



SDMS # 159507

01-0412

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

Transmitted Via Federal Express

July 27, 2001

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

Dean Tagliaferro
On Scene Coordinator
U.S. Environmental Protection Agency
c/o Roy F. Weston, Inc.
One Lyman Street
Pittsfield, Massachusetts 01201

Re: **GE-Pittsfield/Housatonic River Site
Upper ½-Mile Reach Removal Action (GECD800) and Plant Site 1 GMA (GECD310)
Cell G2 and Cell G3 Monitoring Results and Proposed Modification to
Baseline Monitoring Program for Plant Site 1 Groundwater Management Area (GMA 1)**

Dear Messrs. Olson and Tagliaferro:

On November 17, 2000, GE submitted a document entitled *Results of Cell G2 NAPL Investigation and Proposal to Address Presence of LNAPL in Cell G2* (Cell G2 Proposal). GE also submitted a similar proposal, entitled *Results of Cell G3 DNAPL Investigation and Proposal to Address Presence of DNAPL in Cell G3* (Cell G3 Proposal) to EPA on January 4, 2001. In these proposals, GE outlined, and requested approval of, plans to install groundwater monitoring and temporary recovery wells to monitor and control (if necessary) light and dense non-aqueous phase liquid (LNAPL and DNAPL, respectively) in the Cell G2 and Cell G3 areas of the Upper ½-Mile Reach Removal Action. Subsequently, by two letters (both dated January 18, 2001), the United States Environmental Protection Agency (EPA), after consultation with the Massachusetts Department of Environmental Protection (MDEP), granted conditional approval of the Cell G2 and Cell G3 Proposals. Details pertaining to GE's activities related to well installation and subsequent monitoring of the Cell G2 and Cell G3 wells are further discussed below.

Cell G2

Following completion activities at Cell G2, GE installed three perimeter monitoring wells and one temporary NAPL recovery well on the landward side (i.e., north) of the containment barrier, as shown on Figure 1. Specifically, on January 15, 2001, GE installed one monitoring well (HR-G2-MW-1) outside the east end of the containment barrier and one well (HR-G2-MW-2) between the ends of the containment barrier. GE installed an angled well (HR-G2-RW-1) between the ends of the containment barrier on January 22, 2001, to potentially be utilized as a NAPL recovery well in the event that recoverable quantities of NAPL were present in this area. GE installed the final monitoring well (HR-G2-MW-3) outside the west end of the containment barrier on June 12, 2001. Well installation and development

activities were performed in accordance with GE's approved *Field Sampling Plan/Quality Assurance Project Plan* (FSP/QAPP). Well construction logs are provided in Attachment A.

Following well installation and development, GE has monitored the wells on a weekly basis to confirm that NAPL is not present outside the limits of the containment barrier and to assess whether additional investigative or response actions are appropriate. Each of the new Cell G2 wells has been monitored for a minimum of four weeks per well. To complement the Cell G2 data set, GE also monitored two existing upgradient wells (ES2-2A and ES2-7) during high water table periods (as well as on other occasions as part of other routine monitoring programs at the plant site 1 Groundwater Management Area [GMA 1]). GE also attempted to monitor previously-installed well ES2-2 as requested in EPA's January 18, 2001 conditional approval letter, but this well could not be located, and EPA provided verbal approval that this well could be excluded from the monitoring program. Table 1 contains a summary of the Cell G2 groundwater and NAPL monitoring results.

To date, LNAPL has been observed in the recovery well (HR-G2-RW-1) on six occasions (out of 27 monitoring events), each time at the minimum measurable thickness of 0.01 feet. However, LNAPL has not been detected in any of the perimeter upgradient Cell G2 wells during this monitoring period. DNAPL has not been observed in any of the wells in this area, including the recovery well.

A groundwater elevation contour map encompassing Cell G2 and surrounding portions of East Street Area 2-South is provided on attached Figure 2. As seen on Figure 2, a slight groundwater mound is evident behind the Cell G2 sheetpile at well HR-G2-MW-2. The magnitude of this apparent mound (approximately 0.2 feet) is within the range predicted from prior groundwater flow modeling for this area, as discussed below.

GE has reviewed the groundwater elevation data collected since the installation of the Cell G2 containment barrier to assess the degree of groundwater mounding behind the sheetpile containment barrier, as compared to the results of prior groundwater flow modeling. In the Cell G2 Proposal, the Visual MODFLOW™ program was utilized to evaluate the potential of water table mounding associated with the sheetpile containment barrier. Analysis of the model indicated that groundwater mounding north of the sheetpile wall would be minor (i.e., mounding by approximately 0.3 feet within 20 feet of the wall) and that groundwater recovery behind the wall did not appear to be necessary. Groundwater elevation measurements that were collected during this monitoring period indicate that significant groundwater mounding behind the sheetpile containment barrier is not occurring. A groundwater elevation hydrograph for the wells nearest the sheetpile containment barrier is included as Figure 3. As seen on the hydrograph, the highest groundwater elevations on most dates are generally at well HR-G2-MW-2, which is located behind the center of the sheetpile wall. However, a consistent pattern of groundwater mounding which would require additional control efforts is not observed at this time. Rather, the effect of the sheetpile wall is limited to potentially causing a delay in groundwater movement behind the sheetpile wall. The data presented on the hydrograph indicates that during periods when the general groundwater level is rising, little or no mounding effect is observed at well HR-G2-MW-2. However, when area groundwater elevations undergo a decrease, a lag in the drop in groundwater elevation is observed at well HR-G2-MW-2. This "lag time" effect does not warrant any groundwater recovery efforts behind the sheetpile at this time, since the groundwater elevations are within the range of typical fluctuations that have been observed throughout this area.

Based on results of the initial monitoring of these wells, GE proposes to continue to monitor each of the three Cell G2 monitoring wells and the temporary recovery well for NAPL, but (given the minimal

amount of NAPL detected to date) to change the NAPL monitoring frequency of these wells from weekly to monthly. Further, since (as anticipated) groundwater mounding is not occurring in any appreciable amount in the area, additional groundwater recovery associated with the Cell G2 containment barrier is not proposed. GE will continue to monitor and evaluate the Cell G2 monitoring wells for the presence of NAPL and for potential groundwater mounding effects as part of the GMA 1 program.

Cell G3

On June 12 and June 13, 2001, GE installed two groundwater monitoring wells (HR-G3-MW-1 and HR-G3-MW-2) outside the east and west ends of the Cell G3 containment barrier, respectively. In addition, GE installed one NAPL recovery well (HR-G3-RW-1) between the ends of the Cell G3 containment barrier on March 1, 2001. The locations of these wells are shown on Figure 4 and well construction logs are provided in Attachment B. Well installation and development activities were performed in accordance with GE's FSP/QAPP.

After development, GE monitored the wells on a weekly basis to assess the presence of NAPL outside the limits of the containment barrier, and to assess whether further actions are appropriate. During initial sampling of the recovery well (HR-G3-RW-1), a trace amount of NAPL was observed on the measuring probe, but a measurable NAPL thickness was not present. During subsequent monitoring events, NAPL was not detected in this well, or at either of the other two Cell G3. Additionally, water level measurements that were observed during this monitoring period indicated that groundwater mounding behind the sheetpile containment barrier is not occurring. Table 2 contains a summary of the Cell G3 NAPL monitoring results. GE also attempted to monitor previously-installed well 18, as requested in EPA's January 18, 2001 conditional approval letter, but this well could not be located and EPA provided verbal approval that this well could be excluded from the monitoring program.

A groundwater elevation contour map encompassing Cell G3 and surrounding portions of East Street Area 2-South is provided on attached Figure 2. As seen on Figure 2, groundwater mounding has not occurred behind the Cell G3 sheetpile.

GE has reviewed the groundwater elevation data collected since the installation of the wells surrounding the Cell G3 containment barrier to assess the degree of groundwater mounding behind the sheetpile containment barrier, as compared to the results of prior groundwater flow modeling. In the Cell G3 Proposal, the Visual MODFLOW™ program was utilized to evaluate the potential of water table mounding associated with the sheetpile containment barrier. Analysis of the model indicated that groundwater mounding north of the sheetpile wall would be minimal (i.e., mounding by approximately 0.5 feet within 20.5 feet of the wall) and that groundwater recovery behind the wall did not appear to be necessary. Groundwater elevation measurements that were collected during this monitoring period (see Table 2) concur with the prediction of the model. A groundwater elevation hydrograph for the wells nearest the sheetpile containment barrier is included as Figure 5. As seen on the hydrograph, the groundwater elevations at each of the three wells near the containment barrier are nearly identical. A slight "lag time" effect in the decrease in groundwater elevations at well HR-G3-RW-1 may be taking place, but it is much less than that observed at well HR-G2-MW-2 in Cell G2. Based on these observations, groundwater recovery efforts behind the sheetpile are not considered necessary at this time.

Based on the results of the initial monitoring of these wells, GE proposes certain changes to the baseline groundwater monitoring program GMA 1 as it relates to the Cell G3 wells. GE proposes to continue to monitor each Cell G3 monitoring well and the temporary recovery well for NAPL, but (given the absence

of NAPL detected to date) to change the NAPL monitoring frequency from weekly to monthly. Further, because groundwater mounding is not occurring in any appreciable amount in this area, additional groundwater recovery associated with the Cell G3 containment barrier is not proposed. GE will continue to monitor and evaluate the Cell G3 monitoring wells for the presence of NAPL and for potential groundwater mounding effects as part of the GMA 1 monitoring program.

In addition, in a progress report sent to EPA on May 18, 2001 concerning the GMA 1 baseline groundwater monitoring program, GE proposed to replace a perimeter monitoring well which could not be located during field inspections (well ES2-3) with one of the Cell G3 wells (HR-G3-MW-1 or HR-G3-MW-2). Based on the results of the initial weekly monitoring of the Cell G3 wells, GE has selected well HR-G3-MW-2 to replace well ES2-3 in the baseline monitoring program for GMA 1. This well has been selected based on its proximity to the former location of ES2-3 and downgradient position relative to the Cell G3 sheetpile containment barrier.

If you have any questions, please feel free to contact me.

Sincerely,

Andrew T Silfer /wcu

Andrew T. Silfer, P.E.
GE Project Coordinator

Enclosures

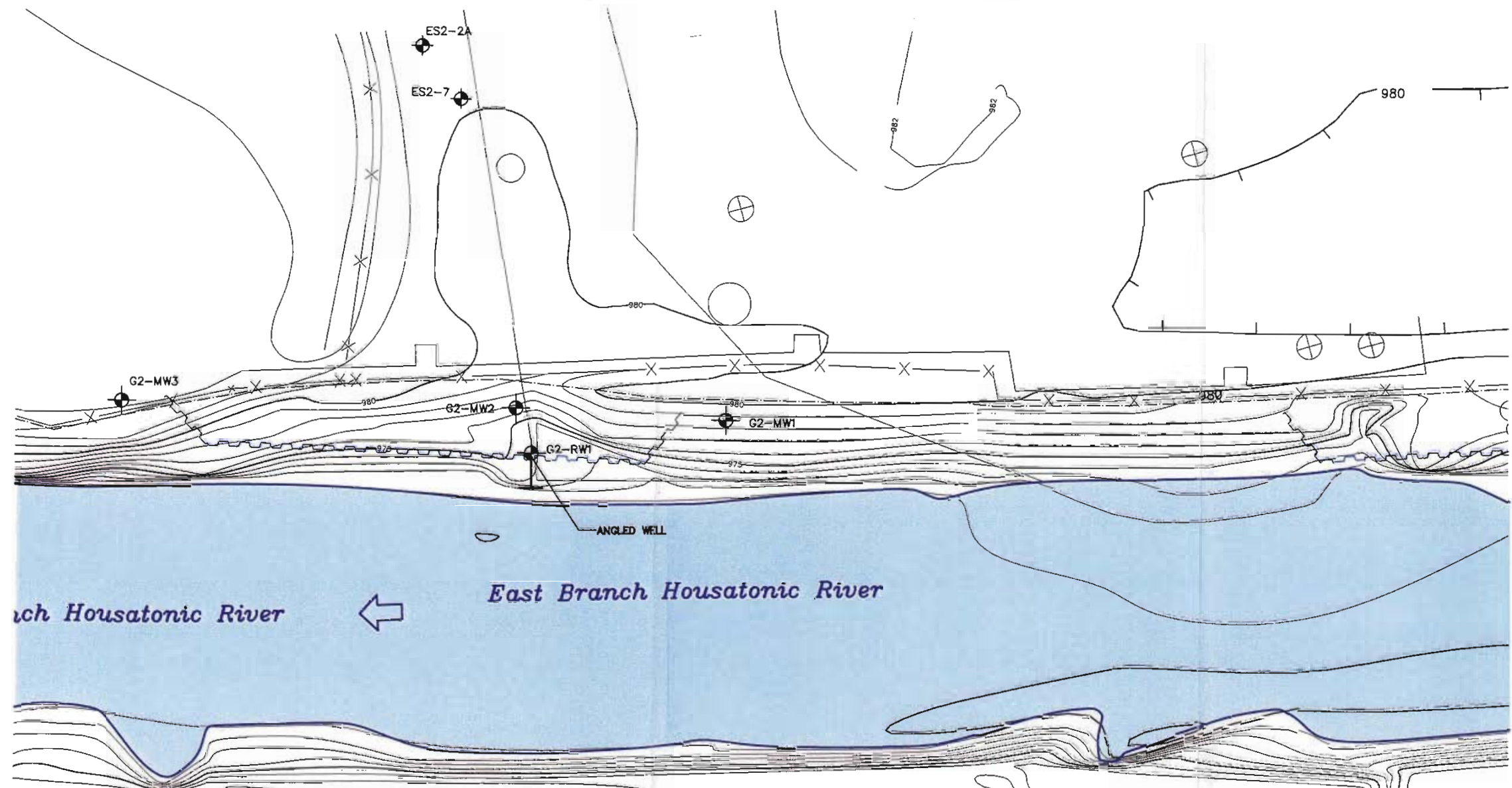
cc: T. Conway, EPA (without enclosures)
H. Inglis, EPA
M. Nalipinski, EPA
J. Cutler, MDEP (2 copies)
S. Steenstrup, MDEP
S. Keydel, MDEP
A. Weinberg, MDEP (without enclosures)
R. Bell, MDEP (without enclosures)
T. Angus, MDEP (without enclosures)
C. Fredette, CT DEP
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K. Mitkevicius, USACE
D. Jamros, Weston
N.E. Harper, MA AG
D. Young, MA EOEA
Mayor G. Doyle, City of Pittsfield
M. Carroll, GE
R. McLaren, GE
J. Novotny, GE
S. Messur, BBL
S. Gutter, Sidley & Austin

J. Bernstein, Bernstein, Cushner & Kimmel
J. Bieke, Shea & Gardner
Public Information Repositories
GE Internal Repositories

Figures

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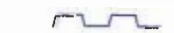
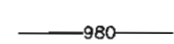

engineers & scientists

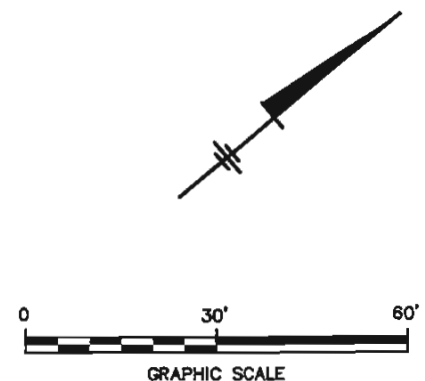


NOTES:

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.

LEGEND:

-  CONTAINMENT BARRIER LOCATION
-  GROUND ELEVATION CONTOUR (PRIOR TO EXCAVATION)
-  G2-MW1 MONITORING WELL LOCATION



GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS REMEDIAL ACTION - UPPER 1/2-MILE REACH OF HOUSATONIC RIVER	
CELL G2 MONITORING WELL LOCATIONS	
BBL	BLASLAND, BOUCK & LEE, INC. engineers & scientists
FIGURE 1	



LEGEND

- PROP-1 / ES2-1 MONITORING WELL
- 64X(W) ACTIVE GROUNDWATER AND OIL RECOVERY WELL/CAISSON
- WP-3 EXISTING PIEZOMETER
- (977.77) GROUNDWATER ELEVATION (IN FEET AMSL)
- 971 GROUNDWATER ELEVATION CONTOUR (IN FEET AMSL)
- CONTAINMENT BARRIER LOCATION

- NOTES:**
1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. - FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY, AND BLASLAND, BOUCK & LEE, INC. CONSTRUCTION PLANS.
 2. NOT ALL PHYSICAL FEATURES SHOWN.
 3. SITE BOUNDARY IS APPROXIMATE.
 4. ALL MONITORING WELL LOCATIONS ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
 REMEDIAL ACTION - UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

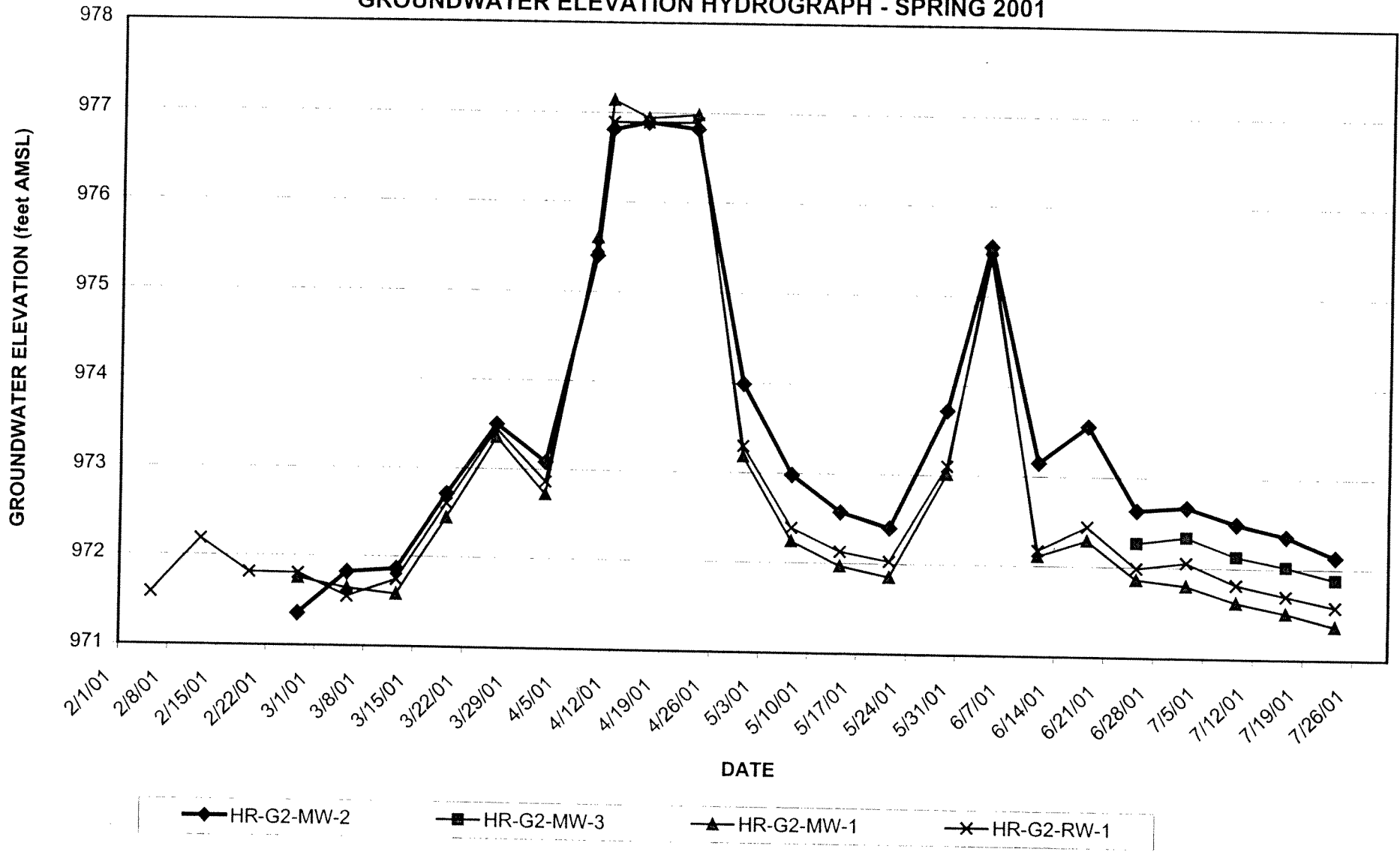
**GROUNDWATER CONTOURS
 APRIL 2001**

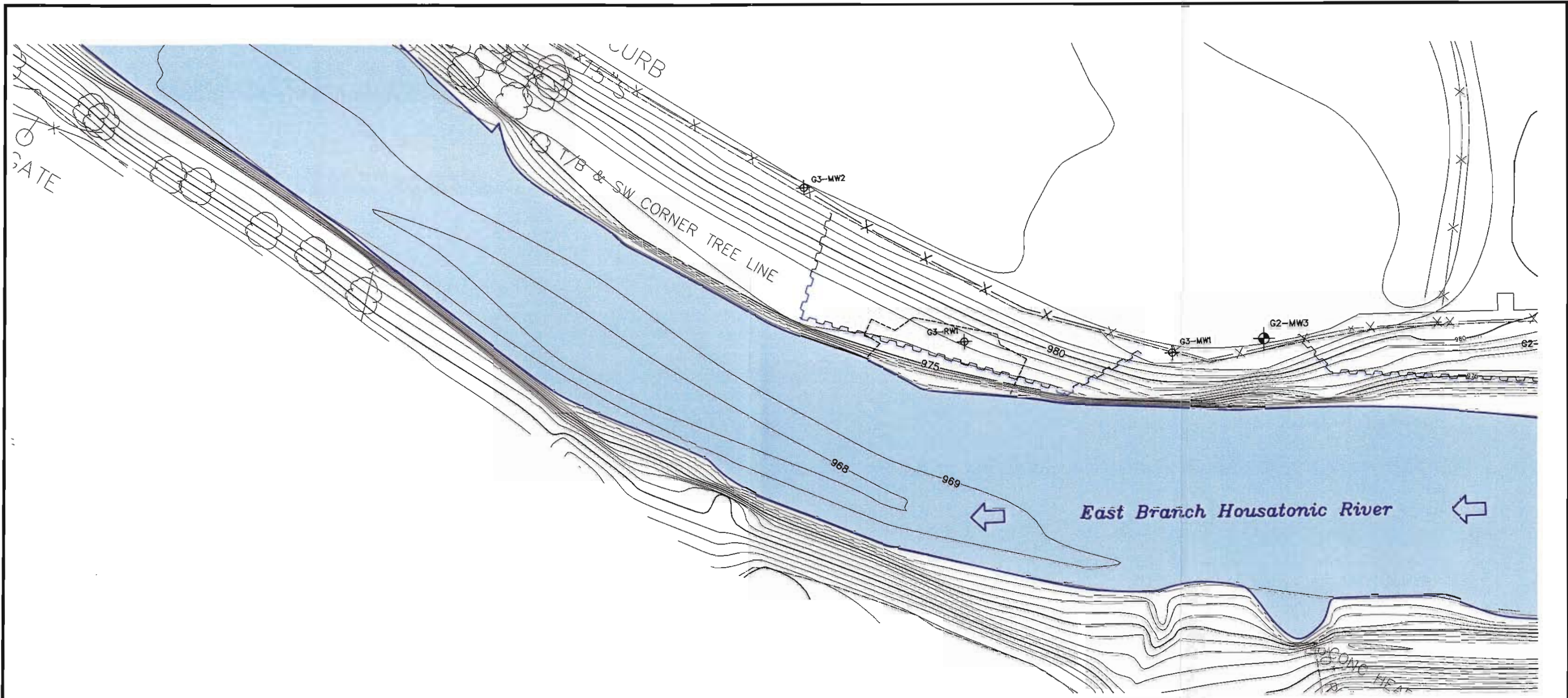
BBL
 BLASLAND, BOUCK & LEE, INC.
 an O'Neil & Jones, Inc. Company

FIGURE
2

JK: 10113X02
 P: DL28
 7/27/01 51R-54-PGL PGL LAS
 10113001/10113W01.DWG

FIGURE 3
GE-PITTSFIELD/HOUSATONIC RIVER SITE - UPPER 1/2-MILE REACH REMOVAL ACTION
CELL G2 SHEETPILE CONTAINMENT BARRIER
GROUNDWATER ELEVATION HYDROGRAPH - SPRING 2001

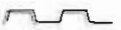
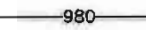
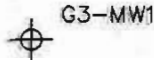


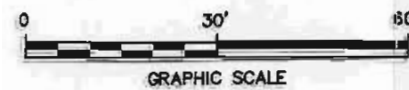


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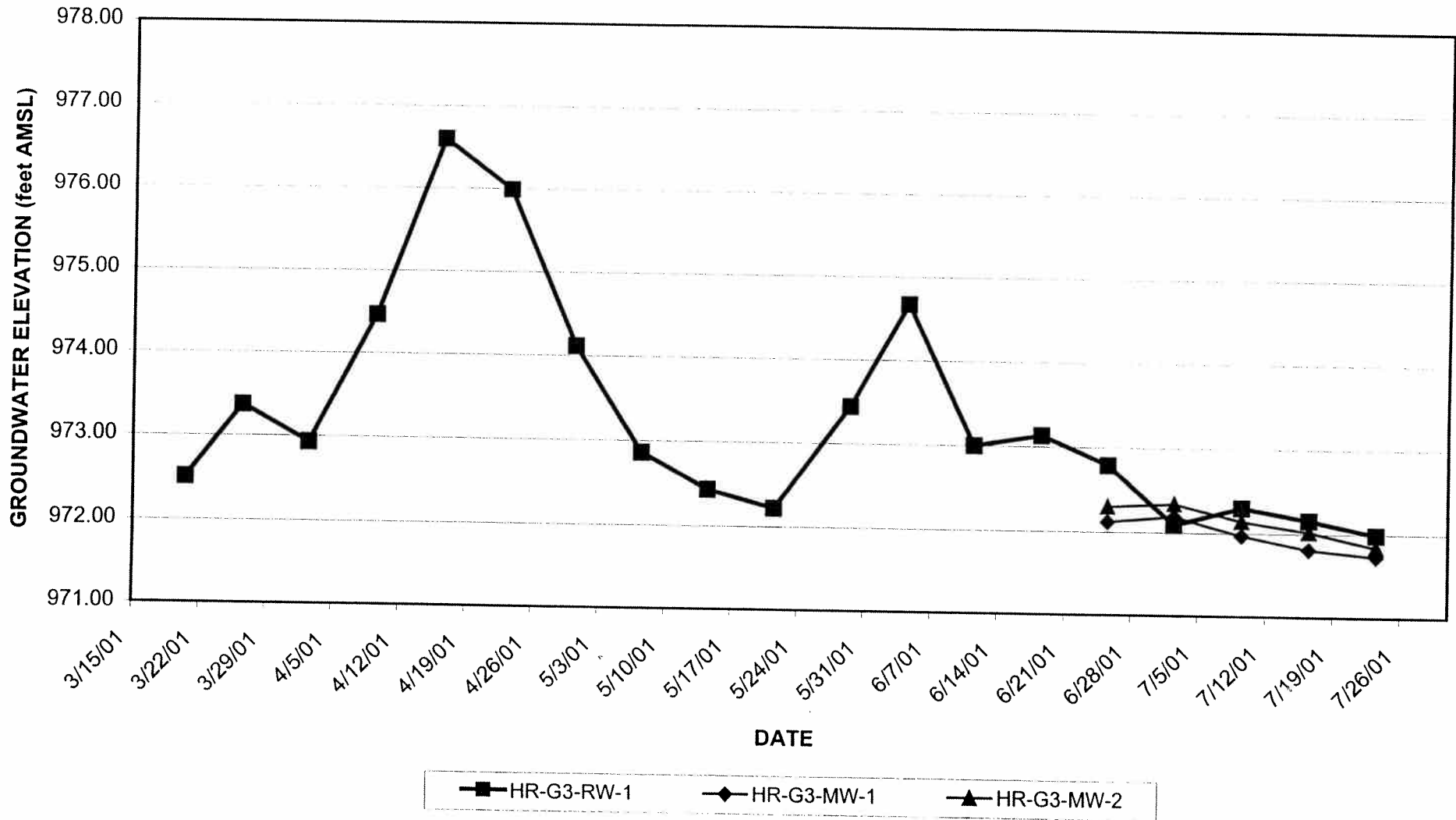
LEGEND:

-  CONTAINMENT BARRIER LOCATION
-  980 GROUND ELEVATION CONTOUR (PRIOR TO EXCAVATION)
-  G3-MW1 MONITORING WELL LOCATION



GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS REMEDIAL ACTION - UPPER 1/2-MILE REACH OF HOUSATONIC RIVER	
CELL G3 MONITORING WELL LOCATIONS	
BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists	FIGURE 4

FIGURE 5
GE-PITTSFIELD/HOUSATONIC RIVER SITE - UPPER 1/2-MILE REACH REMOVAL ACTION
CELL G3 SHEETPILE CONTAINMENT BARRIER
GROUNDWATER ELEVATION HYDROGRAPH - SPRING 2001



Tables

BLASLAND, BOUCK & LEE, INC.

engineers & scientists

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
ES2-2A	04/11/01	979.54	2.58	---	17.16	0.00	976.96	0.00
ES2-2A	04/16/01	979.54	2.66	---	17.35	0.00	976.88	0.00
ES2-2A	04/17/01	979.54	2.99	---	Not Measured	0.00	976.55	0.00
ES2-2A	04/23/01	979.54	3.35	---	17.40	0.00	976.19	0.00
ES2-2A	6/4/01	979.54	3.56	---	17.38	0.00	975.98	0.00
ES2-2A	6/6/01	979.54	5.30	---	N/M	0.00	974.24	0.00
ES2-2A	6/22/01	979.54	6.92	---	17.12	0.00	972.62	0.00
ES2-2A	7/2/01	979.54	7.05	---	17.16	0.00	972.49	0.00
ES2-2A	7/9/01	979.54	7.21	---	17.15	0.00	972.33	0.00
ES2-2A	7/16/01	979.54	7.30	---	17.17	0.00	972.24	0.00
ES2-2A	7/23/01	979.54	7.45	---	17.30	0.00	972.09	0.00
ES2-7	04/11/01	980.03	3.35	---	42.68	0.00	976.68	0.00
ES2-7	04/16/01	980.03	2.98	---	42.69	0.00	977.05	0.00
ES2-7	04/17/01	980.03	3.30	---	Not Measured	0.00	976.73	0.00
ES2-7	04/23/01	980.03	3.28	---	42.68	0.00	976.75	0.00
ES2-7	6/4/01	980.03	4.55	---	42.69	0.00	975.48	0.00
ES2-7	6/6/01	980.03	5.30	---	N/M	0.00	974.73	0.00
ES2-7	6/22/01	980.03	7.02	---	42.68	0.00	973.01	0.00

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
ES2-7	7/2/01	980.03	7.03	---	42.69	0.00	973.00	0.00

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
ES2-7	7/9/01	980.03	7.23	---	42.70	0.00	972.80	0.00
ES2-7	7/16/01	980.03	7.34	---	42.69	0.00	972.69	0.00
ES2-7	7/23/01	980.03	7.47	---	42.69	0.00	972.56	0.00
HR-G2-MW-1	02/26/01	982.60	10.85	---	18.29	0.00	971.75	0.00
HR-G2-MW-1	03/05/01	982.60	10.96	---	18.29	0.00	971.64	0.00
HR-G2-MW-1	03/12/01	982.60	11.02	---	18.30	0.00	971.58	0.00
HR-G2-MW-1	03/19/01	982.60	10.16	---	18.29	0.00	972.44	0.00
HR-G2-MW-1	03/26/01	982.60	9.25	---	18.29	0.00	973.35	0.00
HR-G2-MW-1	04/02/01	982.60	9.88	---	18.28	0.00	972.72	0.00
HR-G2-MW-1	04/09/01	982.60	7.00	---	18.28	0.00	975.60	0.00
HR-G2-MW-1	04/11/01	982.60	5.46	---	18.28	0.00	977.14	0.00
HR-G2-MW-1	04/16/01	982.60	5.66	---	18.28	0.00	976.94	0.00
HR-G2-MW-1	04/23/01	982.60	5.62	---	18.28	0.00	976.98	0.00
HR-G2-MW-1	04/30/01	982.60	9.42	---	18.26	0.00	973.18	0.00
HR-G2-MW-1	05/07/01	982.60	10.36	---	18.27	0.00	972.24	0.00
HR-G2-MW-1	05/14/01	982.60	10.63	---	18.28	0.00	971.97	0.00
HR-G2-MW-1	05/21/01	982.60	10.75	---	18.28	0.00	971.85	0.00
HR-G2-MW-1	05/29/01	982.60	9.59	---	18.28	0.00	973.01	0.00
HR-G2-MW-1	06/04/01	982.60	7.06	---	18.28	0.00	975.54	0.00

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
HR-G2-MW-1	6/11/01	982.60	10.49	---	18.28	0.00	972.11	0.00
HR-G2-MW-1	6/18/01	982.60	10.31	---	18.29	0.00	972.29	0.00
HR-G2-MW-1	6/25/01	982.60	10.74	---	18.27	0.00	971.86	0.00
HR-G2-MW-1	7/2/01	982.60	10.80	---	18.27	0.00	971.80	0.00
HR-G2-MW-1	7/9/01	982.60	10.98	---	18.27	0.00	971.62	0.00
HR-G2-MW-1	7/16/01	982.60	11.09	---	18.27	0.00	971.51	0.00
HR-G2-MW-1	7/23/01	982.60	11.23	---	18.28	0.00	971.37	0.00
HR-G2-MW-2	02/26/01	981.39	10.03	---	17.69	0.00	971.36	0.00
HR-G2-MW-2	03/05/01	981.39	9.57	---	17.69	0.00	971.82	0.00
HR-G2-MW-2	03/12/01	981.39	9.53	---	17.69	0.00	971.86	0.00
HR-G2-MW-2	03/19/01	981.39	8.68	---	17.69	0.00	972.71	0.00
HR-G2-MW-2	03/26/01	981.39	7.89	---	17.69	0.00	973.50	0.00
HR-G2-MW-2	04/02/01	981.39	8.31	---	17.69	0.00	973.08	0.00
HR-G2-MW-2	04/09/01	981.39	5.99	---	17.68	0.00	975.40	0.00
HR-G2-MW-2	04/11/01	981.39	4.58	---	17.68	0.00	976.81	0.00
HR-G2-MW-2	04/16/01	981.39	4.50	---	17.68	0.00	976.89	0.00
HR-G2-MW-2	04/23/01	981.39	4.57	---	17.68	0.00	976.82	0.00
HR-G2-MW-2	04/30/01	981.39	7.40	---	17.68	0.00	973.99	0.00
HR-G2-MW-2	05/07/01	981.39	8.41	---	17.68	0.00	972.98	0.00

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
HR-G2-MW-2	05/14/01	981.39	8.82	---	17.68	0.00	972.57	0.00
HR-G2-MW-2	05/21/01	981.39	8.99	---	17.68	0.00	972.40	0.00
HR-G2-MW-2	05/29/01	981.39	7.67	---	17.68	0.00	973.72	0.00
HR-G2-MW-2	06/04/01	981.39	5.84	---	17.68	0.00	975.55	0.00
HR-G2-MW-2	06/11/01	981.39	8.24	---	17.68	0.00	973.15	0.00
HR-G2-MW-2	6/18/01	981.39	7.83	---	17.68	0.00	973.56	0.00
HR-G2-MW-2	6/25/01	981.39	8.76	---	17.68	0.00	972.63	0.00
HR-G2-MW-2	7/2/01	981.39	8.72	---	17.68	0.00	972.67	0.00
HR-G2-MW-2	7/9/01	981.39	8.90	---	17.68	0.00	972.49	0.00
HR-G2-MW-2	7/16/01	981.39	9.03	---	17.68	0.00	972.36	0.00
HR-G2-MW-2	7/23/01	981.39	9.26	---	17.68	0.00	972.13	0.00
HR-G2-MW-3	6/26/01	987.14	14.87	---	22.02	0.00	972.27	0.00
HR-G2-MW-3	7/2/01	987.14	14.80	---	22.02	0.00	972.34	0.00
HR-G2-MW-3	7/9/01	987.14	15.01	---	22.01	0.00	972.13	0.00
HR-G2-MW-3	7/16/01	987.14	15.12	---	22.02	0.00	972.02	0.00
HR-G2-MW-3	7/23/01	987.14	15.26	---	22.02	0.00	971.88	0.00
HR-G2-RW-1	1/26/01	976.88	14.90	---	18.85	0.00	965.75	0.00
HR-G2-RW-1	1/29/01	976.88	14.83	---	18.74	0.00	965.80	0.00
HR-G2-RW-1	2/5/01	976.88	7.09	---	18.71	0.00	971.58	0.00

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
HR-G2-RW-1	2/12/01	976.88	6.29	---	18.70	0.00	972.18	0.00
HR-G2-RW-1	2/19/01	976.88	6.79	---	18.73	0.00	971.81	0.00
HR-G2-RW-1	2/26/01	976.88	6.80	---	18.73	0.00	971.80	0.00
HR-G2-RW-1	3/5/01	976.88	See Note 6	---	---	---	---	0.00
HR-G2-RW-1	3/12/01	976.88	6.88	---	18.73	0.00	971.74	0.00
HR-G2-RW-1	3/19/01	976.88	5.74	5.73	18.73	0.01	972.60	0.00
HR-G2-RW-1	3/26/01	976.88	4.61	4.60	18.73	0.01	973.44	0.00
HR-G2-RW-1	4/2/01	976.88	5.39	5.38	18.74	0.01	972.86	0.00
HR-G2-RW-1	4/9/01	976.88	1.85	---	18.75	0.00	975.50	0.00
HR-G2-RW-1	4/11/01	976.88	See Note 7	---	---	---	>976.88	0.00
HR-G2-RW-1	4/16/01	976.88	See Note 7	---	---	---	>976.88	0.00
HR-G2-RW-1	4/23/01	976.88	See Note 7	---	---	---	>976.88	0.00
HR-G2-RW-1	4/30/01	976.88	4.81	4.80	18.72	0.01	973.29	0.00
HR-G2-RW-1	5/7/01	976.88	6.01	---	18.68	0.00	972.39	0.00
HR-G2-RW-1	5/14/01	976.88	6.36	---	18.69	0.00	972.13	0.00
HR-G2-RW-1	5/21/01	976.88	6.50	---	18.74	0.00	972.02	0.00
HR-G2-RW-1	5/29/01	976.88	5.06	---	18.73	0.00	973.10	0.00
HR-G2-RW-1	6/4/01	976.88	1.98	1.97	18.71	0.01	975.41	0.00
HR-G2-RW-1	6/11/01	976.88	6.30	---	18.70	0.00	972.17	0.00

TABLE 1

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-2 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP) ⁴	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
HR-G2-RW-1	6/18/01	976.88	5.94	---	18.73	0.00	972.44	0.00
HR-G2-RW-1	6/25/01	976.88	6.55	---	18.71	0.00	971.99	0.00
HR-G2-RW-1	7/2/01	976.88	6.46	---	18.72	0.00	972.05	0.00
HR-G2-RW-1	7/9/01	976.88	6.79	6.78	18.72	0.01	971.82	0.00
HR-G2-RW-1	7/16/01	976.88	6.94	---	18.72	0.00	971.70	0.00
HR-G2-RW-1	7/23/01	976.88	7.10	---	18.72	0.00	971.58	0.00

Notes:

1. NAPL = Non-Aqueous Phase Liquid.
2. MP = Measuring Point
3. Feet AMSL = Feet Above Mean Sea Level
4. Well HR-G2-RW-1 is constructed at an angle of 41.67 degrees from vertical. Depth to water data reflect measurements collected along the angled well casing. Groundwater elevations are corrected to account for the angle of the well casing.
5. Water table elevations for wells containing LNAPL were computed as follows:

$$\text{Water Table Elevation} = \text{Measuring Point Elevation} - \text{Depth to Water} + (\text{LNAPL Thickness} \times \text{Specific Density of LNAPL})$$
 Specific Density of LNAPL estimated at 0.93.
6. Well HR-G2-RW-1 was frozen at a depth of 7.13 feet on March 5, 2001; therefore measurements could not be collected.
7. The top of well HR-G2-RW-1 was submerged; therefore measurements could not be collected.

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-3 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP)	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL)	NAPL Removal (Liters)
HR-G3-MW-1	6/26/01	987.18	15.06	---	17.75	0.00	972.12	0.00
HR-G3-MW-1	7/2/01	987.18	14.99	---	17.75	0.00	972.19	0.00
HR-G3-MW-1	7/9/01	987.18	15.21	---	17.75	0.00	971.97	0.00
HR-G3-MW-1	7/16/01	987.18	15.37	---	17.75	0.00	971.81	0.00
HR-G3-MW-1	7/23/01	987.18	15.45	---	17.75	0.00	971.73	0.00
HR-G3-MW-2	6/26/01	987.88	15.58	---	17.73	0.00	972.30	0.00
HR-G3-MW-2	7/2/01	987.88	15.54	---	17.74	0.00	972.34	0.00
HR-G3-MW-2	7/9/01	987.88	15.74	---	17.74	0.00	972.14	0.00
HR-G3-MW-2	7/16/01	987.88	15.86	---	17.74	0.00	972.02	0.00
HR-G3-MW-2	7/23/01	987.88	16.04	---	17.74	0.00	971.84	0.00
HR-G3-RW-1	3/20/01	977.78	5.27	See Note 4	9.25	<0.01	972.51	0.00
HR-G3-RW-1	3/26/01	977.78	4.41	---	9.17	0.00	973.37	0.00
HR-G3-RW-1	4/2/01	977.78	4.85	---	9.09	0.00	972.93	0.00
HR-G3-RW-1	4/9/01	977.78	3.32	---	9.01	0.00	974.46	0.00
HR-G3-RW-1	4/16/01	977.78	1.18	---	8.98	0.00	976.60	0.00
HR-G3-RW-1	4/23/01	977.78	1.79	---	8.95	0.00	975.99	0.00
HR-G3-RW-1	4/30/01	977.78	3.67	---	8.93	0.00	974.11	0.00
HR-G3-RW-1	5/7/01	977.78	4.92	---	8.85	0.00	972.86	0.00
HR-G3-RW-1	5/14/01	977.78	5.35	---	8.80	0.00	972.43	0.00

TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS

UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL G-3 SHEETPILE CONTAINMENT BARRIER MONITORING RESULTS

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet below MP)	Depth to NAPL (Feet below MP)	Total Depth (Feet below MP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL)	NAPL Removal (Liters)
HR-G3-RW-1	5/21/01	977.78	5.56	---	8.82	0.00	972.22	0.00
HR-G3-RW-1	5/29/01	977.78	4.34	---	8.82	0.00	973.44	0.00
HR-G3-RW-1	6/4/01	977.78	3.11	---	8.81	0.00	974.67	0.00
HR-G3-RW-1	6/11/01	977.78	4.78	---	8.81	0.00	973.00	0.00
HR-G3-RW-1	6/18/01	977.78	4.65	---	8.78	0.00	973.13	0.00
HR-G3-RW-1	6/25/01	977.78	4.99	---	8.79	0.00	972.79	0.00
HR-G3-RW-1	7/2/01	977.78	5.69	---	8.74	0.00	972.09	0.00
HR-G3-RW-1	7/9/01	977.78	5.48	---	8.73	0.00	972.30	0.00
HR-G3-RW-1	7/16/01	977.78	5.62	---	8.65	0.00	972.16	0.00
HR-G3-RW-1	7/23/01	977.78	5.79	---	8.66	0.00	971.99	0.00

Notes:

1. NAPL = Non-Aqueous Phase Liquid.
2. MP = Measuring Point
3. Feet AMSL = Feet Above Mean Sea Level
4. A trace of NAPL was observed on the measuring probe, but a measurable NAPL thickness was not present.

Attachments

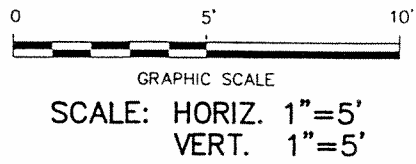
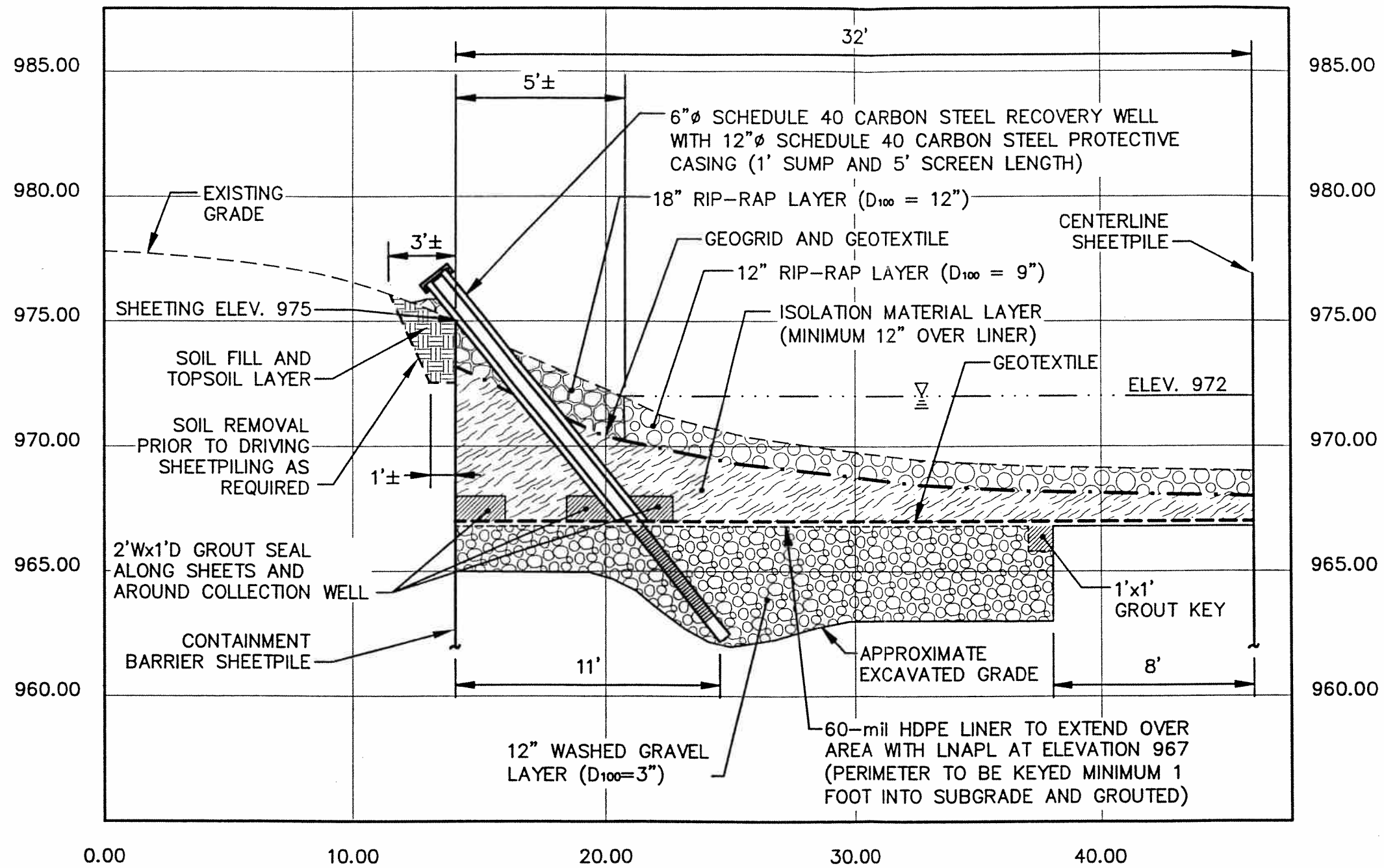
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engineers & scientists

Attachment A

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GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
 REMOVAL ACTION
 UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

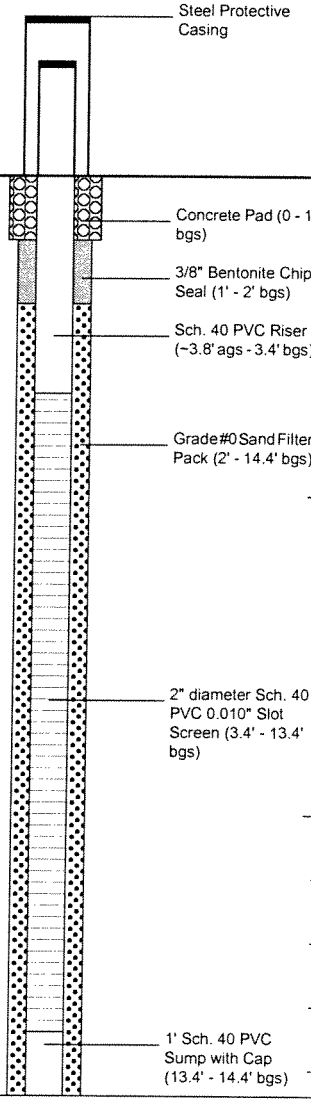
WELL HR-G2-RW-1

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

FIGURE
A-1

X: NONE
 L: ON=, OFF=REF
 P: PAGESET: PLT-BL
 7/26/01 SYR-54-RCB NES D.J.P
 20197030/CELLG2/2019708.DWG

Date Start/Finish: 2/15/01 Drilling Company: Weston Driller's Name: M. Eschbacher Drilling Method: Hollow Stem Auger Bit Size: NA Auger Size: 4 1/4" ID Rig Type: Tractor-Mounted Rig Sampling Method:	Northing: 532985.872263 Easting: 132603.969241 Casing Elevation: 982.86' Borehole Depth: 14.4' below grade Surface Elevation: 979.06' Geologist: L. Sanders	Well/Boring ID: HR-G2-MW-1 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell G2 Monitoring Well Installation
---	--	--

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Blows / 6 Inches	N - Value	Geologic Column	Stratigraphic Description	Well/Boring Construction
980	0	NA	NA	NA	NA	NA	NA		No Soil Sampling Conducted.	 <p>Steel Protective Casing</p> <p>Concrete Pad (0 - 1' bgs)</p> <p>3/8" Bentonite Chip Seal (1' - 2' bgs)</p> <p>Sch. 40 PVC Riser (~3.8' ags - 3.4' bgs)</p> <p>Grade #0 Sand Filter Pack (2' - 14.4' bgs)</p> <p>2" diameter Sch. 40 PVC 0.010" Slot Screen (3.4' - 13.4' bgs)</p> <p>1' Sch. 40 PVC Sump with Cap (13.4' - 14.4' bgs)</p>
975	5									
970	10									
965	15									

<h1 style="margin: 0;">BBL</h1> <p style="margin: 0;">BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks:
--	-----------------

Date Start/Finish: 2/15/01
Drilling Company: Weston
Driller's Name: M. Eschbacher
Drilling Method: Hollow Stem Auger
Bit Size: NA
Auger Size: 4 1/4" ID
Rig Type: AMS Power Probe
Sampling Method:

Northing: 532963.359805
Easting: 132559.451234
Casing Elevation: 981.58

Borehole Depth: 14' below grade
Surface Elevation: 977.88'

Geologist: L. Sanders

Well/Boring ID: HR-G2-MW-2

Client: General Electric Company

Location: Housatonic River 1/2 Mile
 Cell G2 Monitoring Well Installation

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Blows / 6 Inches	N - Value	Geologic Column	Stratigraphic Description	Well/Boring Construction
980										Steel Protective Casing
0		NA	NA	NA	NA	NA	NA		No Soil Sampling Conducted.	Concrete Pad (0 - 1' bgs)
975										3/8" Bentonite Chip Seal (1' - 2' bgs)
5										Sch. 40 PVC Riser (~3.7' ags - 3' bgs)
970										Grade #0 Sand Filter Pack (2' - 14' bgs)
10										2" diameter Sch. 40 PVC 0.010" Slot Screen (3' - 13' bgs)
965										1' Sch. 40 PVC Sump with Cap (13' - 14' bgs)
15										

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 engineers & scientists

Remarks:

Date Start/Finish: 6/12/01 Drilling Company: Weston Driller's Name: Drilling Method: Bit Size: NA Auger Size: Rig Type: Sampling Method:	Northing: Easting: Casing Elevation: 988.99' Borehole Depth: 18.8' below grade Surface Elevation: 983.99' Geologist: AMS	Well/Boring ID: HR-G2-MW-3 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell G2 Monitoring Well Installation
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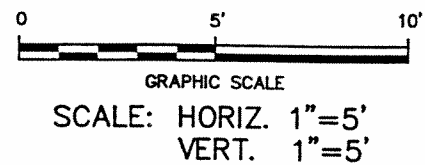
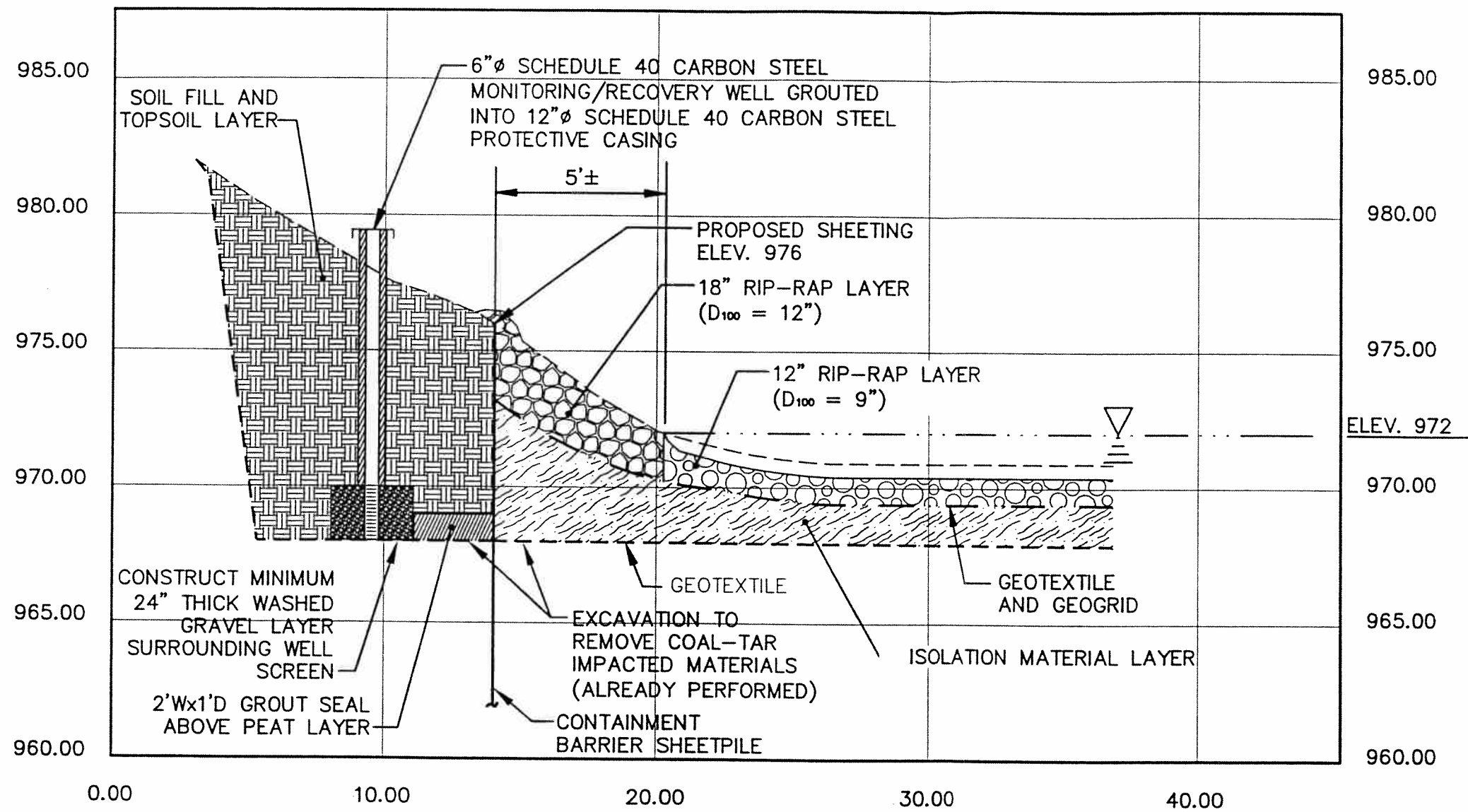
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Blows / 6 Inches	N - Value	Geologic Column	Stratigraphic Description	Well/Boring Construction
5										
	985								No Soil Sampling Conducted.	
5		NA	NA	NA	NA	NA	NA			
10										
15										
20										
25										

<p>BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks:
--	-----------------

Attachment B

BLASLAND, BOUCK & LEE, INC.

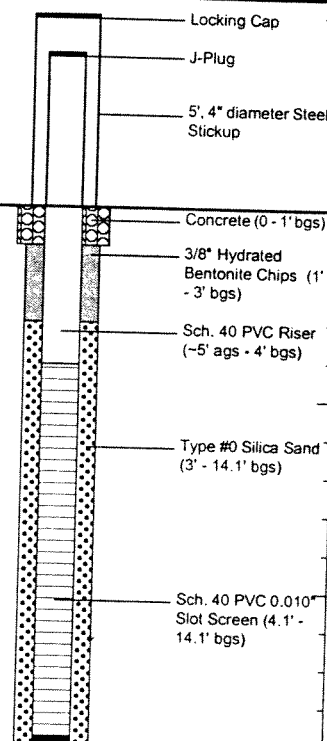
engineers & scientists



GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS REMOVAL ACTION UPPER 1/2-MILE REACH OF HOUSATONIC RIVER	
WELL HR-G3-RW-1	
BBL	BLASLAND, BOUCK & LEE, INC. engineers & scientists
	FIGURE B-1

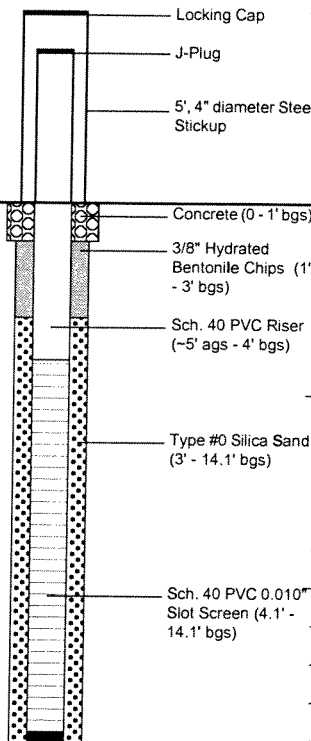
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L: DIM = * OFF = REF*
7/26/01 SYR-54-RCB RCA D.J.P
20197073/20197V08.DWG

Date Start/Finish: 6/12/01 Drilling Company: Weston Driller's Name: Drilling Method: Bit Size: NA Auger Size: Rig Type: Sampling Method:	Northing: Easting: Casing Elevation: 988.60' Borehole Depth: 14.1' below grade Surface Elevation: 983.60' Geologist: AMS	Well/Boring ID: HR-G3-MW-1 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell G2 Monitoring Well Installation
---	---	--

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Blows / 6 Inches	N - Value	Geologic Column	Stratigraphic Description	Well/Boring Construction
5	985									 <p>Locking Cap J-Plug 5', 4" diameter Steel Stickup Concrete (0 - 1' bgs) 3/8" Hydrated Bentonite Chips (1' - 3' bgs) Sch. 40 PVC Riser (-5' ags - 4' bgs) Type #0 Silica Sand (3' - 14.1' bgs) Sch. 40 PVC 0.010" Slot Screen (4.1' - 14.1' bgs)</p>
0	980	NA	NA	NA	NA	NA	NA	No Soil Sampling Conducted.		
5	975									
10	970									
15	965									
20	960									
25										

<h1 style="margin: 0;">BBL</h1> <p style="margin: 0;">BLASLAND, BOUCK & LEE, INC. engineers & scientists</p>	Remarks: Well location moved 4' N due to limited access at original location.
--	--

Date Start/Finish: 6/12/01 Drilling Company: Weston Driller's Name: Drilling Method: Bit Size: NA Auger Size: Rig Type: Sampling Method:	Northing: Easting: Casing Elevation: 989.06' Borehole Depth: 14.1' below grade Surface Elevation: 984.06' Geologist: AMS	Well/Boring ID: HR-G3-MW-2 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell G3 Monitoring Well Installation
---	---	--

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Blows / 6 Inches	N - Value	Geologic Column	Stratigraphic Description	Well/Boring Construction
5										 <p>Locking Cap J-Plug 5', 4" diameter Steel Stickup Concrete (0 - 1' bgs) 3/8" Hydrated Bentonite Chips (1' - 3' bgs) Sch. 40 PVC Riser (~5' bgs - 4' bgs) Type #0 Silica Sand (3' - 14.1' bgs) Sch. 40 PVC 0.010" Slot Screen (4.1' - 14.1' bgs)</p>
985									No Soil Sampling Conducted.	
0	985	NA	NA	NA	NA	NA	NA			
5	980									
10	975									
15	970									
20	965									
25	960									

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Remarks: Well location moved 5' N due to limited access at original location.