



01-0298

SDMS 156937

Corporate Environmental Program
General Electric Company
100 Waterman Avenue, Pittsfield, MA 01201

April 26, 1999

Bryan Olson
Dean Tagliaferro
Site Evaluation and Response Section (HBR)
U.S. Environmental Protection Agency
One Congress Street
Boston, MA 02203-2211

Alan Weinberg
Bureau of Waste Site Cleanup
Department of Environmental Protection
436 Dwight Street
Springfield, MA 01103

**Re: Results of Supplemental Soil Sampling in Support of
Source Control Activities at Lyman Street Site,
General Electric Company, Pittsfield, Massachusetts
DEP Site No. 1-0856, USEPA Area 5A**

Dear Messrs. Olson, Tagliaferro, and Weinberg:

I. INTRODUCTION

The General Electric Company (GE) has recently completed supplemental investigations in portions of the USEPA Area 5A/MCP Lyman Street Site in Pittsfield, Massachusetts. More specifically, the investigations conducted by GE between March 29 and April 2, 1999 provided further information concerning subsurface conditions in the vicinity of GE's existing NAPL recovery systems and the adjacent riverbank area. The contents of this letter represent a follow-up to the design and installation of a proposed sheetpile-based containment barrier along the riverbank, as outlined in GE's *Conceptual Containment Barrier Design for Lyman Street Site*, dated February 16, 1999 (Conceptual Design Proposal). In that document, GE proposed supplemental sampling to further support the conceptual design and related riverbank soil removal activities.

These supplemental investigations were conditionally approved by EPA in a letter dated March 23, 1999. This letter summarizes the results of those investigations. An overview of the resulting data is provided below in Section II.

Prior to the installation of the proposed NAPL containment barrier presented in GE's Conceptual Design Proposal, GE will prepare a detailed Design Report to provide additional information concerning the final configuration and design of the proposed containment barrier. Section III presents a schedule for future activities, including final design of the barrier and submittal of the detailed Design Report.

II. INVESTIGATION SUMMARY

A. Field Investigations

Between April 1 and 5, 1999, GE collected and analyzed soil samples from ten bank locations (LSSC-20 through LSSC-25 and LSSC-27 through LSSC-30) along the edge of the proposed sheetpile (see Figure 1). A number of these locations correspond to areas previously sampled by the USEPA or GE (SLO170, SLO229, SLO182, SLO232, SLO235, and LS-SOIL). Samples were collected utilizing direct push sampling techniques to a depth of at least 10 feet below grade, depending upon visual observations and sampling

limitations. Soil samples adjacent to and below the depths previously sampled were analyzed in 1-foot increments for total petroleum hydrocarbons (TPH) and polychlorinated biphenyls (PCBs). At locations not previously sampled, analyses of TPH and PCBs were performed in 1-foot increments from the ground surface. A total of 108 analytical samples (including 6 duplicate samples) were collected.

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.). All soil samples were submitted to CT&E Environmental Services, Inc. (CT&E) for analysis for TPH by USEPA Method 418.1 and PCBs by USEPA Method 8082. The results of these analyses are summarized in Table 1 and on Figure 2 and are discussed below.

In addition to the riverbank soil investigations, two additional wells (LSSC-8S and LSSC-18) were installed by HSI GeoTrans, Inc., on March 29, 1999 along the western and eastern edges, respectively, of the proposed containment barrier. The purpose of these wells was to confirm the lateral limits of LNAPL relative to the proposed barrier. Five soil samples were collected from boring LSSC-18 and submitted to CT&E for analysis for PCBs by USEPA Method 8020. The results of these analyses are summarized in Table 2 and are discussed below. Since installation, the wells have been monitored on a weekly basis and no LNAPL has been detected.

B. Preliminary Findings

The primary purpose of supplemental borings LSSC-20 through LSSC-25 and LSSC-27 through LSSC-30 was to assess the potential presence of LNAPL residuals along the riverbank on the river side of the proposed containment barrier. This was done by observing the soil cores for evidence of LNAPL staining or sheens, collecting soil samples for analysis of TPH and PCBs, and performing shake tests on soil samples. The results of this series of tests are summarized in Table 1 and on Figure 2. During installation, LNAPL staining was visually observed in four of the ten riverbank soil borings (LSSC-21, LSSC-23, LSSC-28, and LSSC-29). Two of these borings (LSSC-21 and LSSC-23) and one other boring (LSSC-22) exhibited LNAPL residuals during shake testing. Each of these borings are located in the eastern limb of the former oxbow located in this area, as shown on Figure 1. No visual observations of LNAPL staining or residuals from shake tests were shown to exist below an elevation of 966 feet.

TPH values in the riverbank soil samples ranged from non-detect (in 45 of 108 samples) to 58,100 ppm. The highest TPH levels were observed in soil borings LSSC-21 and LSSC-23 at elevations between 970 and 973 feet. Groundwater was encountered at an elevation of approximately 973 feet. PCB values in the riverbank soil samples ranged from non-detect (in 9 of 108 samples) to 5,600 ppm. Similar to the TPH results, higher PCB concentrations were detected in borings along the eastern limb of the former oxbow (LSSC-21 and LSSC-23) at elevations near the top of the water table (970 to 973 feet). PCB concentrations of up to 5,200 ppm were also detected in boring LSSC-27, located near the Lyman Street bridge. In this boring, the highest PCB levels were detected at elevations above the water table (977 to 979 feet) and do not appear to be associated with LNAPL, since staining or sheens were not observed in the soil cores. Furthermore, the TPH values in this interval were significantly less than those observed along the eastern limb of the former oxbow, where staining and sheens were observed.

Well LSSC-8S was installed to a depth of 15 feet below grade and screened from an elevation of 978.64 feet to 968.64 feet. No indications of the presence of LNAPL were noted during the installation and subsequent weekly monitoring of this well. No samples were collected from this boring, as the area had been previously sampled by adjacent boring LSSC-8I. Well LSC-18 was installed to a depth of 19 feet below grade and screened from an elevation of 978.66 feet to 968.66 feet. No indications of the presence of LNAPL were

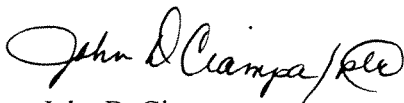
noted during the installation and subsequent weekly monitoring of this well. Soil samples were submitted for PCB analysis from the 0- to 1-foot, 1- to 3-foot, 3- to 6-foot, 6- to 10-foot, and 10- to 15-foot depth intervals. Total PCB concentrations ranged from 0.14 ppm to 0.73 ppm, as shown in Table 2. The boring/well construction logs for wells LSSC-8S, LSSC-8I, and LSSC-18 are provided as an attachment to this letter.

III. SUMMARY AND SCHEDULE

From March 29 to April 5, 1999, ten soil borings were recently advanced along the riverbank adjacent to the Lyman Street Site, and two shallow monitoring wells were installed near the edges of the proposed containment barrier. A total of 108 soil samples were collected from the riverbank borings, examined for evidence of LNAPL residuals, and analyzed for TPH and PCBs. TPH concentrations in the riverbank soil samples ranged from non-detect to 58,100 ppm, while PCB values ranged from non-detect to 5,600 ppm. PCB concentrations ranged between 0.14 ppm and 0.73 ppm in five soil samples collected and analyzed from monitoring well boring LSSC-18. No indications of the presence of NAPL were noted during the installation and subsequent monitoring of wells LSSC-8S and LSSC-18.

Data from this supplemental investigation will be incorporated into the proposed containment barrier design parameters, and the results of these design activities will be presented in a Detailed Design Report. Included in that report will be a detailed design of the proposed containment barrier, including final sheetpile layout, performance standards, detailed design and structural calculations, the results of the hydraulic modeling, and other potential implementation-related issues. That report will be submitted within approximately 60 days of the date of this letter.

Yours truly,



John D. Ciampa
Remediation Project Manager
U:\PLH99\48591543.WPD

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(* with tables and figures)

TABLE 1
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
SOURCE CONTROL MEASURES FOR LYMAN STREET SITE
SUMMARY OF RIVERBANK SOIL DATA - APRIL 1999

Sample Location	Sample Date	Sample Depth	Sample Elevation (Feet AMSL)	Field Observations/Testing			Analytical Results (ppm)	
				Sample PID Reading (Instrument Units)	Staining Observed on Soil Core	Shake Test Results	Total PCBs	TPH
LSSC-20	04/02/99	0-1'	974.05 - 973.05	0.0	No	No	N/A	N/A
LSSC-20	04/02/99	1-2'	973.05 - 972.05	0.0	No	No	N/A	N/A
LSSC-20	04/02/99	2-3'	972.05 - 971.05	N/A	No	N/A	77	391
LSSC-20	04/02/99	3-4'	971.05 - 970.05	0.0	No	No	0.58	ND(55.1)
LSSC-20	04/02/99	4-5'	970.05 - 969.05	N/A	No	Trace Sheen	0.41	ND(60)
LSSC-20	04/02/99	5-6'	969.05 - 968.05	N/A	No	N/A	0.11	ND(54.9)
LSSC-20	04/02/99	6-7'	968.05 - 967.05	N/A	No	N/A	0.25	ND(58.2)
LSSC-20	04/02/99	7-8'	967.05 - 966.05	N/A	No	N/A	0.15	ND(54.2)
LSSC-20	04/02/99	8-9'	966.05 - 965.05	N/A	No	N/A	1.5	ND(47.1)
LSSC-20	04/02/99	9-10'	965.05 - 964.05	N/A	No	N/A	N/A	N/A
LSSC-21	04/05/99	0-1'	974.48 - 973.48	16.9	No	No	15	74.0 [ND (40)]
LSSC-21	04/05/99	1-2'	973.48 - 972.48	16.9	No	No	140	263 [46,000]
LSSC-21	04/05/99	2-3'	972.48 - 971.48	15.8	No	No	5,600	23,500
LSSC-21	04/05/99	3-4'	971.48 - 970.48	39.0	Yes (begins at 3.2')	Yes	5,600 [47]	58,100
LSSC-21	04/05/99	4-5'	970.48 - 969.48	21.8	Yes	No	30	337
LSSC-21	04/05/99	5-6'	969.48 - 968.48	28.6	Yes	Yes	39	723
LSSC-21	04/05/99	6-7'	968.48 - 967.48	25.3	Yes	Trace Sheen	8.3	93.3 [ND (46.6)]
LSSC-21	04/05/99	7-8'	967.48 - 966.48	16.1	Yes	No	3.4	50.6
LSSC-21	04/05/99	8-9'	966.48 - 965.48	17.3	No	No	2.9	65.6
LSSC-21	04/05/99	9-10'	965.48 - 964.48	17.4	No	No	5.9 [1.8]	58.1
LSSC-22	04/01/99	0-1'	974.43 - 973.43	N/A	No	N/A	2.3	47 [76]
LSSC-22	04/01/99	1-2'	973.43 - 972.43	3.8	No	No	2.5	45
LSSC-22	04/01/99	2-3'	972.43 - 971.43	N/A	No	N/A	180 [160]	120
LSSC-22	04/01/99	3-4'	971.43 - 970.43	18.3	No	Yes	150	1,900
LSSC-22	04/01/99	4-5'	970.43 - 969.43	81.2	Yes	Yes	180	6,200
LSSC-22	04/01/99	5-6'	969.43 - 968.43	31.8	Yes	Yes	40	3,500
LSSC-22	04/01/99	6-7'	968.43 - 967.43	9.3	Yes	No	0.31	ND (40)
LSSC-22	04/01/99	7-8'	967.43 - 966.43	5.2	Yes (ends at 7.6')	No	0.15	ND (40)
LSSC-22	04/01/99	8-9'	966.43 - 965.43	7.4	No	No	1.2	ND (40)
LSSC-22	04/01/99	9-10'	965.43 - 964.43	6.4	No	No	0.028 J	ND (40)

See notes on page 4.

TABLE 1 (Continued)

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

SOURCE CONTROL MEASURES FOR LYMAN STREET SITE

SUMMARY OF RIVERBANK SOIL DATA - APRIL 1999

Sample Location	Sample Date	Sample Depth	Sample Elevation (Feet AMSL)	Field Observations/Testing			Analytical Results (ppm)	
				Sample PID Reading (Instrument Units)	Staining Observed on Soil Core	Shake Test Results	Total PCBs	TPH
LSSC-23	04/05/99	0-1'	973.14 - 972.14	N/A	No	N/A	24	88.6
LSSC-23	04/05/99	1-2'	972.14 - 971.14	19.3	No	No	800	9,620
LSSC-23	04/05/99	2-3'	971.14 - 970.14	18.7	Yes (begins at 2.5')	Yes	5,200	48,800
LSSC-23	04/05/99	3-4'	970.14 - 969.14	23.6	Yes	Yes	39	1,000
LSSC-23	04/05/99	4-5'	969.14 - 968.14	17.4	Yes	Trace Sheen	28	772
LSSC-23	04/05/99	5-6'	968.14 - 967.14	N/A	Yes	N/A	1.4	ND (46.6)
LSSC-23	04/05/99	6-7'	967.14 - 966.14	17.5	Yes	No	0.24	ND (45.6)
LSSC-23	04/05/99	7-8'	966.14 - 965.14	17.6	No	No	0.36	ND (49.9)
LSSC-23	04/05/99	8-9'	965.14 - 964.14	15.6	No	No	0.22	ND (44.5)
LSSC-23	04/05/99	9-10'	964.14 - 963.14	15.8	No	No	N/A	N/A
LSSC-24	04/05/99	0-1'	973.35 - 972.35	3.3	No	No	3.2 [0.77]	102
LSSC-24	04/05/99	1-2'	972.35 - 971.35	3.8	No	No	44	392 [ND (55.3)]
LSSC-24	04/05/99	2-3'	971.35 - 970.35	3.4	No	No	37	2,920
LSSC-24	04/05/99	3-4'	970.35 - 969.35	18.5	No	No	0.78	ND (55.1)
LSSC-24	04/05/99	4-5'	969.35 - 968.35	6.1	No	No	0.12	ND (63.8)
LSSC-24	04/05/99	5-6'	968.35 - 967.35	8.7	No	No	ND (0.043)	ND (52.2)
LSSC-24	04/05/99	6-7'	967.35 - 966.35	3.5	No	No	ND (0.038)	ND (46.3)
LSSC-24	04/05/99	7-8'	966.35 - 965.35	N/A	No	No	0.96	ND (42.6)
LSSC-24	04/05/99	8-9'	965.35 - 964.35	3.7	No	No	0.6	ND (50.8)
LSSC-24	04/05/99	9-10'	964.35 - 963.35	3.8	No	No	N/A	N/A
LSSC-25	04/01/99	0-1'	974.01 - 973.01	N/A	No	N/A	2.0	51
LSSC-25	04/01/99	1-2'	973.01 - 972.01	N/A	No	N/A	19	60
LSSC-25	04/01/99	2-3'	972.01 - 971.01	1.6	No	No	0.22	ND (40)
LSSC-25	04/01/99	3-4'	971.01 - 970.01	2.7	No	No	ND (0.042)	ND (40)
LSSC-25	04/01/99	4-5'	970.01 - 969.01	2.4	No	No	ND (0.045)	ND (40)
LSSC-25	04/01/99	5-6'	969.01 - 968.01	N/A	No	No	0.067	ND (40)
LSSC-25	04/01/99	6-7'	968.01 - 967.01	2.5	No	N/A	0.046	ND (40)
LSSC-25	04/01/99	7-8'	967.01 - 966.01	2.9	No	No	ND (0.034)	ND (40)
LSSC-25	04/01/99	8-9'	966.01 - 965.01	3.6	No	No	0.031 J	ND (40)
LSSC-25	04/01/99	9-10'	965.01 - 964.01	3.2	No	No	ND (0.04)	ND (40)

See notes on page 4.

TABLE 1 (Continued)

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Sample Location	Sample Date	Sample Depth	Sample Elevation (Feet AMSL)	Field Observations/Testing			Analytical Results (ppm)	
				Sample PID Reading (Instrument Units)	Staining Observed on Soil Core	Shake Test Results	Total PCBs	TPH
LSSC-27	04/01/99	0-1'	980.97 - 979.97	7.0	No	No	700	202
LSSC-27	04/01/99	1-2'	979.97 - 978.97	1.8	No	No	18	65
LSSC-27	04/01/99	2-3'	978.97 - 977.97	1.8	No	No	1,200	654
LSSC-27	04/01/99	3-4'	977.97 - 976.97	1.9	No	No	5,200	1,960
LSSC-27	04/01/99	4-5'	976.97 - 975.97	1.8	No	No	6.2	138
LSSC-27	04/01/99	5-6'	975.97 - 974.97	N/A	No	N/A	3.6	94.8
LSSC-27	04/01/99	6-7'	974.97 - 973.97	1.5	No	No	11	148
LSSC-27	04/01/99	7-8'	973.97 - 972.97	N/A	No	N/A	9.9	196
LSSC-27	04/01/99	8-9'	972.97 - 971.97	1.6	No	No	6.6	152
LSSC-27	04/01/99	9-10'	971.97 - 970.97	N/A	No	N/A	3.0	96.1
LSSC-27	04/01/99	10-11'	970.97 - 969.97	1.8	No	No	1.2	65.4
LSSC-27	04/01/99	11-12'	969.97 - 968.97	2.8	No	No	1.7	144
LSSC-27	04/01/99	12-13'	968.97 - 967.97	N/A	No	N/A	1.3	80.2
LSSC-27	04/01/99	13-14'	967.97 - 966.97	8.1	No	Trace Sheen	0.67	51.1
LSSC-27	04/01/99	14-15'	966.97 - 965.97	22.9	No	Trace Sheen	1.1	98
LSSC-27	04/01/99	15-16'	965.97 - 964.97	2.7	No	No	0.019 J	ND (44.9)
LSSC-27	04/01/99	16-17'	964.97 - 963.97	2.0	No	No	0.022 J	ND (47.8)
LSSC-27	04/01/99	17-18'	963.97 - 962.97	2.1	No	No	ND (0.037)	ND (45.2)
LSSC-28	04/01/99	0-1'	977.81 - 976.81	N/A	No	N/A	N/A	N/A
LSSC-28	04/01/99	1-2'	976.81 - 975.81	N/A	No	N/A	N/A	N/A
LSSC-28	04/01/99	2-3'	975.81 - 974.81	N/A	No	N/A	N/A	N/A
LSSC-28	04/01/99	3-4'	974.81 - 973.81	2.5	No	N/A	25	323
LSSC-28	04/01/99	4-5'	973.81 - 972.81	N/A	No	No	14	229
LSSC-28	04/01/99	5-6'	972.81 - 971.81	2.5	No	N/A	12	128
LSSC-28	04/01/99	6-7'	971.81 - 970.81	N/A	No	No	5.0	222
LSSC-28	04/01/99	7-8'	970.81 - 969.81	46.8	No	N/A	35 [31]	636
LSSC-28	04/01/99	8-9'	969.81 - 968.81	34.1	Yes	Yes	33	7,560
LSSC-28	04/01/99	9-10'	968.81 - 967.81	23.1	Yes	Trace Sheen	20	4,080
LSSC-28	04/01/99	10-11'	967.81 - 966.81	30.3	Yes (ends at 10.5')	Trace Sheen	2.8	100
LSSC-28	04/01/99	11-12'	966.81 - 965.81	26.0	No	No	0.47	339
LSSC-28	04/01/99	12-13'	965.81 - 964.81	N/A	No	Trace Sheen	ND (0.05)	63.4
LSSC-28	04/01/99	13-14'	964.81 - 963.81	9.5	No	N/A	1.9	265 [140]
LSSC-28	04/01/99	14-15'	963.81 - 962.81	4.1	No	No	0.14	ND (44.6)
LSSC-28	04/01/99	15-16'	962.81 - 961.81	N/A	No	No	ND (0.044)	ND (44.7)
					No	N/A	N/A	N/A

See notes on page 4.

TABLE 1 (Continued)

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS

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SUMMARY OF RIVERBANK SOIL DATA - APRIL 1999

Sample Location	Sample Date	Sample Depth	Sample Elevation (Feet AMSL)	Field Observations/Testing			Analytical Results (ppm)	
				Sample PID Reading (Instrument Units)	Staining Observed on Soil Core	Shake Test Results	Total PCBs	TPH
LSSC-29	04/05/99	0-1'	973.00 - 972.00	3.2	No	No	N/A	N/A
LSSC-29	04/05/99	1-2'	972.00 - 971.00	3.5	No	No	N/A	N/A
LSSC-29	04/05/99	2-3'	971.00 - 970.00	N/A	No	No	120	783
LSSC-29	04/05/99	3-4'	970.00 - 969.00	N/A	No	No	6.2	45.5
LSSC-29	04/05/99	4-5'	969.00 - 968.00	15.5	Yes	No	7.0	1,800
LSSC-29	04/05/99	5-6'	968.00 - 967.00	7.3	Yes	No	0.53	60.3
LSSC-29	04/05/99	6-7'	967.00 - 966.00	5.6	No	No	0.12	ND (44.7)
LSSC-29	04/05/99	7-8'	966.00 - 965.00	4.2	No	No	0.064	ND (44.8)
LSSC-29	04/05/99	8-9'	965.00 - 964.00	3.2	No	No	0.041	ND (45.3)
LSSC-29	04/05/99	9-10'	964.00 - 963.00	3.5	No	No	N/A	N/A
LSSC-30	04/02/99	0-1'	973.32 - 972.32	N/A	No	N/A	11	ND (59)
LSSC-30	04/02/99	1-2'	972.32 - 971.32	N/A	No	N/A	54	89.6
LSSC-30	04/02/99	2-3'	971.32 - 970.32	N/A	No	N/A	6.6	252
LSSC-30	04/02/99	3-4'	970.32 - 969.32	N/A	No	N/A	3.8	84
LSSC-30	04/02/99	4-5'	969.32 - 968.32	N/A	No	N/A	3.8 [1.6]	67.8
LSSC-30	04/02/99	5-6'	968.32 - 967.32	N/A	No	N/A	0.18	ND (46.1)
LSSC-30	04/02/99	6-7'	967.32 - 966.32	11.7	No	No	0.083	ND (45.3)
LSSC-30	04/02/99	7-8'	966.32 - 965.32	10.3	No	No	0.19	ND (44.4)
LSSC-30	04/02/99	8-9'	965.32 - 964.32	9.4	No	No	0.45	ND (45.0)
LSSC-30	04/02/99	9-10'	964.32 - 963.32	N/A	No	N/A	N/A	N/A

Notes:

1. Samples were collected and screened in the field with a photoionization detector (PID) by Blasland, Bouck & Lee, Inc. (BBL).
2. Water shake tests were performed by BBL on all samples to evaluate the potential presence of LNAPL residuals.
 "No" indicates that no LNAPL residuals were observed.
 "Yes" indicates that LNAPL residuals were observed, or a moderate to strong sheen formed on the water surface during the test.
 "Trace Sheen" indicates that a slight sheen formed on the water surface during the test.
3. Samples were submitted to CT & E Environmental Services, Inc., for analysis of PCBs by EPA Method 8082 and Total Petroleum Hydrocarbons (TPH) by EPA Method 418.
4. ppm: Dry weight parts per million.
5. Duplicate sample results are shown in brackets [].
6. ND: Not detected (Practical Quantitation Limit shown in parantheses).
7. N/A: Not analyzed - sample not submitted to laboratory or insufficient volume for field analyses.
8. J: Indicates an estimated value less than the Practical Quantitation Limit.
9. Feet AMSL: Feet above mean sea level.
10. The boring designation of LSSC-26 was not utilized.
11. LNAPL: Light Non-Aqueous Phase Liquid

TABLE 2
 GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
 SOURCE CONTROL MEASURES FOR LYMAN STREET SITE
 SUMMARY OF SOIL DATA - MARCH 1999

Sample Location	Sample Date	Sample Depth	Sample Elevation (Feet AMSL)	Analytical Results Total PCBs (ppm)
LSSC-18	03/29/99	0 - 1'	987.66 - 986.66	0.24
LSSC-18	03/29/99	1 - 3'	986.66 - 984.66	0.73
LSSC-18	03/29/99	3 - 6'	984.66 - 981.66	0.53
LSSC-18	03/29/99	6 - 10'	981.66 - 977.66	0.14
LSSC-18	03/29/99	10 - 15'	977.66 - 972.66	0.20

Notes:

1. Samples were collected by HSI GeoTrans, Inc.
2. Samples were submitted to CT & E Environmental Services, Inc., for analysis of PCBs by EPA Method 8082.
3. ppm: Dry weight parts per million.
4. Feet AMSL: Feet above mean sea level.

EAST STREET

LYMAN



LEGEND:

- EXISTING INDEX ELEVATION CONTOUR
- - - EXISTING INTERMEDIATE ELEVATION CONTOUR
- DECIDUOUS TREE
- CONIFEROUS TREE
- MANHOLE
- CHAIN LINK FENCE
- POLE (NON-UTILITY)
- POLE (OVERHEAD UTILITY)
- APPROXIMATE DELINEATION OF FORMER OXBOWS
- ⊕ ESZ-1 EXISTING MONITORING WELL
- ⊕ RW-1(X) EXISTING PUMPING WELL
- △ X-11 EXISTING SOIL BORING
- ↑↑ LOCATION OF CROSS-SECTION 0-0'
- PROPOSED CONTAINMENT BARRIER

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 ENGINEERS, P.C. CONSTRUCTION PLANS. 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 SAMPLING LOCATIONS ARE APPROXIMATE.
6. NAPL = NON-AQUEOUS PHASE LIQUID.
LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID.
DNAPL = DENSE NON-AQUEOUS PHASE LIQUID.

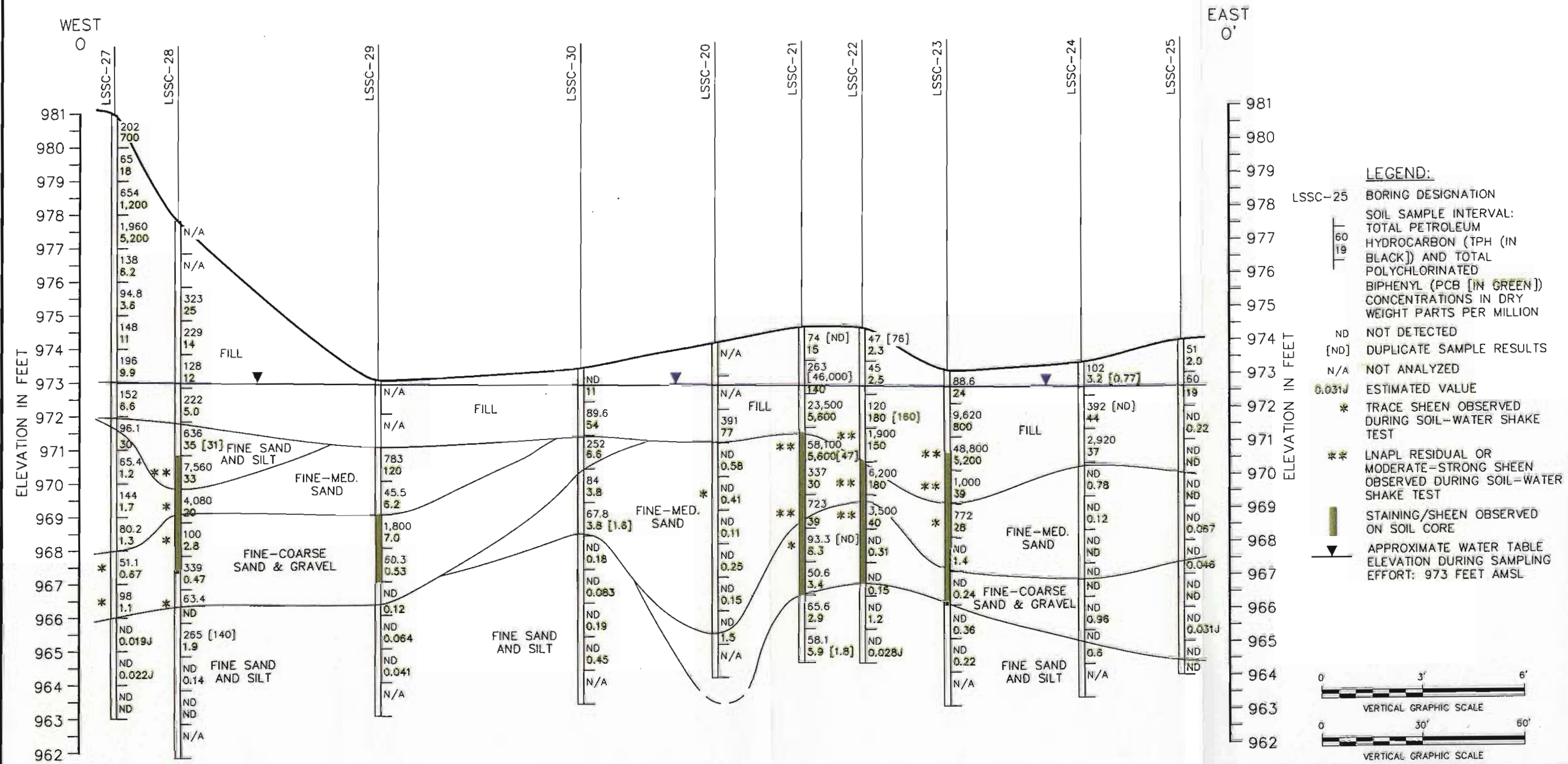


GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
LYMAN STREET SITE
SOURCE CONTROL INVESTIGATION

SITE PLAN

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

X: 20140X1A, 20140X1B
L: ON=, OFF=REF
P: 901-D, 901-D28-X.PCP
4/23/99 SYR-54-RLP RJM AK JMS
20182001/SRCEQINV/20182801.DWG



GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
 LYMAN STREET SITE
 SOURCE CONTROL INVESTIGATION

CROSS SECTION O-O'

L: ON=*, OFF=REF*
 P: STD-PCP/BL
 4/26/99 SYR.-54 RCA
 20182001/20182V01.DWG



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER	P009-001	BORING/WELL NUMBER	LSSC-08
PROJECT NAME	Source Control Upper Reach Housatonic River	DATE DRILLED	12/17/98
LOCATION	Pittsfield, Massachusetts	CASING TYPE/DIAMETER	2" PVC
DRILLING METHOD	HSA	SCREEN TYPE/SLOT	.010 Slot 2" PVC
SAMPLING METHOD	SS	GRAVEL PACK TYPE	#0 Silica Sand
GROUND ELEVATION	983.60	GROUT TYPE/QUANTITY	Portland/Volclay
TOP OF CASING	983.26	DEPTH TO WATER	12.41 (12/21/1998)
LOGGED BY	NSB	GROUND WATER ELEVATION	970.85 (12/21/1998)
NORTHING	532406.3035	EASTING	130816.3352

FID (ppm)	BLOW COUNTS	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
0		SS01	X				Loose, Dark yellowish Brown, SAND w/ few gravel, dry, well graded, SW-GW	1.0	<p>Portland / Volclay Grout</p> <p>Bentonite Seal</p> <p>#0 Filter Sand</p> <p>.010 Slot 2" PVC Schd 40 Screen</p> <p>1' 2" PVC Schd 40 Sump</p>
0		SS02	X				Top 0.8 Loose, Dark yellowish Brown, SAND w/ coal fragments, dry, well graded, SW. Bottom 0.4 Light Brown and White, SAND and COAL ASH, dry, well graded, SW, (Fill).	3.0	
0		SS03	X				Loose, White and Grayish Red, fine to medium COAL ASH, moist, well graded, SW, (Fill).	5.0	
0		SS04	X	5			Similar to above w/ Dark yellowish Brown, SAND intervals and few little organics.	6.0	
1		SS05	X				Top 0.4 Same as above. Bottom 0.2 Loose, Light olive Brown, SAND, dry, well graded, SW.	8.0	
1.7		SS06	X				Loose, Light to Moderate olive Brown, interbedded SAND and SILT w/ little organics, dry, poorly graded, SM.	10.0	
1.3		SS07	X	10			Top 0.6 Same as above. Bottom 0.7 Loose, Light to olive Gray, SILT w/ some interbedded sand, moist, poorly graded, SM.	12.0	
4		SS08	X				Top 0.5 Same as above (Top). Bottom 0.8 Same as above (Bottom).	14.0	
6.1		SS09	X				Top 0.5 Similar to above, moist. Bottom 0.3 Wood Core	15.0	
1		SS10	X	15			Wood Core	17.0	
0		SS11	X				Top 0.3 Wood Core. Bottom 0.7 Very loose, Olive Gray to Light Brown, GRAVEL w/ little sand, wet, well graded, subround, GW.	19.0	
0		SS12	X				Similar to above (Bottom) w/ trace fines.	20.0	
18.7		SS13	X	20			Top 0.4 Loose, Olive Gray, coarse SAND w/ few gravel, wet, well graded, sheen, SW-GW. Bottom 0.2 Moderate olive Gray, SILT and GRAVEL, wet, well graded, GM.	22.0	
224		SS14	X				Top 0.6 Same as above (Top). Bottom 0.6 Light olive Gray, SILT, wet, well graded, ML.	24.0	

BORING_WELL_P009_GPJ_HSI_MA_GDT_4/22/98



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER P009-001
 PROJECT NAME Source Control Upper Reach Housatonic River
 LOCATION Pittsfield, Massachusetts
 DRILLING METHOD HSA
 SAMPLING METHOD SS
 GROUND ELEVATION 983.64
 TOP OF CASING 983.24
 LOGGED BY NSB
 NORTHING 532408.89

BORING/WELL NUMBER LSSC-08S
 DATE DRILLED 3/29/99
 CASING TYPE/DIAMETER 2" PVC
 SCREEN TYPE/SLOT .010 Slot 2" PVC
 GRAVEL PACK TYPE #0 Silica Sand
 GROUT TYPE/QUANTITY None
 DEPTH TO WATER 11.83 (4/14/1999)
 GROUND WATER ELEVATION 971.41 (4/14/1999)
 EASTING 130817.23

FID (ppm)	BLOW COUNTS	SAMPLE ID.	EXTENT	DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
				5 10 15			See Log for LSSC-08.	15.0	



BORING/WELL CONSTRUCTION LOG

PROJECT NUMBER P009-001
 PROJECT NAME Source Control Upper Reach Housatonic River
 LOCATION Pittsfield, Massachusetts
 DRILLING METHOD HSA
 SAMPLING METHOD SS
 GROUND ELEVATION 987.66
 TOP OF CASING 987.45
 LOGGED BY SKC
 NORTHING 532.664.56

BORING/WELL NUMBER LSSC-18
 DATE DRILLED 3/29/99
 CASING TYPE/DIAMETER 2" PVC
 SCREEN TYPE/SLOT .010 Slot 2" PVC
 GRAVEL PACK TYPE #0 Silica Sand
 GROUT TYPE/QUANTITY Portland/Volclay
 DEPTH TO WATER 15.66 (4/14/1999)
 GROUND WATER ELEVATION 971.79 (4/14/1999)
 EASTING 131102.78

FID (ppm)	BLOW COUNTS	SAMPLE ID.	EXTENT DEPTH (ft. BGL)	U.S.C.S.	GRAPHIC LOG	LITHOLOGIC DESCRIPTION	CONTACT DEPTH	WELL DIAGRAM
		SS01				Auger sample through asphalt. Moderate Yellow, SAND w/ asphalt fill, dry (FILL).	1.0	<p>Portland / Volclay Grout</p> <p>Bentonite Seal</p> <p>#0 Filter Sand</p> <p>.010 Slot 2" PVC Schd 40 Screen</p>
		SS02				Medium dense, Black to Dark yellowish Brown, FILL (coal ash), dry, well graded, (FILL).	3.0	
		SS03				Similar to above with some red brick fragments and some glass.	5.0	
		SS04	5			Same as above, with more brick fragments.	6.0	
		SS05				Dense, Pale yellowish Orange to Dark yellowish Brown to White to Black, COAL ASH, dry, well graded, (FILL).	8.0	
		SS06				Same as above.	10.0	
		SS07	10			Loose, Moderate reddish Brown to Greyish Red, COAL ASH, moist, well graded, (Fill).	12.0	
		SS08				Top 0.6 same as above. Bottom 0.7 loose, Olive Black to Black, fine SAND and SILT w/ organics, moist, laminated, poorly graded, (SM, OL).	14.0	
		SS09				Top 0.9 same as above. Bottom 0.1 Loose, Olive Gray, SAND, wet, well graded, (SW).	15.0	
		SS10	15			Top 0.5 same as above (Top). Bottom 1.0 loose, Olive Gray, SAND, few organics, laminated, wet, poorly graded, (SP).	17.0	
		SS11				Top 1.8 similar to above, well graded, few organics, (SW), Bottom 0.3 dense, Light olive Gray, GRAVEL w/ some silt and fine sand, wet, well graded, sub-angular, (GW).	19.0	

BORING_WELL_P009-GPJ_HSI_MA_G0T_4/22/99