



Site:	GE-0000
Break:	2.6
Other:	6807

GE Environmental Services
1000 Federal Street
Boston, MA 02114-2023

April 10, 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 - March 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 March 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
W.A. Home, GE
H. Inglis, EPA
J.H. Maxymillian, Maxymillian Technologies
S. Messur, BBL
K.C. Mitkevicius, USACE
T. O'Brien, MA EOE
B. Olson, EPA
A.J. Thomas, Esquire, GE
A. Weinberg, DEP

1020 #

1.0 Background:

Work continued to be slow on the Upper ½ Mile Reach Removal Action through March 2000. Progress throughout the month of March was hindered by rain and high flows. Maxymillian Technologies continued working in the downstream/western section of Cell C and the upstream eastern section of Cell D. This area, referred to as the "DNAPL Cell", was reconfigured through the installation of new longer sheetpiling on March 17, 2000, (see Exhibit B). Efforts have been ongoing to recover the dense non-aqueous-phase liquid (DNAPL) with coal-tar characteristics in this section. Planning and mobilization activities required to implement all components of the DNAPL removal efforts planned for Cells C and D were the main focus of activities in the month of March 2000.

Extensive coordination and discussion between GE and EPA resulted in 6 transmittals leading up to EPA's conditional approval of the DNAPL remediation plan on March 31, 2000. The overall objective is to remove most if not all of the DNAPL and DNAPL impacted sediments in the DNAPL Cell. If all the DNAPL and DNAPL-impacted sediments cannot be removed safely, then a liquid collection system will be installed to support a recovery system. A new component of this plan included constructing a large (500,000 gallon) steel settling tank to allow the DNAPL to separate from the water prior to treatment and allow for higher pumping rates during the excavation. Weekly status meetings were held on 3/6, 3/13, 3/20 and 3/28.

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 March, GE Bldgs. 33X and 65 were used as temporary storage facilities for TSCA and non-TSCA material.

The first 2 days of March allowed no progress as the results from the flood event experienced on February 28, 2000, required extensive de-watering of Cells C and D. DNAPL recovery efforts resumed on March 3, 2000. The total amount of DNAPL recovered through March 31, 2000 is approximately 995 gallons. DNAPL recovery was suspended at various times when sheetpile installation or construction of the perimeter bracing system precluded a safe DNAPL collection operation. Preparation activities for the excavation/removal operations constituted the majority of the work effort undertaken in the month of March. Submitting the DNAPL remediation plan and receiving EPA's conditional approval involved a number of communications between GE and EPA as follows:

2.0 Chronological description of the tasks performed (continued):

- March 3, 2000 - GE submitted results of the DNAPL investigation and proposal to address the presence of DNAPL;
- March 9, 2000 - EPA response to DNAPL proposal and request for clarification of certain issues;
- March 14, 2000 - EPA additional response to DNAPL proposal and subsequent questions to be answered;
- March 16, 2000 - GE response to questions and comments on DNAPL proposal;
- March 24, 2000 – Additional GE response to questions and comments on DNAPL proposal (conceptual design of liquid collection system); and
- March 31, 2000 - EPA conditional approval of GE's proposal to address the presence of DNAPL.

Approximately 85 feet of 30 foot long sheetpile were installed along the western (downstream) edge and the southern (river) edge of the newly isolated DNAPL Cell. The existing sheetpile that had defined the Cell C and Cell D interface in this area was removed. A pipe was installed to divert surface runoff flowing through an outfall and allow the water to discharge into the river through a sealed frame constructed through the sheetpile wall (see photos). Based on the amount of DNAPL in the DNAPL cell and the need to increase pumping rates during the excavation (to provide "dry" conditions), a 500,000 gallon settling tank was constructed to allow significant amounts of DNAPL and water to separate prior to treatment via Bldg. 64 G. Construction and piping to this prefabricated tank was completed on March 31, 2000.

The excavation to remove DNAPL down to elevation of 960 feet required a double waler perimeter bracing system. This system was designed, revised and installed within the DNAPL cell. Bracing was completed on March 28, 2000. The installation of the lower steel brace required a limited amount of excavation within the DNAPL cell. After this activity was completed, DNAPL and a corresponding oil sheen was observed on March 24, 2000. This observation was promptly report to EPA, MDEP and the NRC. The NRC provided a release tracking number (524007). MDEP did not issue a new release tracking number.

The month of March ended, with the DNAPL remediation plan approved and ready to be implemented. A separate stockpile area was created in Bldg. 33X to place the sediment excavated from the DNAPL Cell as required by EPA's conditional approval letter. An important requirement was to begin this operation when little or no rain was forecasted for a minimum of 2 days.

3.0 Number of samples collected:

In the month of March, particulate air monitoring and PCB air monitoring were not conducted. EPA approved a request to suspend all air sampling as of February 12. Air monitoring is scheduled to resume on April 5, 2000 when excavation activities resume.

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 March 3, 16, and 28, 2000. The TSS and PCB results received to date for the month of March are attached to this report (Table 1). Sampling of water drained from excavated soil from the DNAPL area was conducted. The results are attached to this report (see Table 2). Table 3 includes the results of monitoring the water and the DNAPL elevations of the five (5) piezometers installed during the DNAPL investigation.

4.0 Diagrams associated with the tasks performed:

A diagram labeled as Exhibit A shows the location of the Cells (A, B, C, D and E) and is attached to this report for reference. Additionally, Exhibit B shows the area where DNAPL may exist based on the results of the DNAPL investigation conducted by GE.

5.0 Identification of any reports received and prepared:

During the month of March, meeting summaries from various status meetings were submitted to EPA, MDEP and EOE. The transmittals concerning the DNAPL remediation plan as described in **Section 2.0** were submitted to EPA, MDEP and EOE. For work completed in January 2000, monthly reports, as required by the Consent Decree and the Upper ½ Mile Reach Removal Action Work Plan; were both submitted on March 9, 2000.

6.0 Photo documentation of activities performed: See attached Figure 1

7.0 Brief description of activities to be performed in April 2000:

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

- The DNAPL remediation plan conditional approval on March 31, 2000 will be implemented;
- Communication between GE, EPA and MDEP will continue on a regular basis to provide updates on the DNAPL situation and clarify the details of the remedial work, as needed;
- Restoration activities in the remainder of Cell C and Cell D will be undertaken after the DNAPL area has been remediated;
- Flushing and sealing/grouting activities for the East Street Area 2 - South source control sheetpile will be delayed until the DNAPL remediation plan has been completed; and,
- Water column monitoring will continue and air monitoring will resume prior to beginning any further excavation in the Upper ½ Mile Reach.

8.0 Attachments to this report:

- Table 1 - Water column monitoring TSS and PCB results;
- Table 2 - Analytical results from water collected from excavated DNAPL soil.
- Table 3 - Piezometer measurements from the DNAPL Cell
- Exhibit A - Diagram to show the locations of cells within the upstream part of the Upper ½ Mile Reach Removal Action;
- Exhibit B - Diagram of the DNAPL area based on the results of the DNAPL investigation program;
- Figure 1 - Photo documentation sheet.

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

MARCH 2000

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

Location	Date	Water Depth (ft)	Water Temp. (°C)	Flow (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	2/28/2000	>4.0	3.0	---	120	25	43	---	---	---	---
Downstream of Lyman St. Bridge	2/28/2000	>4.0	3.0	---	95	28	64	---	---	---	---
Upstream of Newell St. Bridge	2/29/2000	>4.0	2.0	---	24	7	15	---	---	---	---
Downstream of Lyman St. Bridge	2/29/2000	>4.0	2.0	---	37	9	18	---	---	---	---
Upstream of Newell St. Bridge	3/1/2000	>4.0	1.0	---	7	4	7	---	---	---	---
Downstream of Lyman St. Bridge	3/1/2000	>4.0	1.0	---	9	4	6	---	---	---	---
Upstream of Newell St. Bridge	3/2/2000	>4.0	1.0	271	16	2	5	HR-3-2-00-U1	ND(0.0250)	ND(0.0250)	19.3
Downstream of Lyman St. Bridge	3/2/2000	>4.0	1.0	290	7	2	5	HR-3-2-00-D1	0.0318	ND(0.0250)	23.1
Upstream of Newell St. Bridge	3/3/2000	>4.0	1.0	---	16	2	5	---	---	---	---
Downstream of Lyman St. Bridge	3/3/2000	>4.0	1.0	---	19	2	7	---	---	---	---
Upstream of Newell St. Bridge	3/6/2000	3.0	2.0	---	6	1	2	---	---	---	---
Downstream of Lyman St. Bridge	3/6/2000	3.4	2.0	---	2	1	2	---	---	---	---
Upstream of Newell St. Bridge	3/7/2000	2.9	2.5	---	4	2	3	---	---	---	---
Downstream of Lyman St. Bridge	3/7/2000	3.3	2.5	---	2	1	2	---	---	---	---
Upstream of Newell St. Bridge	3/8/2000	2.9	4.0	---	4	2	3	---	---	---	---
Downstream of Lyman St. Bridge	3/8/2000	3.3	4.0	---	2	2	2	---	---	---	---
Upstream of Newell St. Bridge	3/9/2000	3.3	4.0	210	43	2	6	---	---	---	---
Downstream of Lyman St. Bridge	3/9/2000	3.6	4.0	212	3	2	2	---	---	---	---
Upstream of Newell St. Bridge	3/10/2000	5.0	3.0	---	34	7	16	---	---	---	---
Downstream of Lyman St. Bridge	3/10/2000	5.4	3.0	---	59	6	20	---	---	---	---
Upstream of Newell St. Bridge	3/13/2000	5.0	2.0	---	20	4	5	---	---	---	---
Downstream of Lyman St. Bridge	3/13/2000	5.4	2.0	---	14	3	7	---	---	---	---

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

MARCH 2000

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

Location	Date	Water Depth (ft)	Water Temp. (°C)	Flow (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	3/14/2000	4.2	2.0	---	6	4	5	---	---	---	---
Downstream of Lyman St. Bridge	3/14/2000	4.6	2.0	---	7	3	5	---	---	---	---
Upstream of Newell St. Bridge	3/15/2000	4.0	2.0	---	2	1	2	---	---	---	---
Downstream of Lyman St. Bridge	3/15/2000	4.3	2.0	---	14	1	7	---	---	---	---
Upstream of Newell St. Bridge	3/16/2000	3.7	4.0	233	3	2	2	HR-3-16-00-U1	0.0368	ND(0.0250)	7.7
Downstream of Lyman St. Bridge	3/16/2000	4.1	4.0	322	3	2	2	HR-3-16-00-D1	0.0371	ND(0.0250)	6.5
Upstream of Newell St. Bridge	3/17/2000	5.2	2.0	---	10	5	14	---	---	---	---
Downstream of Lyman St. Bridge	3/17/2000	5.6	2.0	---	11	4	11	---	---	---	---
Upstream of Newell St. Bridge	3/20/2000	4.1	4.0	---	4	2	2	---	---	---	---
Downstream of Lyman St. Bridge	3/20/2000	3.9	4.0	---	6	3	3	---	---	---	---
Upstream of Newell St. Bridge	3/21/2000	4.0	3.0	---	4	2	3	---	---	---	---
Downstream of Lyman St. Bridge	3/21/2000	3.8	3.0	---	4	2	3	---	---	---	---
Upstream of Newell St. Bridge	3/22/2000	3.8	3.0	---	9	1	3	---	---	---	---
Downstream of Lyman St. Bridge	3/22/2000	4.2	3.0	---	5	1	4	---	---	---	---
Upstream of Newell St. Bridge	3/23/2000	3.2	4.0	222	17	3	5	---	---	---	---
Downstream of Lyman St. Bridge	3/23/2000	3.6	4.0	186	23	2	5	---	---	---	---
Upstream of Newell St. Bridge	3/24/2000	2.8	4.0	---	7	3	4	---	---	---	---
Downstream of Lyman St. Bridge	3/24/2000	3.2	4.0	---	7	2	4	---	---	---	---
Upstream of Newell St. Bridge	3/27/2000	2.6	5.0	---	5	1	4	---	---	---	---
Downstream of Lyman St. Bridge	3/27/2000	3.0	5.0	---	8	1	6	---	---	---	---
Upstream of Newell St. Bridge	3/28/2000	4.0	6.0	---	6	4	6	HR-3-28-00-U1	NR	NR	NR
Downstream of Lyman St. Bridge	3/28/2000	3.5	6.0	---	10	3	7	HR-3-28-00-D1	NR	NR	NR

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

MARCH 2000

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

Location	Date	Water Depth (ft)	Water Temp. (°C)	Flow (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	3/29/2000	4.5	5.0	---	44	7	11	---	---	---	---
Downstream of Lyman St. Bridge	3/29/2000	5.0	5.0	---	19	2	8	---	---	---	---
Upstream of Newell St. Bridge	3/30/2000	4.3	5.0	201	10	2	7	---	---	---	---
Downstream of Lyman St. Bridge	3/30/2000	4.8	5.0	252	4	1	4	---	---	---	---
Upstream of Newell St. Bridge	3/31/2000	3.3	5.0	---	14	1	4	---	---	---	---
Downstream of Lyman St. Bridge	3/31/2000	3.9	5.0	---	6	1	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. [] - 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.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

SOIL DRUM SAMPLE DATA
RECEIVED DURING MARCH 2000
UPPER 1/2 MILE REACH

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

Sample ID:	HR-SD-B12-C1
Date Collected:	03/14/00
Volatile Organics	
None Detected	--
PCBs	
Aroclor-1016	ND(1.0)
Aroclor-1221	ND(1.0)
Aroclor-1232	ND(1.0)
Aroclor-1242	ND(1.0)
Aroclor-1248	ND(1.0)
Aroclor-1254	ND(1.0)
Aroclor-1260	1.1
Total PCBs	1.1
Semivolatile Organics	
2-Methylnaphthalene	0.41
Naphthalene	1.2
Phenanthrene	1.1
Inorganics	
Barium	20.0
Chromium	8.64
Lead	17.0
Mercury	0.0400

Notes:

1. Sample was collected by Blasland, Bouck & Lee, Inc. and submitted to Adirondack Environmental Services, Inc. for analysis of PCBs, volatiles, semivolatiles and RCRA metals.
2. ND - Analyte was not detected. The number in parentheses is the associated quantitation limit.
3. With the exception of PCBs, only those constituents detected in at least one sample are summarized.

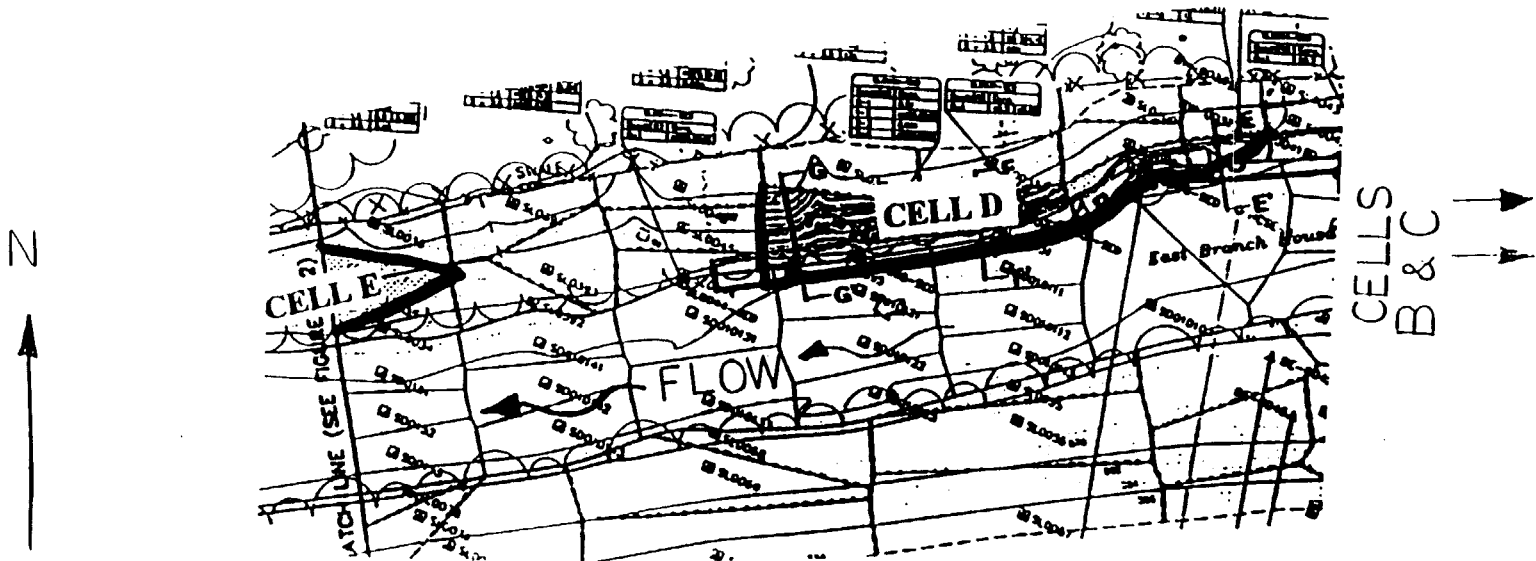
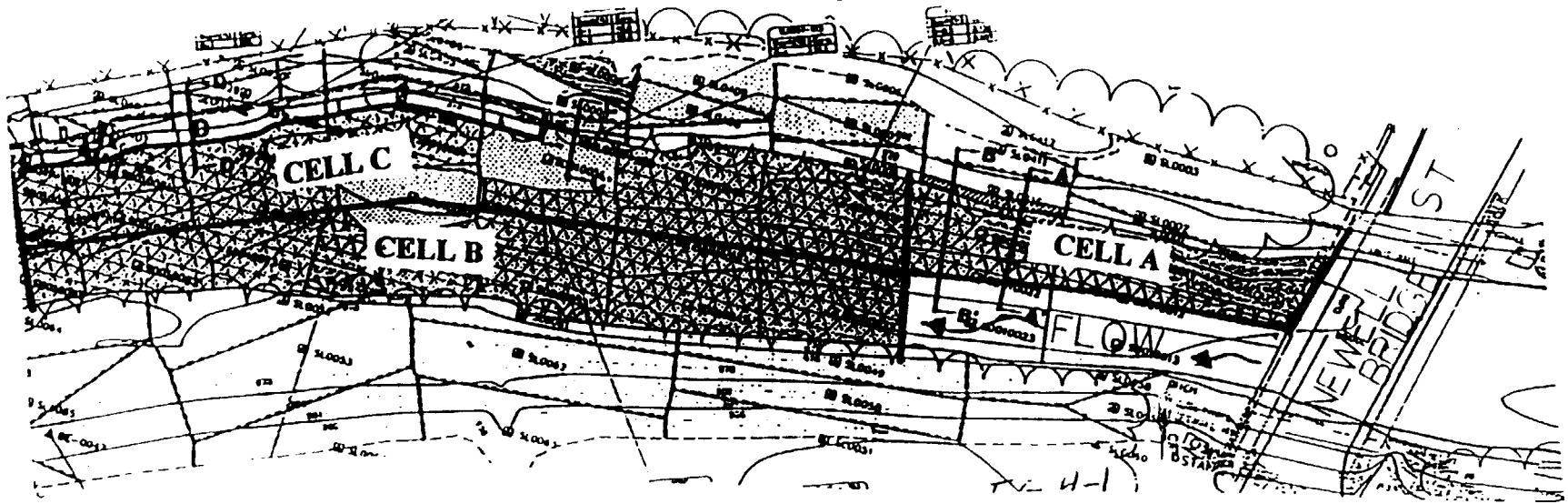
TABLE 3
HOUSATONIC RIVER AREA
UPPER 1/2 MILE REACH
Piezometer Monitoring Program
March 2000

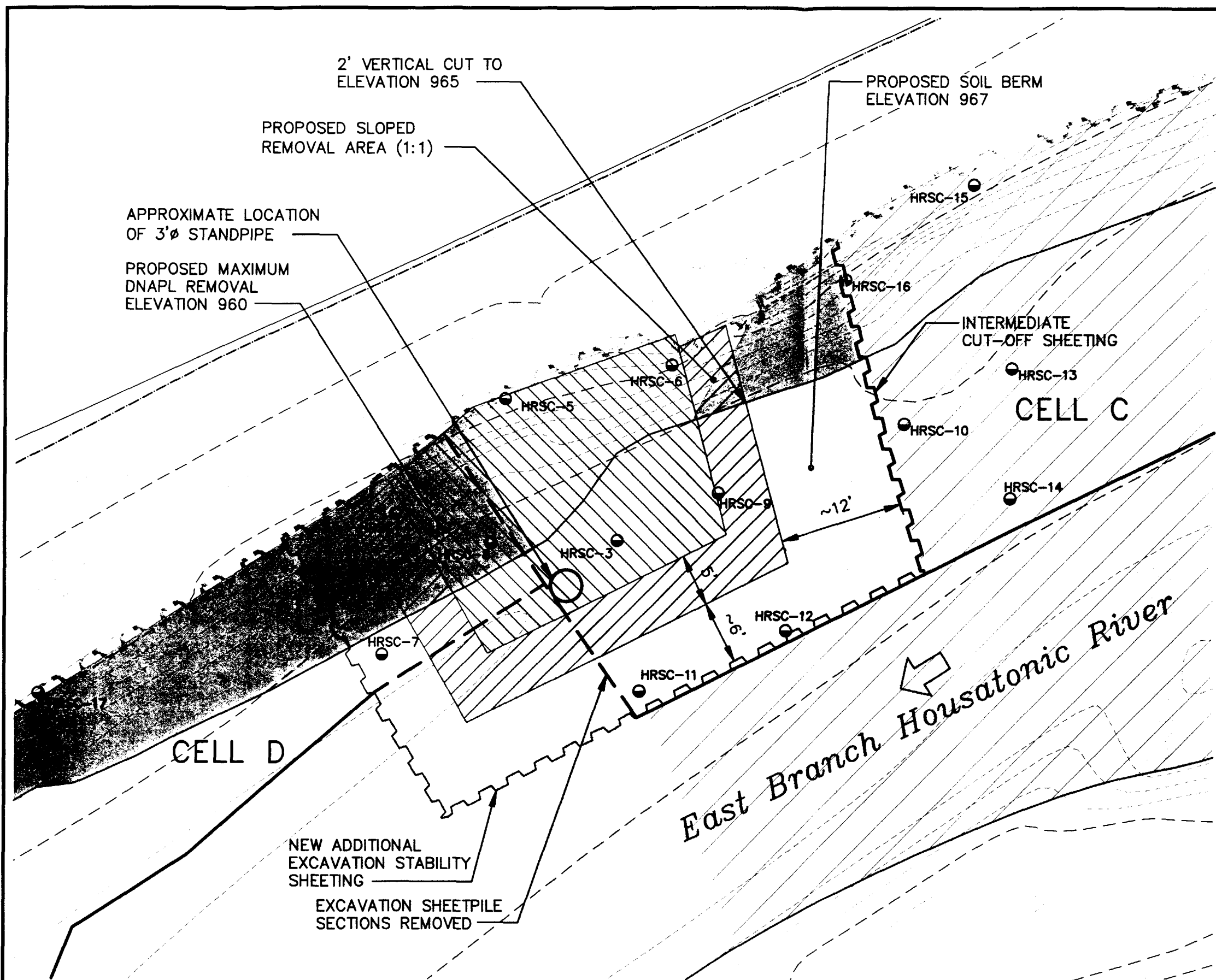
Well ID	Date	Depth to Water	Depth to Petro	Petro Thickness
PZ-1-HRSC-5	03/06/00	2.38	0.00	0.00
	03/08/00	2.68	0.00	0.00
	03/10/00	*	0.00	0.00
	03/15/00	2.22	0.00	0.00
	03/17/00	**	0.00	0.00
PZ-2-HRSC-6	03/06/00	2.57	0.00	0.00
	03/08/00	2.81	0.00	0.00
	03/10/00	2.36	0.00	0.00
	03/15/00	2.37	0.00	0.00
	03/17/00	**	0.00	0.00
PZ-3-HRSC-9	03/06/00	3.45	0.00	0.00
	03/08/00	3.61	0.00	0.00
	03/10/00	3.33	0.00	0.00
	03/15/00	3.27	0.00	0.00
	03/17/00	**	0.00	0.00
PZ-4-HRSC-3	03/06/00	2.46	5.65	1.90
	03/08/00	2.56	5.95	1.67
	03/10/00	2.24	5.52	2.10
	03/15/00	2.17	5.79	1.84
	03/17/00	**	0.00	0.00
PZ-5-HRSC-8	03/06/00	2.67	0.00	0.00
	03/08/00	2.85	0.00	0.00
	03/10/00	*	0.00	0.00
	03/15/00	*	0.00	0.00
	03/17/00	**	0.00	0.00

* Water level in cell too high to gauge well.

** All piezometers submerged under water.

EXHIBIT A
UPPER 1/2 MILE REACH REMOVAL ACTION
LOCATION OF CELLS A, B, C, D and E FOR THE UPSREAM SECTION





2' VERTICAL CUT TO ELEVATION 965

PROPOSED SLOPED REMOVAL AREA (1:1)

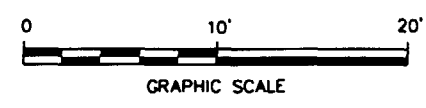
APPROXIMATE LOCATION OF 3" Ø STANDPIPE

PROPOSED MAXIMUM DNAPL REMOVAL ELEVATION 960

PROPOSED SOIL BERM ELEVATION 967

- LEGEND:**
- ADDITIONAL EXCAVATION TO OCCUR IN CONJUNCTION WITH EAST STREET AREA 2 SOURCE CONTROL ACTIVITIES
 - EXCAVATION SHEETPILE
 - SOURCE CONTROL SHEETPILE
 - TOP OF BANK
 - ORIGINAL SEDIMENT REMOVAL AREA
 - SEDIMENT REMOVAL AND REPLACEMENT COMPLETED
 - APPROXIMATE EXTENT OF DNAPL OBSERVED
 - HRSC-5 BORING LOCATION FOR DNAPL INVESTIGATION

- NOTES:**
1. BASE MAP PROVIDED BY LOCKWOOD MAPPING, INC. PREPARED FROM 1990 AERIAL PHOTOGRAPHY. RIVERBANK AND RIVER BED TOPOGRAPHIC INFORMATION PROVIDED BY BBL FROM OCTOBER 12-23, 1998 FIELD SURVEY.
 2. COORDINATE GRID BASED ON 1927 STATE PLANE COORDINATES.
 3. ELEVATION DATUM REFERENCED TO NGVD 1929.
 4. 6' TO 12' SOIL BERM INTENDED TO ASSIST IN CONTROL OF PIPING (I.E., BOILS) EXCAVATION OF DNAPL IMPACTED MATERIALS MAY OCCUR IF PIPING DOES NOT CREATE UNSAFE CONDITIONS.



GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
REMOVAL ACTION
 UPPER 1/2-MILE REACH OF HOUSATONIC RIVER
EXHIBIT B
 APPROXIMATE DNAPL REMOVAL AREA

DRAFT

X: NONE
 L: ON =* OFF=*REF*
 P: STD-PCP/BL
 4/3/00 SYR-54-NES YCC KMD
 20197070/20197001.dwg

BBL BLASLAND, BOUCK & LEE, INC.
 engineers & scientists

FIGURE
1

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

PHOTO NUMBER: 1

PHOTO LOCATION: Cell C
Looking east, upstream.

PHOTO DESCRIPTION: Cell C and Cell D during a rain event on March 10, 2000

PHOTO DATE: 03/10/00



PHOTO NUMBER: 2

PHOTO LOCATION: From North bank.
Looking southeast into the DNAPL Cell.

PHOTO DESCRIPTION
Double water perimeter bracing is complete.
Pipe has been installed to divert flow from the outfall to the river.

PHOTO DATE: 03/23/00



PHOTO NUMBER: 3

PHOTO LOCATION: Bldg. 68 area, near
staging point for water handling operations

PHOTO DESCRIPTION
Construction of a large steel settling tank
(500,000 gallons) to allow oil to separate
from the "cleaner" water prior to treatment.

PHOTO DATE: 03/29/00

