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7/21/00

01-0369
SDMS 158653

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

July 20, 2000

Bryan Olson
EPA Project Coordinator
U.S. Environmental Protection Agency
EPA New England
One Congress Street, Suite 1100
Boston, MA 02114-2023

Dean Tagliaferro
EPA On Scene Coordinator
c/o Weston Environmental Engineering
1 Lyman Street
Pittsfield, MA 01201

**Re: GE-Pittsfield/Housatonic River Site
Results of DNAPL Investigation: East Street Area 2-South Portion of
Plant Site 1 Groundwater Management Area (GEC310)**

Dear Messrs. Olson and Tagliaferro:

I. INTRODUCTION

The General Electric Company (GE) has recently completed supplemental investigations in a portions of the East Street Area 2-South Portion of Plant Site 1 Groundwater Management Area (GMA 1). More specifically, the supplemental investigations provided further information concerning subsurface conditions in the vicinity of GE's 64X oil/water separator, and the adjacent riverbank area including relating to the coal tar-related dense non-aqueous phase liquid (DNAPL) which was encountered during sediment removal activities in an area of the river known as Cell C and Cell D as part of the Upper 1/2-Mile Reach Removal Action. Initial investigations in this area were documented in GE's *Upper 1/2-Mile Reach Removal Action: Results of DNAPL Investigation and Proposal to Address Presence of DNAPL*, dated March 3, 2000. The proposed activities to address the presence of coal tar DNAPL were conditionally approved by the United States Environmental Protection Agency (EPA) in a letter dated March 31, 2000, and the activities were implemented during April and May 2000. The coal tar DNAPL-impacted materials were not able to be completely removed and, with EPA concurrence, a 6-inch diameter recovery well was installed within the remediation area to collect any residual coal tar DNAPL that may have been present following sediment excavation and restoration.

Based on subsequent discussions with personnel from EPA, GE proposed additional soil borings to further evaluate the presence of coal tar DNAPL in the upper riverbank portion of this area in a letter dated June 7, 2000. These supplemental investigations were conditionally approved by EPA in a letter dated June 22, 2000. This letter summarizes the results of those investigations and evaluates the potential need for further actions.

II. INVESTIGATION ACTIVITIES

A. Field Investigations

On July 5, 2000, GE installed three soil borings (HRSC-18, HRSC-19, and HRSC-20) along the top of the bank of the Housatonic River near the 64X oil/water separator (see Figure 1). Samples were collected utilizing direct push sampling techniques to a depth of 28 feet below grade (approximate elevation of 955 feet) at each boring location. During the performance of these field investigations, oversight of GE's

activities was performed by the USEPA, through use of an oversight contractor (Roy F. Weston, Inc.).

During advancement of the soil borings, the recovered soil cores were continuously logged and examined for evidence of NAPL, NAPL staining, or sheens, and screened with a photoionization detector (PID). In addition, soil-water shake tests were performed on selected soil samples where potential NAPL impacts were observed, either directly or in adjacent core samples. These screening results are summarized in Table 1 and are discussed below. Soil boring logs are included as an attachment to this document.

B. Results

The primary purpose of supplemental borings HRSC-18, HRSC-19, and HRSC-20 was to assess the potential presence of coal tar DNAPL along the top of the riverbank above where coal tar DNAPL was observed during excavation activities in Cells C and D. This was done by observing the soil cores for evidence of NAPL staining or sheens, and performing shake tests on soil samples. The results of this series of tests are summarized in Table 1. During installation, sheens and/or staining were visually observed in each of the three riverbank soil borings. None of the soil samples from these borings exhibited NAPL residuals heavier than sheens during shake testing, although traces of NAPL residuals were observed on the sampling device following collection of the 12- to 16-foot depth interval at boring HRSC-18. No visual observations of NAPL staining, sheens, or residuals from shake tests were shown to exist below an approximate elevation of 960 feet.

During prior investigations, coal tar DNAPL has been encountered in this area at depths which are well above the known elevation of the glacial till confining unit which extends beneath the GE-Pittsfield/Housatonic River Site. This till, which acts as a barrier to downward migration of other DNAPL pockets at this and other portions of the site, is encountered at elevations between approximately 936 and 945 feet in this area. However, the coal tar DNAPL encountered during excavation activities in Cell C is apparently extending laterally across a discontinuous fine sand/silty sand unit which is present at elevations between approximately 959 and 965 feet. This fine sand/silty sand does not appear as a distinctive layer, but represents a general change from coarser to relatively finer materials, which may be indicative of an overall change in depositional processes in this fluvial environment, or in some cases, the contact between fill/reworked materials and native sediments. A contour map depicting the approximate elevation of this semi-confining layer is provided as Figure 2.

A filled-in former oxbow of the Housatonic River intersects the river to the west of the 64-X oil/water separator. The base of this former oxbow has been mapped at an elevation of approximately 975 feet in this area, which roughly corresponds to the upper elevations where signs of DNAPL residuals were observed in the investigative soil borings. As shown on Figure 1, the eastern edge of this former oxbow terminates immediately upgradient of the coal tar DNAPL cell location. Based on this information, the former oxbow may have been a potential pathway for migration of coal tar DNAPL toward the river; however, based on the recent soil boring results, there does not appear to be a continuing source of coal tar DNAPL at the higher elevations in this area.

III. SUMMARY AND PROPOSED ACTIVITIES

On July 5, 2000, three soil borings were advanced along the riverbank adjacent to the East Street Area 2-South portion of the Plant Site 1 GMA. Soil samples were collected from the riverbank borings and

examined for evidence of NAPL residuals. No NAPL was observed in any of the soil samples, although sheens were noted at each location, and traces of NAPL were observed on the sampling equipment at one boring location.

The soil core observations were compared with those obtained during other recent investigations in order to gain a further understanding of the source of coal tar DNAPL which was observed in Cell C. The location of this coal tar DNAPL corresponds to a region extending from the eastern edge of the eastern limb of former oxbow H where coarse sands and gravels changes are underlain by finer materials. These fine sediments do not form a complete barrier to downward NAPL migration, but apparently act to preclude vertical DNAPL movement to the extent that NAPL may have moved laterally along the upper boundary of the fine sediments.

GE does not propose any additional investigative or remedial activities in this area at this time, as no accumulations of DNAPL were observed in the recent soil borings, the source control sheetpiling has been grouted in place in this area to preclude further DNAPL migration at the elevation of the semi-confining layer, and remaining shallow DNAPL to the south of the source control sheetpiling has been addressed by the excavation and installation of the 6-inch recovery well. Further, since early May 2000, when the source control restoration activities were completed (i.e., grouting of the sheetpiling and restoration of river levels), the quantity of recoverable DNAPL detected in the 6-inch recovery well has been significantly less than during prior monitoring rounds (see Table 2). GE will continue to conduct NAPL monitoring/recovery at selected wells and piezometers in this area in accordance with the various ongoing East Street Area 2 - South monitoring programs (which are currently proposed to be modified and, pending EPA approval, conducted in accordance with the GMA 1 monitoring program under the Consent Decree). In addition, per verbal approval by EPA, GE will conduct monthly monitoring and manual removal of DNAPL (if recoverable quantities of DNAPL are encountered) at the 6-inch recovery well. The results of this monitoring will be presented in the monthly status reports for overall activities at the GE-Pittsfield/Housatonic River Site.

If you have any questions on this matter, please feel free to contact William Horne or myself in the GE Pittsfield office.

Yours truly,



Andrew T. Silfer, P.E.
GE Project Coordinator
F:\USERS\SMR\SMR00\63801938 WPD

cc: T. Conway, EPA*
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S. Gutter, Sidley & Austin*
W. Horne, GE*
J. Nuss, P.E., LSP, BBL*
Public Information Repositories ECL I-P-IV(A)*
GE Internal Repositories *

(* with attachments)

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

REMOVAL ACTION - UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

SUMMARY OF SOIL BORING OBSERVATIONS

BORING ID.	DEPTH (Feet)	PID READING (PID units)	SHAKE TEST RESULT	OBSERVATIONS
HRSC-18	0-4	0.8	Negative	N/A
HRSC-18	4-7	2.5	N/A	N/A
HRSC-18	7-7.5	2.1	N/A	N/A
HRSC-18	8-10.4	16.8	Sheen	N/A
HRSC-18	10.4-12	56.4	Sheen	Odor, trace staining
HRSC-18	12-16	22.7	Sheen	Odor, sheen, trace NAPL on core barrel
HRSC-18	16-20	7.6	Trace Sheen	Slight odor
HRSC-18	20-22	45.8	Sheen	Slight odor
HRSC-18	22-24	4.0	Negative	Slight odor
HRSC-18	24-28	1.8	Negative	N/A
HRSC-19	0-2.5	8.0	N/A	N/A
HRSC-19	2.5-4	7.3	N/A	N/A
HRSC-19	4-8	11.2	Negative	N/A
HRSC-19	8-12	88.3	Trace Sheen	Odor, trace sheen (11-12 feet)
HRSC-19	12-14.6	53.2	Sheen	Odor, trace sheen (12-14.1 feet)
HRSC-19	14.6-16	25.8	Trace Sheen	Odor
HRSC-19	16-18.3	52.1	Trace Sheen	N/A
HRSC-19	18.3-20	5.5	Trace Sheen	N/A
HRSC-19	20-22.9	6.7	Negative	Odor, trace sheen (20-22 feet)
HRSC-19	22.9-24	2.3	Negative	Slight odor
HRSC-19	24-28	3.1	Negative	Slight odor
HRSC-20	0-2.7	0.7	N/A	N/A
HRSC-20	2.7-4	1.0	Negative	N/A
HRSC-20	4-8	2.8	Negative	N/A
HRSC-20	8-12	44.5	Trace Sheen	Slight odor, trace sheen (10-12 feet)
HRSC-20	12-14	14.8	Negative	Trace staining
HRSC-20	14-16	3.8	Negative	N/A
HRSC-20	16-18	8.3	Negative	N/A
HRSC-20	18-20	8.2	Negative	N/A
HRSC-20	20-22	13.4	Negative	N/A
HRSC-20	22-24	18.1	Negative	Trace odor (23-24 feet)
HRSC-20	24-28	10.1	Negative	Trace odor

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc. on July 5, 2000.
2. PID: Photoionization Detector.
3. N/A - Not Applicable. A soil-water shake test was not conducted on the specified depth interval, or no significant observations were made during sampling.
4. Negative: No sheen or NAPL residuals were observed during the soil-water shake test.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

REMOVAL ACTION - UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

DNAPL RECOVERY RESULTS

Date	Depth to Water (Feet below MP)	Depth to DNAPL (Feet below MP)	DNAPL Thickness (Feet)	Liquid Removed (Gallons)
4/20/00	Unable to gauge due to high river level.			60
4/21/00	14.01	21.25	1.75	60
4/24/00	14.50	21.10	1.60	0
4/24/00	15.10	20.90	1.80	0
4/25/00	12.57	20.30	2.40	0
4/26/00	15.10	21.35	1.35	0
4/27/00	6.65	14.40	8.30	See Below
4/27/00	7.25	15.00	7.70	See Below
4/27/00	7.35	15.25	7.45	200
4/28/00	7.05	15.15	7.55	See Below
4/28/00	6.50	20.40	2.30	130
4/29/00	8.07	>20.5	<2.2	0
5/1/00	9.35	>20.5	<2.2	0
5/2/00	6.45	>20.5	<2.2	0
5/3/00	6.30	>20.5	<2.2	0
5/4/00	6.55	>20.5	<2.2	0
5/5/00	6.80	>20.5	<2.2	0
5/8/00	6.75	>20.5	<2.2	15
5/9/00	6.80	>20.5	<2.2	0
5/10/00	6.50	>20.5	<2.2	0
5/11/00	5.20	>20.5	<2.2	0
5/12/00	5.50	22.25	0.45	5
5/15/00	6.38	>20.5	<2.2	2
5/16/00	6.80	-----	<0.01	0
5/17/00	6.95	-----	<0.01	0
5/18/00	7.10	>20.5	<2.2	0
5/19/00	6.05	>20.5	<2.2	1
5/22/00	6.30	-----	<0.01	0
5/23/00	6.42	22.55	0.15	0
5/24/00	5.65	22.60	0.10	0
5/25/00	3.81	22.58	0.12	0
5/26/00	4.70	22.55	0.15	0
5/30/00	6.65	22.55	0.15	0
5/31/00	6.95	22.60	0.10	0

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

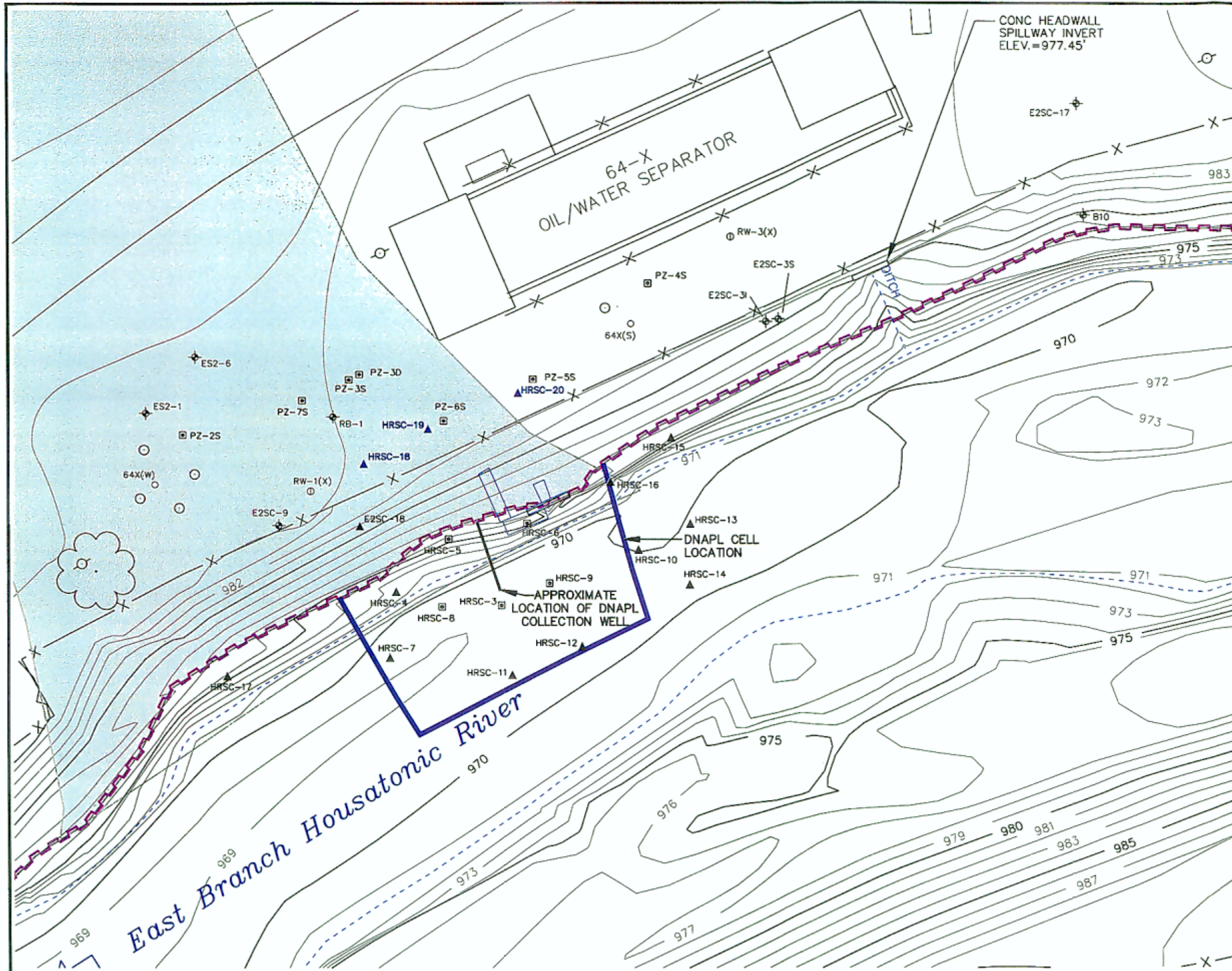
REMOVAL ACTION - UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

DNAPL RECOVERY RESULTS

Date	Depth to Water (Feet below MP)	Depth to DNAPL (Feet below MP)	DNAPL Thickness (Feet)	Liquid Removed (Gallons)
6/1/00	7.20	22.60	0.10	0
6/2/00	7.40	22.60	0.10	0
6/5/00	6.10	22.65	0.05	0
6/6/00	6.25	22.55	0.15	0
6/7/00	Unable to monitor due to high river level.			
6/8/00	0.25	-----	<0.01	0
6/9/00	4.15	-----	<0.01	0
6/12/00	2.50	22.55	0.15	0
6/13/00	3.15	-----	<0.01	0
6/14/00	2.05	22.60	0.10	0
6/15/00	3.45	22.55	0.15	0
6/15/00	4.70	22.60	0.10	0
6/19/00	4.35	22.50	0.20	0
6/20/00	5.35	22.50	0.20	0
6/21/00	5.95	22.50	0.20	0
6/22/00	6.10	22.50	0.20	0
6/23/00	6.25	22.50	0.20	0
6/26/00	2.95	22.50	0.20	0
6/27/00	4.80	22.48	0.22	0
6/28/00	5.75	22.50	0.20	0
6/29/00	6.35	22.50	0.20	0
6/30/00	6.50	22.50	0.20	0

Notes:

1. NAPL monitoring and removal was performed at a 6-inch recovery well located within the portion of the upper 1/2-mile reach removal action area designated as Cell C.
2. The listed volumes of liquid removed represent a mixture of water and DNAPL.



CONC HEADWALL
SPILLWAY INVERT
ELEV. = 977.45'

LEGEND:

- 980 — EXISTING INDEX ELEVATION CONTOUR
- 975 — EXISTING INTERMEDIATE ELEVATION CONTOUR
- - - TYPICAL WATER LINE
- ☼ DECIDUOUS TREE
- * CONIFEROUS TREE
- ⊗ MANHOLE
- x - x - CHAIN LINK FENCE
- POLE (NON-UTILITY)
- POLE (OVERHEAD UTILITY)
- - - SOURCE CONTROL CONTAINMENT BARRIER
- ES2-1 ⊕ MONITORING WELL
- 64X(W) ○ OIL RECOVERY CAISSON
- RW-1(X) ⊕ PUMPING WELL
- PZ-45 ⊕ PIEZOMETER
- HRSC-5 ▲ SOIL BORING
- APPROXIMATE EXTENT OF FORMER OXBOW AREA
- HRSC-20 ▲ SOIL BORING (JULY 5, 2000)

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. CONTOUR INTERVAL IN THE RIVER AND ON RIVERBANK = 1 FOOT CONTOUR. INTERVAL OUTSIDE RIVERBANK AREA = 2 FEET.
5. ALL MONITORING WELL, PUMPING WELL, CAISSON, FENCE, MANHOLE, AND LOCATIONS ARE APPROXIMATE.
6. SHEETPILE WALL LOCATION BASED ON SURVEY DRAWING PROVIDED BY HILL ENGINEERS, ARCHITECTS, PLANNERS.



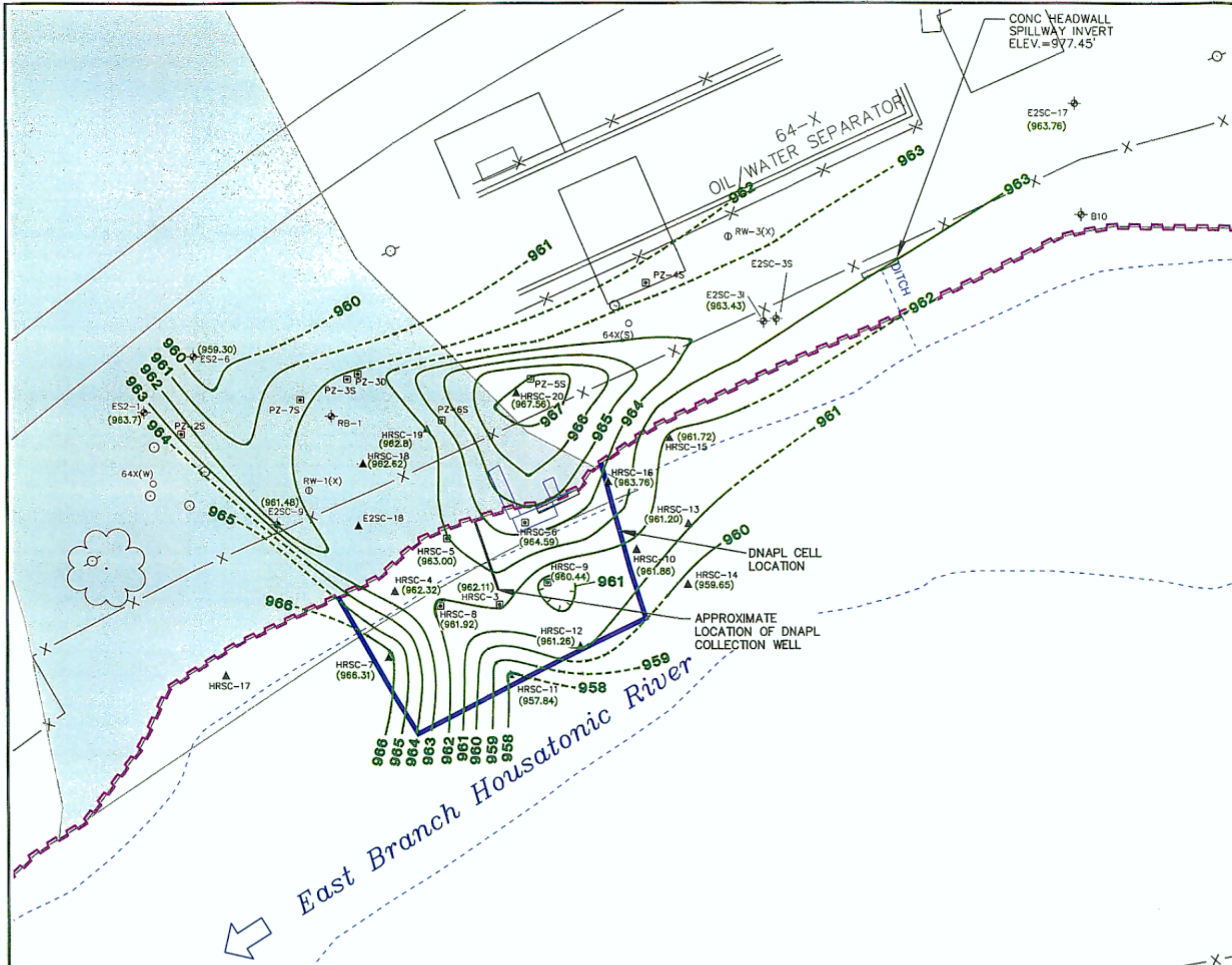
**GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS**

DNAPL INVESTIGATION AREA

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

FIGURE
1

X 20197X01.DWG, 20197X02.DWG
L: ON=1; OFF=REF
P: STD/PCP-DL
7/20/00 SWR-54-RJM DWG NO.0
20197070/20197004.DWG

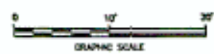


LEGEND:

- 960 — EXISTING INDEX ELEVATION CONTOUR
- 961 — EXISTING INTERMEDIATE ELEVATION CONTOUR
- - - - - TYPICAL WATER LINE
- ☼ DECIDUOUS TREE
- * CONIFEROUS TREE
- ⊗ MANHOLE
- - - - - CHAIN LINK FENCE
- POLE (NON-UTILITY)
- POLE (OVERHEAD UTILITY)
- — — — — SOURCE CONTROL CONTAINMENT BARRIER
- ES2-1 ⊕ MONITORING WELL
- 64X(W) ○ OIL RECOVERY CAISSON
- RW-1(X) ⊕ PUMPING WELL
- PZ-4S ⊕ PIEZOMETER
- HRSC-20 ▲ SOIL BORING
- ☼ APPROXIMATE EXTENT OF FORMER OXBOW AREA
- (963.7) TOP OF FINE SAND/SILTY SAND LAYER ELEVATION (FT)
- 963 — — — — — TOP OF FINE SAND/SILTY SAND LAYER ELEVATION CONTOUR LINE (FT), DASHED WHERE INFERRED

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. CONTOUR INTERVAL IN THE RIVER AND ON RIVERBANK = 1 FOOT CONTOUR. INTERVAL OUTSIDE RIVERBANK AREA = 2 FEET.
5. ALL MONITORING WELL, PUMPING WELL, CAISSON, FENCE, MANHOLE, AND LOCATIONS ARE APPROXIMATE.
6. SHEETPILE WALL LOCATION BASED ON SURVEY DRAWING PROVIDED BY HILL ENGINEERS, ARCHITECTS, PLANNERS.



GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

**SEMI-CONFINING LAYER
ELEVATION MAP**

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

X: 20197X01.DWG, 20197X02.DWG
L: DWF, DWF-REF
P: STD/PCP-2
7/205/00 SVR-54-RLM DWF XND
20197070/20197005.DWG

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe				BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533443.99 EASTING: 133311.93 GROUND ELEVATION: 982.62			BORING ID: HR-SC-18 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River	
DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION	
0	982.62	0-4	2.1	0-4	0.8	-	Brown fine SAND, little coarse Sand and fine Gravel, moist.	
1	981.62							
2	980.62						2.4' (980.22')	
3	979.62						Brown fine-coarse SAND, trace fine Gravel, moist.	
4	978.62	4-8	2.5	4-7	2.5			
5	977.62						5.3' (977.32')	
6	976.62						Medium-dark brown medium-coarse SAND, some fine Gravel, moist.	
7	975.62			7-7.5	2.1		7.0' (975.62')	
8	974.62	8-12	3.1	8-10.4	16.8	S	8.0' (974.62')	
9	973.62						Gray-brown fine SAND, trace Silt and Organics (rootlets), moist.	
10	972.62			10.4-12	56.4	S		

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533443.99 EASTING: 133311.93 GROUND ELEVATION: 982.62	BORING ID: HR-SC-18 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
10	972.62	8-12	3.1	10.4-12	56.4	S	Gray-brown fine SAND, trace Silt and Organics (rootlets), moist. 10.4' (972.22')
11	971.62						Gradational change to: Black fine-medium SAND, moist, odor, trace oily staining.
12	970.62	12-16	2.1	12-16	22.7	S	12.0' (970.62')
13	969.62						Black fine SAND, trace coarse Sand and fine Gravel, wet, odor, sheen. Trace NAPL residue observed on sampling tube.
14	968.62						
15	967.62						15.4' (967.22')
16	966.62	16-20	3.2	16-20	7.6	TS	Gradational change to: Black fine SAND, little coarse Sand and fine Gravel, wet. 16.0' (966.62')
17	965.62						Black medium-coarse SAND, trace fine Gravel, wet, slight odor.
18	964.62						
19	963.62						
20	962.62	20-24	4.0	20-22	45.8	S	20.0' (962.62')

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533443.99 EASTING: 133311.93 GROUND ELEVATION: 982.62	BORING ID: HR-SC-18 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
20	962.62	20-24	4.0	20-22	45.8	S	Black medium-coarse SAND, trace fine Gravel, wet, slight odor. 20.0' (962.62')
							Black fine-medium SAND, trace fine Gravel, wet, slight odor.
21	961.62						
22	960.62			22-24	4.0	-	22.0' (960.62')
							Black medium-coarse SAND, little fine Gravel, wet, slight odor.
23	959.62						
24	958.62	24-28	1.8	24-28	1.8	-	No odor from 24-28 feet.
25	957.62						
26	956.62						
27	955.62						
28	954.62						
							Boring terminated at 28.0 feet (954.62 feet).
29	953.62						
30	952.62						

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533451.01 EASTING: 133324.79 GROUND ELEVATION: 982.00	BORING ID: HR-SC-19 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
0	982.00	0-4	3.5	0-2.5	8.0		Brown SILT, little medium-coarse Sand and fine-medium Gravel, moist. (Fill)
1	981.00						
2	980.00						
				2.5-4	7.3		
3	979.00						Brown SILT, little medium-coarse Sand, trace fine-medium Gravel, moist. (Fill)
4	978.00	4-8	1.4	4-8	11.2	-	
5	977.00						
6	976.00						
7	975.00						Light brown fine SAND and SILT, little fine-medium Gravel, moist.
8	974.00	8-12	2.0	8-12	88.3	TS	
9	973.00						
10	972.00						

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533451.01 EASTING: 133324.79 GROUND ELEVATION: 982.00	BORING ID: HR-SC-19 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
10	972.00	8-12	2.0	8-12	88.3	TS	Light brown fine SAND and SILT, little fine-medium Gravel, moist.
11	971.00						11.0' (971.00')
12	970.00	12-16	2.9	12-14.6	53.2	S	Black medium SAND, little fine Sand, wet, odor, trace sheen.
13	969.00						
14	968.00						14.1' (967.90')
15	967.00			14.6-16	25.8	TS	Black fine SAND, wet, odor.
							15.1' (966.90')
16	966.00	16-20	3.2	16-18.3	52.1	TS	Black fine-coarse SAND, wet, odor.
							16.0' (966.00')
17	965.00						Black medium SAND, little Silt and fine-coarse Sand, wet.
18	964.00						
				18.3-20	5.5	TS	
19	963.00						19.2' (962.80')
							Black fine SAND, little light brown Silt and fine-medium Sand in seams, trace fine Gravel, wet.
20	962.00	20-24	2.6	20-22.9	6.7	-	20.0' (962.00')

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533451.01 EASTING: 133324.79 GROUND ELEVATION: 982.00	BORING ID: HR-SC-19 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
20	962.00	20-24	2.6	20-22.9	6.7	-	Black fine SAND, little light brown Silt and fine-medium Sand in seams, trace fine Gravel, wet. 20.0' (962.00')
21	961.00						Black fine SAND, wet, slight odor, trace sheen.
22	960.00						22.0' (960.00')
23	959.00			22.9-24	2.3	-	Black medium-coarse SAND, little fine Sand, trace fine-medium Gravel, wet, slight odor.
24	958.00	24-28	2.0	24-28	3.1	-	
25	957.00						
26	956.00						
27	955.00						
28	954.00						
29	953.00						Boring terminated at 28.0 feet (954.00 feet).
30	952.00						

REMARKS:
 Boring backfilled to surface with bentonite chips.
 Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe			BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533458.28 EASTING: 133342.84 GROUND ELEVATION: 981.56			BORING ID: HR-SC-20 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River		
DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION	
0	981.56	0-4	2.8	0-2.7	0.7		Medium-dark brown fine-medium SAND, little coarse Sand and fine Gravel, moist. (Fill)	
1	980.56							
2	979.56			2.7-4	1.0	-	2.7' (978.86')	
3	978.56						Medium-light brown medium-coarse SAND, little fine-medium Gravel, moist. (Fill)	
4	977.56	4-8	2.0	4-8	2.8	-	4.0' (977.56')	
5	976.56						Medium brown-black fine-coarse SAND and fine-medium GRAVEL, little brick/slag fragments, moist. (Fill)	
6	975.56							
7	974.56						7.6' (973.96')	
8	973.56	8-12	2.4	8-12	44.5	TS	Olive-gray SILT, trace fine-medium Gravel, stiff, moist.	
9	972.56							
10	971.56						10.0' (971.56')	

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533458.28 EASTING: 133342.84 GROUND ELEVATION: 981.56	BORING ID: HR-SC-20 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
10	971.56	8-12	2.4	8-12	44.5	TS	Olive-gray SILT, trace fine-medium Gravel, stiff, moist. 10.0' (971.56')
11	970.56						Black fine-medium SAND, little coarse Sand and fine Gravel, wet, slight odor, trace sheen.
12	969.56	12-16	4.0	12-14	14.8	-	12.0' (969.56')
13	968.56						Medium brown-black fine SAND, wet, trace staining.
14	967.56			14-16	3.8	-	14.0' (967.56')
15	966.56						Gray-brown fine SAND, compact, moist- wet.
16	965.56	16-20	4.0	16-18	8.3	-	16.0' (965.56')
17	964.56						Brown fine SAND, well-sorted, moist- wet.
18	963.56			18-20	8.2	-	
19	962.56						
20	961.56	20-24	4.0	20-22	13.4	-	20.0' (961.56')

REMARKS:

Boring backfilled to surface with bentonite chips.

Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.

DATE STARTED: 7/5/2000 DATE FINISHED: 7/5/2000 DRILLING COMPANY: BBL DRILLING METHOD: Direct Push BIT SIZE: 1.5 Inch X 4 Feet RIG TYPE: AMS Power Probe	BOREHOLE DEPTH: 28.0 Feet DESCRIPTIONS BY: Michael K. Cobb NORTHING: 533458.28 EASTING: 133342.84 GROUND ELEVATION: 981.56	BORING ID: HR-SC-20 CLIENT: General Electric Company Pittsfield, MA SITE: East Street Area 2 - South / Housatonic River
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DEPTH (ft)	ELEVATION (ft)	SAMPLE DEPTH INTERVAL (ft)	RECOVERY (ft)	SCREENING DEPTH INTERVAL (ft)	PID HEADSPACE (ppm)	SHAKE TEST	STRATIGRAPHIC DESCRIPTION
20	961.56	20-24	4.0	20-22	13.4	-	Brown fine SAND, well-sorted, moist- wet.
21	960.56						
22	959.56			22-24	18.1	-	
23	958.56						
24	957.56	24-28	1.0	24-28	10.1	-	
25	956.56						
26	955.56						Brown fine SAND, little black coloring, well-sorted, moist- wet, trace odor.
27	954.56						
28	953.56						
29	952.56						
30	951.56						Boring terminated at 28.0 feet (953.56 feet).

REMARKS:

Boring backfilled to surface with bentonite chips.
 Shake test: "-" denotes no sheen or NAPL observed; N denotes NAPL observed; S denotes sheen observed; T = trace.