG	2.95	0.725
LOC3 NB-R	Upstream of Dawes Ave. Bridge	10/30/2000	ND(0.106)	0.210 PE	0.837 AF	2.53 AG	3.58	0.798
LOC3 SB-Q	Upstream of Dawes Ave. Bridge	10/30/2000	ND(0.108)	0.211 PE	0.755 AF	2.48 AG	3.45	0.834
LOC3 SB-R	Upstream of Dawes Ave. Bridge	10/30/2000	ND(0.106)	0.297 PE	0.853 AF	2.35 AG	3.50	0.767

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to Northeast Analytical, Inc. for analysis as whole body composites minus the shell for PCBs and percent lipids.
2. Results are reported as received and have not been corrected for percent lipids.
3. ND(0.10) - Analyte was not detected. The value in parentheses is the associated detection limit.
4. PE - Aroclor 1248 is being used to report an altered PCB pattern exhibited by the sample. Actual Aroclor 1248 is not present in the sample, but is reported to more accurately quantify PCB present in sample that has undergone environmental alteration.
5. AF - Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
6. AG - Aroclor 1260 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

TABLE 8

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

DNAPL MONITORING RESULTS - November 2000

Date	Depth to Water (Feet below MP)	Depth to DNAPL (Feet below MP)	Total Depth (Feet below MP)	DNAPL Thickness (Feet)	DNAPL Removal (Liters)
11/13/2000	7.11	22.50	22.70	0.20	0.00

Notes:

1. Measurement collected from coal tar DNAPL recovery well installed near oil/water separator 64X.
2. DNAPL - Dense Non-Aqueous Phase Liquid.
3. DNAPL removal is not conducted if the observed DNAPL thickness is less than 0.25 feet.

TABLE 9A

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
USEPA SPLIT SAMPLING PROGRAM
PCB DATA RECEIVED DURING NOVEMBER 2000

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

Sample ID	Date Collected	Aroclor 1016, 1221, & 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Total PCBs
H2-SE001368-0-0000	11/14/2000	ND(0.0631)	ND(0.0631)	ND(0.0631)	0.0728 AF	0.231	0.304
H2-SE001369-0-0000	11/14/2000	ND(0.0641)	0.152 PD	ND(0.0641)	0.103 AF	0.127 AG	0.382
H2-SE001370-0-0000	11/14/2000	ND(0.0676)	ND(0.0676)	ND(0.0676)	ND(0.0676)	0.0737 AG	0.0737
H2-SE001371-0-0000	11/14/2000	ND(0.0664) [ND(0.0643)]	ND(0.0664) [ND(0.0643)]	0.0750 PE [ND(0.0643)]	0.926 AF [0.0880 AF]	0.460 [0.341]	1.46 [0.429]
H2-SE001372-0-0000	11/14/2000	ND(0.0639)	ND(0.0639)	ND(0.0639)	ND(0.0639)	0.130	0.130
H2-SE001373-0-0000	11/14/2000	ND(0.0635)	ND(0.0635)	ND(0.0635)	ND(0.0635)	0.254	0.254
H2-SE001374-0-0000	11/14/2000	ND(0.0637)	ND(0.0637)	ND(0.0637)	ND(0.0637)	0.152	0.152
H2-SE001375-0-0000	11/14/2000	ND(0.0641)	ND(0.0641)	ND(0.0641)	ND(0.0641)	0.151	0.151
H2-SE001376-0-0000	11/14/2000	ND(0.0620)	ND(0.0620)	ND(0.0620)	ND(0.0620)	ND(0.0620)	ND(0.0620)
H2-SE001377-0-0000	11/14/2000	ND(0.0649)	ND(0.0649)	ND(0.0649)	ND(0.0649)	0.342	0.342

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to Northeast Analytical Services, Inc. for analysis of PCBs.
2. ND - Analyte was not detected. The value in parentheses is the associated detection limit.
3. PD - Aroclor 1242 is being used to report an altered PCB pattern exhibited by the sample. Actual Aroclor 1242 is not present in the sample, but is reported to more accurately quantify PCB present in sample that has undergone environmental alteration.
4. PE - Aroclor 1248 is being used to report an altered PCB pattern exhibited by the sample. Actual Aroclor 1248 is not present in the sample, but is reported to more accurately quantify PCB present in sample that has undergone environmental alteration.
5. AF - Aroclor 1254 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.
6. AG - Aroclor 1260 is being reported as the best Aroclor match. The sample exhibits an altered PCB pattern.

TABLE 9B

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

HOUSATONIC RIVER - UPPER 1/2 MILE REACH
USEPA SPLIT SAMPLING PROGRAM
SVOC DATA RECEIVED DURING NOVEMBER 2000

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

	Sample ID:	H2-SE001378-0-0000
	Sample Depth(Feet):	0.25 - 0.5
Parameter	Date Collected:	11/14/00
Semivolatile Organics		
Naphthalene		1.3

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. and submitted to Northeast Analytical Services, Inc. for analysis of PCBs, and semivolatiles.
2. Only detected constituents are summarized.

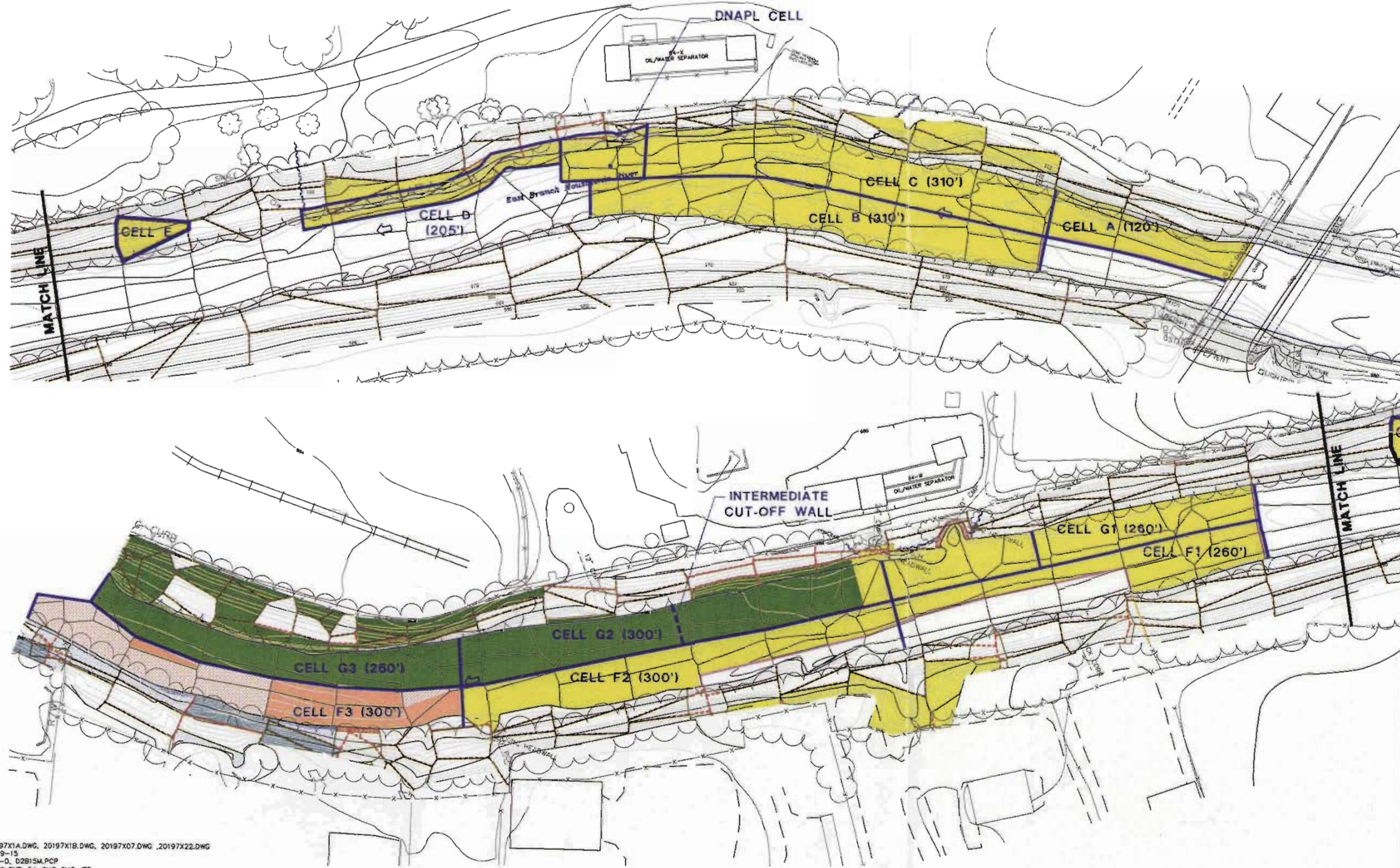
1/2-Mile Removal Action Backfill Tracking Log

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	12/1/1999	11/16/1999	1	1000	584	Samples Collected as part of Allendale School Project				
	PCBs	500	NA	NA	8A	12/15/1999	12/8/1999	2							
			NA	NA	14	5/31/2000	5/18/2000	2							
	VOCs	2000	NA	NA	8A	12/15/1999	7/21-7/28/99	6				6			
	SVOCs	2000	NA	NA	8A	12/15/1999	7/21-7/28/99	6							
	Metals	2000	NA	NA	8A	12/15/1999	7/21-7/28/99	6							
TPH	2000	NA	NA	8A	12/15/1999	12/1/1999	3								
Isolation Layer (Pittsfield Sand & Gravel)	Grain Size	500	12	11/17/1999	Letter	11/19/1999	11/1/1999	1	1000	770	Samples collected as part of off-site residential fill program				
			12C	3/30/2000	Letter	4/20/2000	3/24/2000	1							
	TOC	500	12	11/17/1999	Letter	11/19/1999	11/2/1999	1							
			12C	3/30/2000	Letter	4/20/2000	3/30/2000	1							
	PCBs	500	NA	NA	Letter	11/19/1999	9/20/1999	4							
			NA	NA	7	12/1/1999	11/19/1999	2							
			NA	NA	Letter	4/20/2000	3/29/2000	2							
	VOCs	2000	NA	NA	Letter	11/19/1999	9/20/1999	4				4			
	SVOCs	2000	NA	NA	Letter	11/19/1999	9/20/1999	4							
	Metals	2000	NA	NA	Letter	11/19/1999	9/20/1999	4							
TPH	2000	NA	NA	7	12/1/1999	11/19/1999	2								
Isolation Layer (Bushika Sand & Gravel)	Grain Size	500	12A	1/3/2000	Letter	1/6/2000	12/28/1999	1	2500	2327					
			12B	1/24/2000	11	2/14/2000	1/19/2000	1							
			12D	5/8/2000	13	5/19/2000	5/2/2000	1							
			12E	9/11/2000	14	9/27/2000	9/7/2000	1							
			12F	9/29/2000	17	10/4/2000	9/26/2000	1							
			12G	11/30/2000			11/20/2000	1							
	TOC	500	12A	1/3/2000	Letter	1/6/2000	12/28/1999	1							
			12B	1/24/2000	11	2/14/2000	1/19/2000	1							
			12D	5/8/2000	13	5/19/2000	5/2/2000	1							
			12E	9/11/2000	14	9/27/2000	9/6/2000	1							
			12F	9/29/2000	17	10/4/2000	9/26/2000	1							
			12G	11/30/2000			11/20/2000	1							
	PCBs	500	NA	NA	10	1/14/2000	1/5/2000	2							
			NA	NA	11	2/14/2000	2/2/2000	2							
			NA	NA	13A	6/28/2000	6/2/2000	2							
			NA	NA	16A	10/4/2000	9/26/2000	3							
			NA	NA	18A	10/5/2000	9/28/2000	2							
	VOCs	2000	NA	NA	10	1/14/2000	1/5/2000	2							
			NA	NA	18A	10/5/2000	9/28/2000	2							
	SVOCs	2000	NA	NA	10	1/14/2000	1/5/2000	2							
			NA	NA	18A	10/5/2000	9/28/2000	2							
	Metals	2000	NA	NA	10	1/14/2000	1/5/2000	2							
			NA	NA	18A	10/5/2000	9/28/2000	2							
	TPH	2000	NA	NA	10	1/14/2000	1/5/2000	2							
			NA	NA	11	2/14/2000	2/2/2000	2							
			NA	NA	18A	10/5/2000	9/28/2000	2							
	Rip-Rap (9")	Grain Size	2000	15A	11/30/1999	Letter	12/1/1999	11/23/1999				1	4000	1742	
				15B	10/4/2000	19	10/11/2000	9/28/2000				1			
	Rip-Rap (12")	Grain Size	2000	18	1/4/2000	Letter	1/6/2000	12/29/1999				1	2000	299	
	Topsoil (Woodmont)	Organic Content	500	11/14	11/16 & 11/17/99	9	12/15/1999	11/8/1999				2	500	242	Samples collected as part of off-site residential fill program
pH		500	11/14	11/16 & 11/17/99	9	12/15/1999	11/8/1999	2							
PCBs		500	NA	NA	9	12/15/1999	12/8/1999	4							
VOCs		2000	NA	NA	9	12/15/1999	8/24/1999	4							
SVOCs		2000	NA	NA	9	12/15/1999	8/24/1999	4							
Metals		2000	NA	NA	9	12/15/1999	8/24/1999	4							
TPH		2000	NA	NA	9	12/15/1999	12/8/1999	2							

Notes:
Granular Fill and Soil Backfill have been combined as the same material
Quantities placed include Cells A, B, C, D, DNAPL, E, F-1, G-1, G-2 (upstream), and F-2

Exhibit A - Upper 1/2 Mile Reach Removal Action

Sediment and Bank Soil Removal Areas (Cells A-G)



LEGEND:

- 1.5 FEET SEDIMENT REMOVAL DEPTH
- 2 FEET SEDIMENT REMOVAL DEPTH
- 2.5 FEET SEDIMENT REMOVAL DEPTH
- 1 FOOT BANK SOIL REMOVAL DEPTH
- 2 FEET BANK SOIL REMOVAL DEPTH
- 3 FEET BANK SOIL REMOVAL DEPTH
- UPPER 1/2-MILE REMOVAL AREAS COMPLETED
- UPPER 1/2-MILE REMOVAL AREAS IN PROGRESS
- AREA SUBJECT TO BANK STABILIZATION ACTIVITIES
- EXISTING CONTAINMENT BARRIER LOCATION
- 0'-1' BANK SOIL POLYGON
- 1'-3' BANK SOIL POLYGON
- TOP OF BANK
- BANK SOIL AREA BOUNDARY
- CAP AND ARMOR TIE-IN BUFFER
- REMOVAL CELL

A B C

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.



DRAFT

X_20197X1A.DWG, 20197X1B.DWG, 20197X07.DWG, 20197X22.DWG
LMAN: 9-15
P: 15M-0, D2B15M.PCP
12/8/00 SYR-54-GMS GMS JER
20197030/B15U.DWG

½ MILE RIVER REMOVAL ACTION
MONTHLY PROGRESS REPORT
NOVEMBER, 2000
FIGURE 1 PHOTO DOCUMENTATION

PHOTO NUMBER: 1

PHOTO LOCATION: Cell G-2
Looking downstream (west)

PHOTO DESCRIPTION: Cell G-2 de-watered after completing the jetting/grouting operation. Re-excavation complete in the upstream portion. Note grout in the downstream part of the cell.

PHOTO DATE: 11/15/00



PHOTO NUMBER: 2

PHOTO LOCATION: Cell G-3
Bottom of slope along north bank.
Approximately 100 ft west of wall
between Cell G-2 and G-3.

PHOTO DESCRIPTION:
Close up of the observed NAPL

PHOTO DATE: 11/28/00



PHOTO NUMBER: 3

PHOTO LOCATION: Upstream part of
Cell G-3 along the north bank.
Looking downstream (west).

PHOTO DESCRIPTION: Survey layout
complete. Bank removal in progress.

PHOTO DATE: 11/29/00

