



SDMS 39 262

01-0489

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

Transmitted Via Federal Express

May 30, 2002

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 J1 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 28, 2001, the General Electric Company (GE) submitted a document entitled *Results of Cell J1 DNAPL Investigation and Proposal to Address Presence of DNAPL in Cell J1* (Cell J1 Proposal). In that proposal, GE outlined, and requested approval of, plans to remove dense non-aqueous phase liquid (DNAPL) and impacted depositional material from the Housatonic River (as part of the Upper ½-Mile Reach Removal Action), install impermeable sheeting along the river bank to contain DNAPL from potentially migrating towards the River, and install groundwater monitoring wells to monitor for DNAPL near the Cell J1 portion of the Upper ½-Mile Reach Removal Action. Subsequently, by three letters (dated December 17, 2001, January 7, 2002, and March 11, 2002), the United States Environmental Protection Agency (EPA), after consultation with the Massachusetts Department of Environmental Protection (MDEP), granted conditional approval of those components of the Cell J1 Proposal. Details pertaining to GE's activities related to the activities conducted at Cell J1 and subsequent monitoring of Cell J1 wells are further discussed below.

Containment Sheeting Installation and Sediment Removal

During the Cell J1 DNAPL investigation, DNAPL was encountered in the soils along the riverbank adjacent to the upstream portion of Cell J1. In addition, soil borings advanced within the river bottom also encountered DNAPL at depths which exceeded the original proposed excavation limits. As a result, additional remedial measures were proposed in the Cell J1 Proposal. These measures included installation of an impermeable sheetpile wall along the riverbank adjacent to the upstream portion of Cell J1 and excavation of additional river bottom material from Cell J1 (see Figure 1). The activities associated with these remedial measures were previously documented in the status reports associated with

the Upper ½-Mile Reach Removal Action and the monthly status reports for the overall activities at the GE-Pittsfield/Housatonic River Site.

Groundwater and NAPL Monitoring

During restoration activities associated with Cell J1, at the request of EPA, GE constructed a DNAPL observation/recovery well (HR-J1-RW-1) on the river side (i.e., south) of the containment barrier (see Figure 1) to monitor for DNAPL and potentially be utilized as a DNAPL recovery well in the event that recoverable quantities of DNAPL were present in this area. This well was constructed by initially setting an outer 12-inch diameter steel casing at the bottom of the excavation and temporarily attaching the top of it to the adjacent sheeting. The 6-inch diameter steel observation/recovery well and 3/8-inch stone were placed within the outer 12-inch casing and the excavation was backfilled with 1-1/2-inch stone. At this point the 12-inch diameter steel casing was raised to expose the observation/recovery well screen. The remainder of the well was subsequently constructed in conjunction with the remaining restoration activities (e.g., placement of placement of isolation material and rip-rap) associated with the river. Figure 2 provides a cross-section, which depicts the containment barrier, DNAPL observation/recovery well and components used to restore the river.

Following completion activities at Cell J1, GE installed three groundwater/NAPL monitoring wells on the landward side (i.e., north) of the containment barrier, as shown on Figure 1. Specifically, between March 27 and 29, 2002, GE installed two wells, HR-J1-MW-1 and HR-J1-MW-3, outside the east and west ends, respectively, of the containment barrier and one well, HR-J1-MW-2, between the ends of the containment barrier. These wells were installed to monitor for the presence of DNAPL and/or identify if additional investigative measures would be required at or adjacent to Cell J1. In addition, the wells could potentially be utilized as DNAPL recovery wells in the event that recoverable quantities of DNAPL were present in this area. Well installation and development activities were performed in accordance with GE's approved *Field Sampling Plan/Quality Assurance Project Plan* (FSP/QAPP). Construction logs for these three wells are provided in Attachment A.

Following well installation and development, GE has monitored the wells on a weekly basis to confirm that DNAPL 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 J1 wells has been monitored for a minimum of four weeks per well. To complement the Cell J1 data set, GE also monitored five nearby wells (3-6C-EB25, 3-6C-EB26, 3-6C-EB28, 3-6C-EB29, and E-4) as part of other routine monitoring programs at the Plant Site 1 Groundwater Management Area (GMA 1). Table 1 contains a summary of the Cell J1 groundwater and DNAPL monitoring results. To date, DNAPL has not been detected in any of the Cell J1 monitoring wells or recovery well.

Two groundwater elevation contour maps encompassing Cell J1 and the immediate surrounding portion of East Street Area 2-South are provided on Figures 3 and 4, respectively. Figure 3 depicts the groundwater surface elevations for April 2002 (recorded low groundwater elevations) and Figure 4 depicts the groundwater surface elevations for May 2002 (recorded high groundwater elevations). As depicted on Figure 4, a slight groundwater mound is evident behind the Cell J1 containment barrier at well HR-J1-MW-2. The magnitude of this apparent mound (approximately 0.1 to 0.3 feet) is within the range predicted from prior groundwater flow modeling for this area, as discussed below.

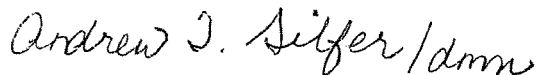
The groundwater elevation data, collected since the installation of the Cell J1 containment barrier have been reviewed to assess the degree of groundwater mounding behind the sheetpile containment barrier, as

compared to the results of prior groundwater flow modeling. In the Cell J1 Proposal, the Visual MODFLOW™ program was utilized to evaluate the potential of water table mounding associated with the sheetpile containment barrier. The model indicated that groundwater mounding north of the sheetpile wall would be minor (i.e., mounding by approximately 0.5 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 5. As seen on the hydrograph, the highest groundwater elevations on most dates are generally at well HR-J1-MW-2, which is located behind the center of the sheetpile wall. During the initial monitoring round performed shortly after installation, similar groundwater elevations were observed in wells HR-J1-MW-1 and HR-J1-MW-2. However, following an area-wide increase in groundwater elevations the following week, water levels remained higher in well HR-J1-MW-2 than at surrounding locations, indicating that a groundwater mound has formed behind the sheetpile wall. The data presented on the hydrograph indicate that since formation, the groundwater mound at well HR-G2-MW-2 has stayed at a relatively constant level (between 0.1 and 0.3 feet) above the adjacent monitoring wells. This mounding effect does not warrant any groundwater recovery efforts behind the sheetpile at this time, since the increase in groundwater elevations is within the range previously modeled for this area.

Based on results of the initial monitoring of these wells, GE proposes to continue to monitor each of the three Cell J1 monitoring wells and the observation/recovery well for groundwater elevations and the presence of DNAPL, but (given that DNAPL has not been detected in any of the four wells to date) to change the DNAPL 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 J1 containment barrier is not proposed. GE will continue to monitor and evaluate the Cell J1 monitoring wells for the presence of DNAPL and for potential groundwater mounding effects as part of the GMA 1 NAPL monitoring program.

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

Sincerely,

Handwritten signature of Andrew T. Silfer in cursive, with the initials 'dmm' at the end.

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

Enclosures

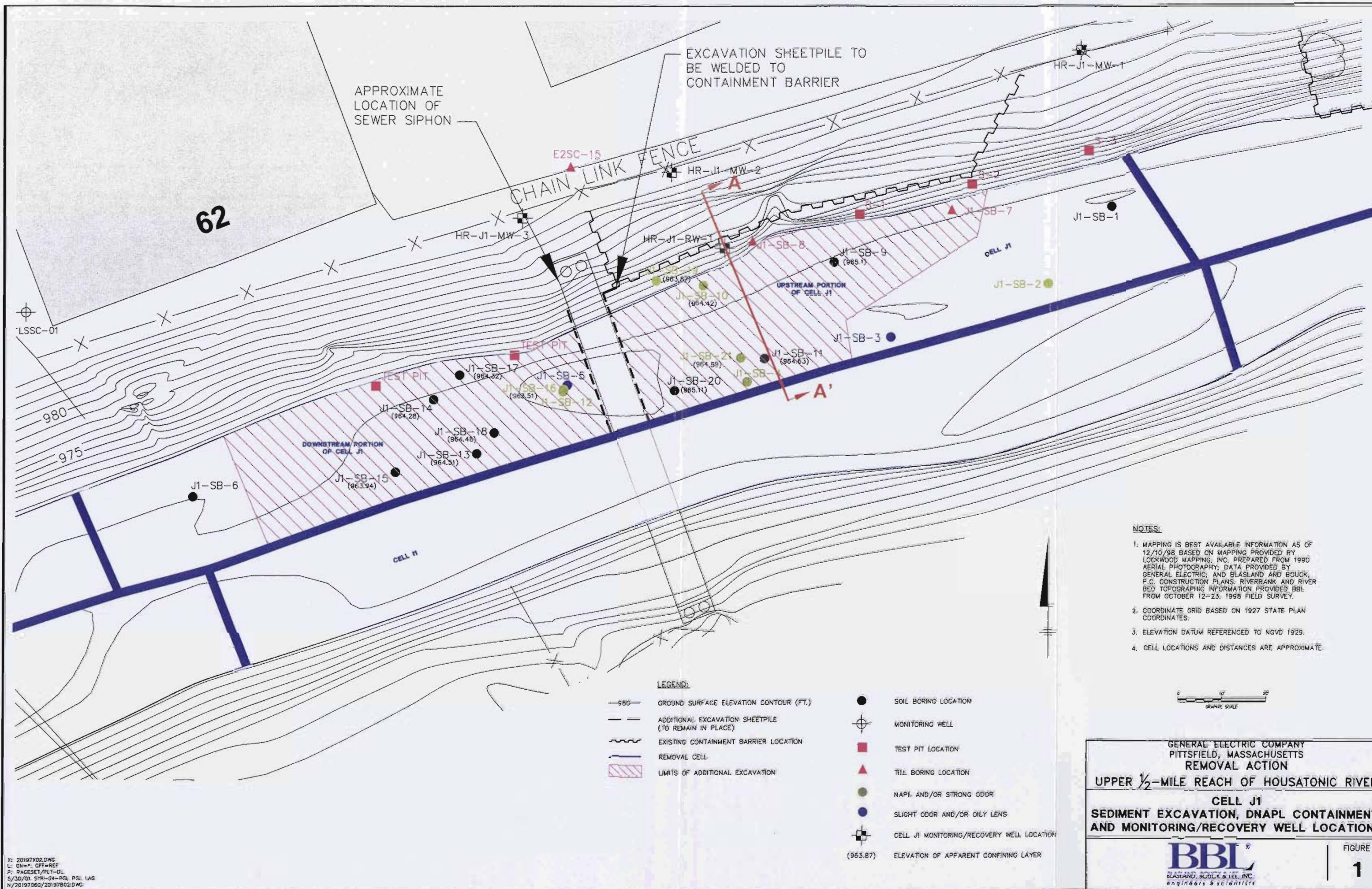
cc: T. Conway, EPA (without enclosures)
H. Inglis, EPA
M. Nalipinski, EPA
S. Steenstrup, MDEP (2 copies)
S. Keydel, MDEP
A. Weinberg, MDEP (without enclosures)
R. Bell, MDEP (without enclosures)
T. Angus, MDEP (without enclosures)
C. Fredette, CT DEP
R. Goff, USACE
K. Mitkevicius, USACE
D. Jamros, Weston
N.E. Harper, MA AG
D. Young, MA EOE
Mayor S. Hathaway, City of Pittsfield
M. Carroll, GE
R. McLaren, GE
J. Novotny, GE
S. Messur, BBL
J. Bernstein, Bernstein, Cushner & Kimmel
J. Bieke, Shea & Gardner
Public Information Repositories
GE Internal Repositories

TABLE 1
 GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
 UPPER 1/2-MILE REACH OF HOUSATONIC RIVER
 CELL J1 MONITORING RESULTS - APRIL-MAY 2002

Well I.D.	Date	Measuring Point Elevation (Feet AMSL)	Depth to Water (Feet BMP) ⁴	Depth to NAPL (Feet BMP)	Total Depth (Feet BMP)	NAPL Thickness (Feet)	Groundwater Elevation (Feet AMSL) ⁴	NAPL Removal (Liters)
HR-J1-MW-1	4/9/2002	985.95	13.52	---	26.20	0.00	972.43	0.00
HR-J1-MW-1	4/17/2002	985.95	13.06	---	26.21	0.00	972.89	0.00
HR-J1-MW-1	4/24/2002	985.95	13.71	---	26.22	0.00	972.24	0.00
HR-J1-MW-1	5/1/2002	985.95	12.55	---	26.20	0.00	973.40	0.00
HR-J1-MW-1	5/8/2002	985.95	13.65	---	26.21	0.00	972.30	0.00
HR-J1-MW-2	4/9/2002	983.56	11.15	---	17.96	0.00	972.41	0.00
HR-J1-MW-2	4/17/2002	983.56	10.72	---	17.98	0.00	972.84	0.00
HR-J1-MW-2	4/24/2002	983.56	11.17	---	17.98	0.00	972.39	0.00
HR-J1-MW-2	5/1/2002	983.56	10.04	---	17.96	0.00	973.52	0.00
HR-J1-MW-2	5/8/2002	983.56	11.02	---	17.98	0.00	972.54	0.00
HR-J1-MW-3	4/9/2002	987.68	15.60	---	26.91	0.00	972.08	0.00
HR-J1-MW-3	4/17/2002	987.68	15.11	---	26.90	0.00	972.57	0.00
HR-J1-MW-3	4/24/2002	987.68	15.55	---	26.92	0.00	972.13	0.00
HR-J1-MW-3	5/1/2002	987.68	14.26	---	26.90	0.00	973.42	0.00
HR-J1-MW-3	5/8/2002	987.68	15.33	---	26.90	0.00	972.35	0.00
HR-J1-RW-1	4/17/2002	975.05	2.74	---	14.93	0.00	972.31	0.00
HR-J1-RW-1	4/24/2002	975.05	3.15	---	14.93	0.00	971.90	0.00
HR-J1-RW-1	5/1/2002	975.05	1.79	---	14.94	0.00	973.26	0.00
HR-J1-RW-1	5/8/2002	975.05	3.33	---	14.96	0.00	971.72	0.00
3-6C-EB-25	4/18/2002	986.31	12.95	---	25.14	0.00	973.36	0.00
3-6C-EB-25	5/3/2002	986.31	12.58	---	25.11	0.00	973.73	0.00
3-6C-EB-26	4/5/2002	986.74	13.76	---	24.47	0.00	972.98	0.00
3-6C-EB-26	5/3/2002	986.74	13.35	---	24.44	0.00	973.39	0.00
3-6C-EB-28	4/5/2002	985.79	14.66	---	24.60	0.00	971.13	0.00
3-6C-EB-28	5/3/2002	985.79	12.28	---	24.56	0.00	973.51	0.00
3-6C-EB-29	4/5/2002	986.13	12.86	---	23.26	0.00	973.27	0.00
3-6C-EB-29	5/3/2002	986.13	12.53	---	22.86	0.00	973.60	0.00
E-4	4/10/2002	987.98	17.00	---	24.53	0.00	970.98	0.00

Notes:

1. NAPL = Non-Aqueous Phase Liquid.
2. BMP = Below Measuring Point
3. Feet AMSL = Feet Above Mean Sea Level
4. Water table elevations for wells containing LNAPL were computed as follows:
 Water Table Elevation = Measuring Point Elevation - Depth to Water + (LNAPL Thickness x Specific Density of LNAPL)
 Specific Density of LNAPL estimated at 0.93.



APPROXIMATE LOCATION OF SEWER SIPHON

EXCAVATION SHEETPILE TO BE WELDED TO CONTAINMENT BARRIER

CHAIN LINK FENCE

62

LSSC-01

980

975

J1-SB-6

DOWNSTREAM PORTION OF CELL J1

J1-SB-15 (963.94)

J1-SB-14 (964.28)

J1-SB-18 (964.48)

J1-SB-13 (964.51)

J1-SB-17 (964.32)

J1-SB-5 (963.51)

J1-SB-16 (963.51)

J1-SB-12 (963.51)

J1-SB-20 (965.11)

J1-SB-21 (964.59)

J1-SB-11 (964.63)

J1-SB-9 (965.1)

J1-SB-8 (963.82)

HR-J1-RW-1

HR-J1-MW-3

HR-J1-MW-2

E2SC-15

HR-J1-MW-1

J1-SB-1

CELL J1

J1-SB-2

UPSTREAM PORTION OF CELL J1

J1-SB-3

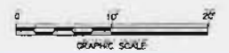
CELL II

LEGEND:

- 980 — GROUND SURFACE ELEVATION CONTOUR (FT.)
- - - ADDITIONAL EXCAVATION SHEETPILE (TO REMAIN IN PLACE)
- ~ ~ ~ EXISTING CONTAINMENT BARRIER LOCATION
- — — REMOVAL CELL
- ▨ LIMITS OF ADDITIONAL EXCAVATION
- SOIL BORING LOCATION
- ⊕ MONITORING WELL
- TEST PIT LOCATION
- ▲ TIE-BORING LOCATION
- NAPL AND/OR STRONG ODOR
- SLIGHT ODOR AND/OR OILY LENS
- ⊕ CELL J1 MONITORING/RECOVERY WELL LOCATION
- (963.87) ELEVATION OF APPARENT CONFINING LAYER

NOTES:

1. MAPPING IS BEST AVAILABLE INFORMATION AS OF 12/10/98 BASED ON MAPPING PROVIDED BY LOCKWOOD MAPPING, INC. PREPARED FROM 1990 AERIAL PHOTOGRAPHY; DATA PROVIDED BY GENERAL ELECTRIC; AND BLASLAND AND BOUCK, P.C. CONSTRUCTION PLANS, RIVERBANK AND RIVER BED TOPOGRAPHIC INFORMATION PROVIDED BBL FROM OCTOBER 12-23, 1998 FIELD SURVEY.
2. COORDINATE GRID BASED ON 1927 STATE PLAN COORDINATES.
3. ELEVATION DATUM REFERENCED TO NGVD 1929.
4. CELL LOCATIONS AND DISTANCES ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
REMOVAL ACTION

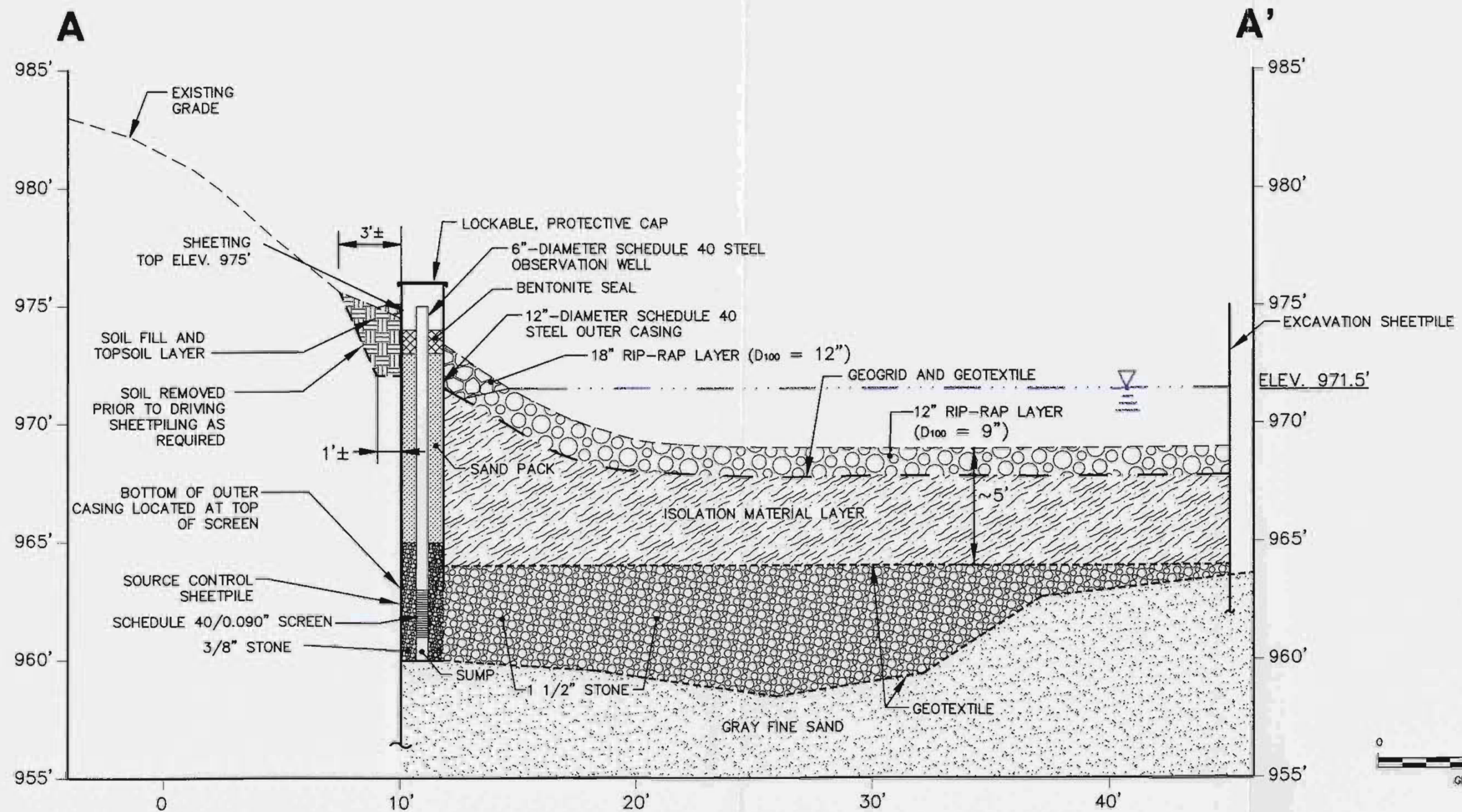
UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

CELL J1
SEDIMENT EXCAVATION, DNAPL CONTAINMENT,
AND MONITORING/RECOVERY WELL LOCATIONS

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

FIGURE
1

X: 20197702.DWG
L: CIVIL - OFF-REF
P: PAGESET/PLT-DL
S: 30/01. SYR-94-RGL PGL LAS
N: 20197060/20197802.DWG



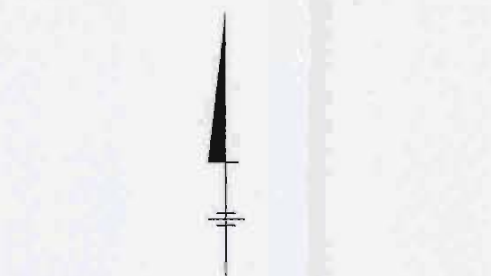
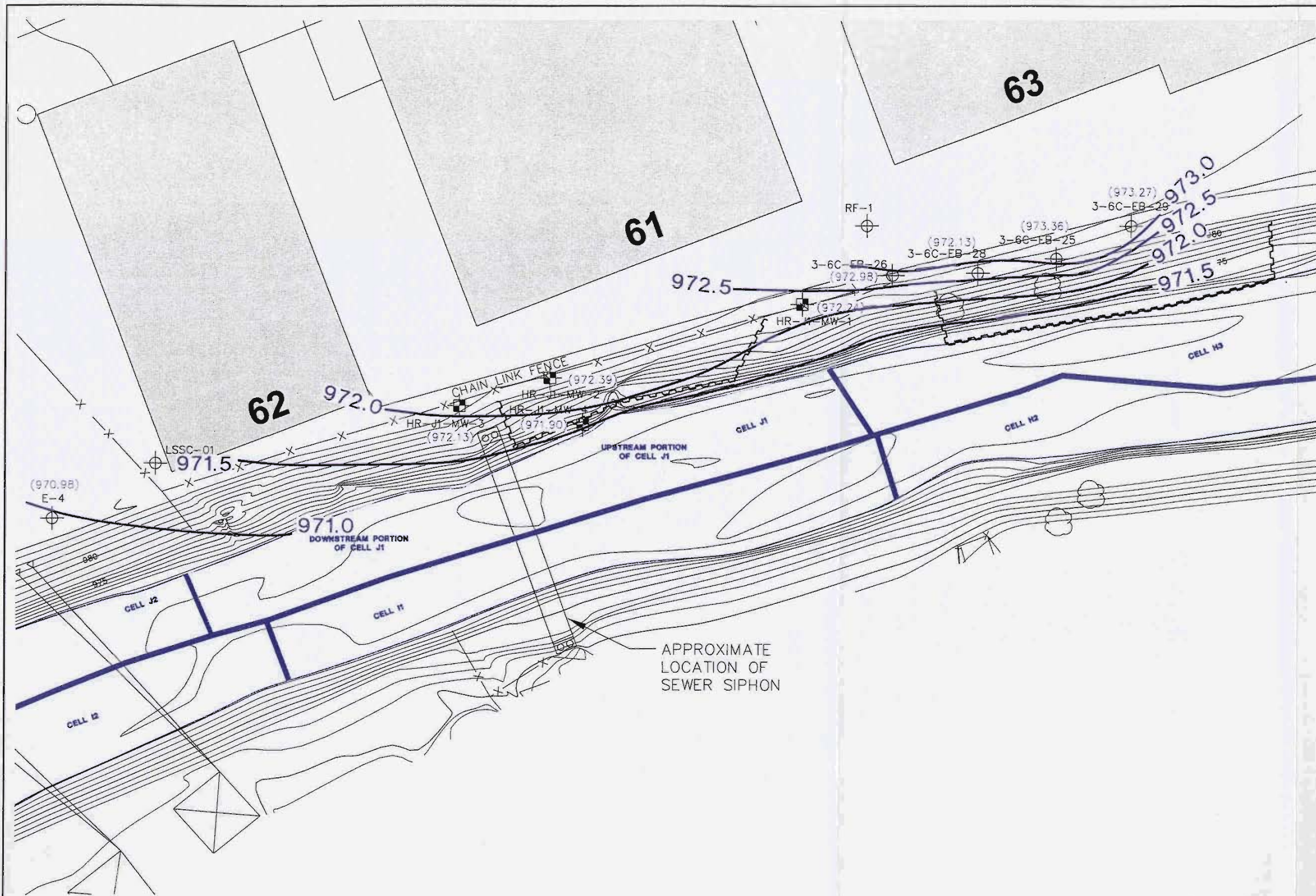
GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
 REMOVAL ACTION
 UPPER 1/2-MILE REACH OF HOUSATONIC RIVER

**CELL J1 DNAPL
 OBSERVATION/RECOVERY WELL**

BBL
 BROADBENT, BLOOM & LEE, INC.
 909-999-1111 & 1-800-955-1111

FIGURE
2

L: ON=*, OFF=REF
 P: PAGESET/PLT-BL
 5/30/02 SYR-54-RCB PGL LAS
 N/20187060/20197V02.DWG



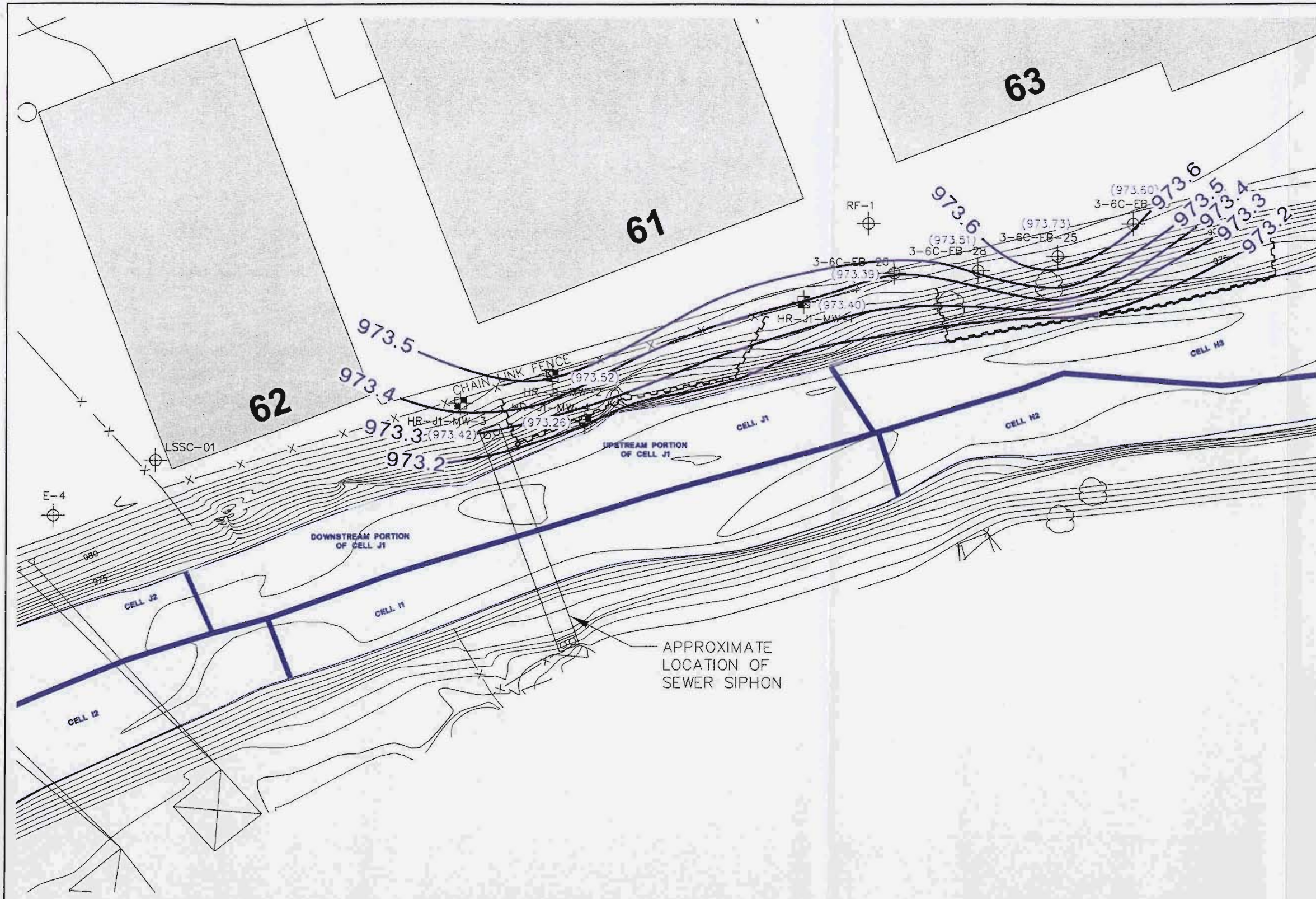
- LEGEND:**
- 980 — GROUND SURFACE ELEVATION CONTOUR (FT.)
 - EXISTING CONTAINMENT BARRIER LOCATION
 - REMOVAL CELL
 - ⊕ MONITORING WELL
 - ⊕ CELL J1 MONITORING/RECOVERY WELL LOCATION
 - (973.27) GROUNDWATER ELEVATION IN FEET
 - 973.0 — GROUNDWATER ELEVATION CONTOUR IN FEET

- NOTES:**
1. MAPPING IS BEST AVAILABLE INFORMATION AS OF 12/10/98 BASED ON MAPPING PROVIDED BY LOCKWOOD MAPPING, INC. PREPARED FROM 1990 AERIAL PHOTOGRAPHY; DATA PROVIDED BY GENERAL ELECTRIC, AND BLASLAND AND BOUCK, P.C. CONSTRUCTION PLANS, RIVERBANK AND RIVER BED TOPOGRAPHIC INFORMATION PROVIDED BBL FROM OCTOBER 12-23, 1998 FIELD SURVEY.
 2. COORDINATE GRID BASED ON 1927 STATE PLAN COORDINATES.
 3. ELEVATION DATUM REFERENCED TO NGVD 1929.
 4. CELL LOCATIONS AND DISTANCES ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS REMOVAL ACTION UPPER 1/2-MILE REACH OF HOUSATONIC RIVER	
CELL J1 GROUNDWATER CONTOURS - APRIL 2002	
	FIGURE 3

X: 20197X02.DWG
 L: ON* OF-REF
 P: PAGESET/PLT-DL2B
 5/30/02 SYR-54-PGL PGL LAS
 N/20197080/20197W01.DWG



- LEGEND:**
- 980 GROUND SURFACE ELEVATION CONTOUR (FT.)
 - EXISTING CONTAINMENT BARRIER LOCATION
 - REMOVAL CELL
 - MONITORING WELL
 - CELL J1 MONITORING/RECOVERY WELL LOCATION
 - (973.25) GROUNDWATER ELEVATION IN FEET
 - 973.5 GROUNDWATER ELEVATION CONTOUR IN FEET

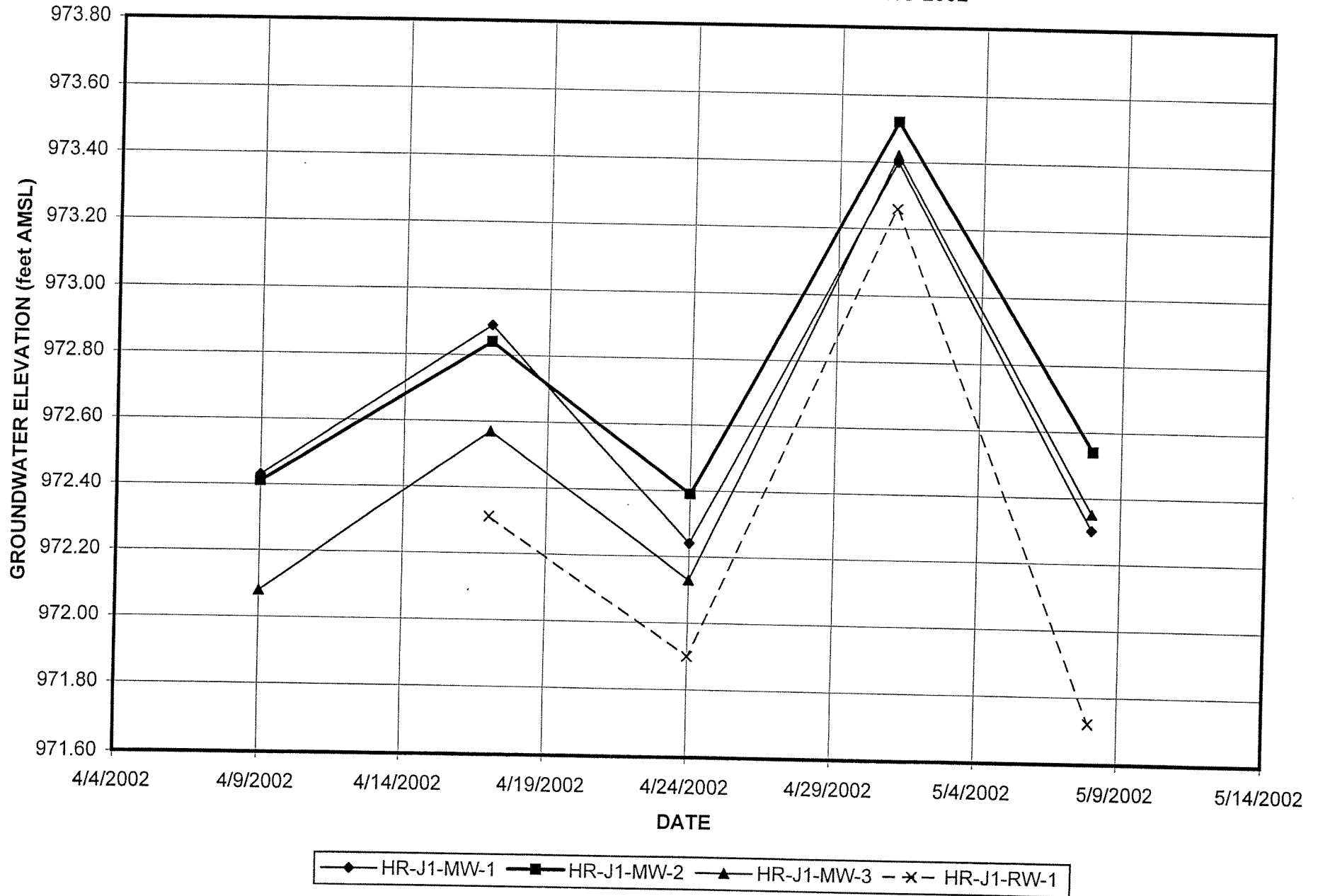
- NOTES:**
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 2. COORDINATE GRID BASED ON 1927 STATE PLAN COORDINATES.
 3. ELEVATION DATUM REFERENCED TO NGVD 1929.
 4. CELL LOCATIONS AND DISTANCES ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS REMOVAL ACTION UPPER 1/2-MILE REACH OF HOUSATONIC RIVER CELL J1 GROUNDWATER CONTOURS - MAY 2002	
	FIGURE 4

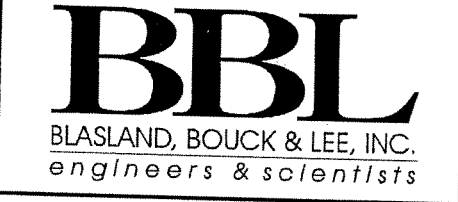
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 L: ON* OFF-REF
 P: PAGESET/PLY-DL29
 S/30/02 SYR-54-POL PGL LAS
 N/20197060/20197W02.DWG

FIGURE 5
GE-PITTSFIELD/HOUSATONIC RIVER SITE - UPPER 1/2-MILE REACH REMOVAL ACTION
CELL J1 SHEETPILE CONTAINMENT BARRIER
GROUNDWATER ELEVATION HYDROGRAPH - SPRING 2002



Date Start/Finish: 3/27/02 Drilling Company: BBL Driller's Name: JAB/JDB Drilling Method: Direct Push/Hollow Stem Auger Bit Size: 1.5-inch Auger Size: 4-1/4" Rig Type: Truck-Mounted Power Probe Sampling Method: 4' PP Reliners	Northing: 532861.41 Easting: 131662.66 Casing Elevation: 985.95' AMSL Borehole Depth: 28.5' below grade Surface Elevation: 983.60' AMSL Geologist: JAB, JDB	Well/Boring ID: HR-J1-MW-1 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell J1 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
0	985									Lockable J-Plug
1	980	0-4		1.25	NA	NA	NA		Brown fine SAND, little medium Sand and Silt, trace Organics, dry. Dark gray fine SAND, little coarse Sand and fine Gravel, trace Fill (Slag), dry.	Concrete (0 - 1.0' bgs) #0 Silica Sand (1.0' - 2.0' bgs)
2	975	4-8		0.65	NA	NA	NA		Dark brown fine SAND and SILT, trace coarse Sand, medium Gravel and Coal (Fill), moist.	Sched 40 PVC Riser Hydrated Bentonite Chips (2.0' - 6.22' bgs)
3	970	8-12		2.2	NA	NA	NA		Dark brown fine SAND and SILT, trace coarse Sand, moist. Light brown fine SAND, dry. Dark brown fine SAND and SILT, trace Organics, moist.	#0 Silica Sand (6.22' - 16' bgs)
4	970	12-16		2.5	NA	NA	NA		Dark brown SILT, little fine Sand, trace Clay and Organics, moist. Dark brown fine SAND and SILT, trace Organics, moist.	Sched 40 PVC 20 Slot Screen (8.22' - 23.22' bgs)



Remarks: AMSL = above mean sea level; bgs = below ground surface.

Client:

General Electric Company

Well/Boring ID: HR-J1-MW-1

Site Location:

Housatonic River 1/2 Mile

Borehole Depth: 28.5' below grade

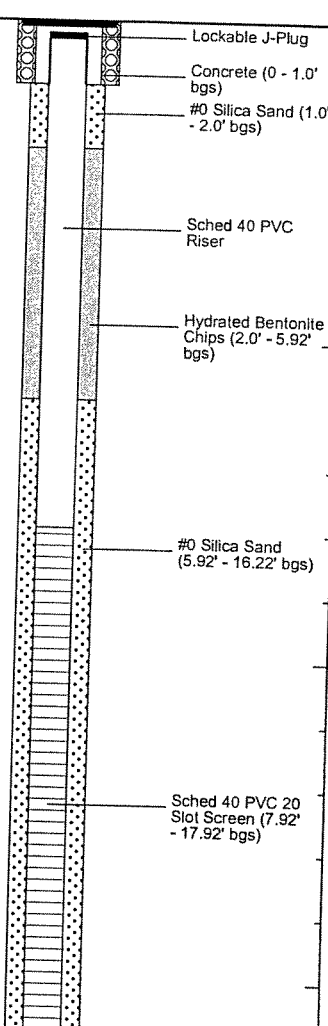
Cell J1 Monitoring Well Installation

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
20	965	5	16-20	2.0	NA	NA	NA		Brown fine SAND and SILT, wet.	
									Brown fine to coarse SAND and fine to coarse GRAVEL, wet.	
25	960	6	20-24	2.5	NA	NA	NA		Brown fine SAND, little coarse Sand and fine Gravel, wet.	Sched 40 PVC 20 Slot Screen (8.22' - 23.22' bgs)
									Gray fine SAND, little Silt, saturated.	
									Gray fine to coarse SAND and fine GRAVEL, wet.	
									Gray fine to coarse SAND, some fine to coarse Gravel, little Silt, wet.	
30	955	7	24-28	2.4	NA	NA	NA		Gray SILT, little Clay, tight, moist.	#1 Silica Sand (16' - 23.52' bgs)
									Olive-brown SILT, little fine to coarse Sand and Gravel, tight, wet. [TILL]	
35	950	8	28-28.5	0.5	NA	NA	NA		Sched 40 PVC Female Cap (23.22' - 23.52' bgs)	



Remarks: AMSL = above mean sea level; bgs = below ground surface.

Date Start/Finish: 3/27/02 Drilling Company: BBL Driller's Name: JAB/JBD Drilling Method: Direct Push/Hollow Stem Auger Bit Size: 1.5-inch Auger Size: 4-1/4" Rig Type: Truck-Mounted Power Probe Sampling Method: 4' PP Reeliners	Northing: 532833.58 Easting: 131568.25 Casing Elevation: 983.56' AMSL Borehole Depth: 33' below grade Surface Elevation: 983.7' AMSL Geologist: JAB, JDB	Well/Boring ID: HR-J1-MW-2 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell J1 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
985										
0										
1		0-4		2.0	NA	NA	NA		Dark brown fine SAND, trace Organic debris. Medium brown fine SAND, trace subangular Gravel. Dark brown fine SAND and SILT.	
980								Medium brown fine SAND and SILT. Dark brown fine SAND, some Slag.		
5		2	4-8	2.2	NA	NA	NA	Coarse subangular GRAVEL.		
975								Dark brown medium SAND, some Slag. Medium brown fine SAND and SILT, moist.		
10		3	8-12	1.9	NA	NA	NA	Dark brown fine SAND and SILT, moist. Gray very fine SAND, some Silt, moist.		
970										
15		4	12-16	2.8	NA	NA	NA			


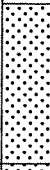
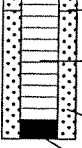



BBL

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

Remarks: Preprobed to 32.0 feet, collected sample from 32'-33' bgs.
 During well installation, refusal was encountered 4 times.
 AMSL = above mean sea level; bgs = below ground surface.

Client: General Electric Company
 Site Location: Housatonic River 1/2 Mile
 Cell J1 Monitoring Well Installation

Well/Boring ID: HR-J1-MW-2
 Borehole Depth: 33' below grade

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
20	965	5	16-20	3.0	NA	NA	NA	 	Medium gray medium coarse SAND, some fine subangular to subrounded Gravel, wet. Gray very fine SAND, some Silt, wet.	 <ul style="list-style-type: none"> #0 Silica Sand (5.92' - 16.22' bgs) Sched 40 PVC 20 Slot Screen (7.92' - 17.92' bgs) #1 Silica Sand (16.22' - 18.22' bgs) Sched 40 PVC Male Cap (17.92' - 18.22' bgs)
25		6	20-24	3.9	NA	NA	NA	 	Gray very fine SAND, wet. Gray medium to coarse SAND, some Silt, wet.	
30	955	NA	24-32	NA	NA	NA	NA		No Sample Collected.	
		7	32-33	1.0	NA	NA	NA		Olive-brown SILT, little fine Sand, tight, wet.	
35	950									

BBL
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Remarks: Preprobed to 32.0 feet, collected sample from 32'-33' bgs.
 During well installation, refusal was encountered 4 times.
 AMSL = above mean sea level; bgs = below ground surface.

Data Start/Finish: 3/28/02 - 3/29/02 Drilling Company: BBL Driller's Name: JAB/JBD Drilling Method: Direct Push/Hollow Stem Auger Bit Size: 1.5-inch Auger Size: 4-1/4" Rig Type: Truck-Mounted Power Probe Sampling Method: 4' PP Reliners	Northing: 532823.00 Easting: 131534.12 Casing Elevation: 987.68' AMSL Borehole Depth: 38' below grade Surface Elevation: 984.60' AMSL Geologist: JAB, JDB	Well/Boring ID: HR-J1-MW-3 Client: General Electric Company Location: Housatonic River 1/2 Mile Cell J1 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
990										Lockable J-Plug
0									Dark brown fine SAND, trace fine subangular Gravel, Organic debris.	Concrete (0 - 1.0' bgs)
									Medium brown fine SAND, trace fine subangular Gravel.	#0 Silica Sand (1.0' - 2.0' bgs)
1	985	0-4		2.0	NA	NA	NA			Sched 40 PVC Riser
									Dark brown fine SAND, little Slag and fine subangular Gravel.	Hydrated Bentonite Chips (2.0' - 6.32' bgs)
2		4-8		0.8	NA	NA	NA			
5									Medium brown medium SAND, some coarse subangular Gravel.	#1 Silica Sand (6.32' - 23.52' bgs)
3	980	8-12		1.0	NA	NA	NA			
									Medium brown medium SAND, some medium subangular Gravel.	Sched 40 PVC 20 Slot Screen (8.32' - 23.32' bgs)
									Medium brown medium to coarse SAND, some medium subangular Gravel, wet.	
4	975	12-16		1.6	NA	NA	NA			
15										

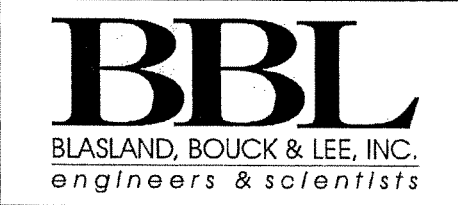


Remarks: Preprobed to 20.0' for 20'-24' bgs sample
 AMSL = above mean sea level; bgs = below ground surface.

Client:
 General Electric Company
Site Location:
 Housatonic River 1/2 Mile
 Cell J1 Monitoring Well Installation

Well/Boring ID: HR-J1-MW-3
Borehole Depth: 38' below grade

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
20	970	5	16-20	2.6	NA	NA	NA	[Dotted pattern]	Grayish-brown fine SAND, some fine subangular Gravel, wet.	
									Grayish-brown medium to coarse SAND, wet.	
25	965	6	20-24	3.0	NA	NA	NA	[Dotted pattern]	Medium brown medium to coarse SAND, wet.	
									Gray medium to coarse SAND, wet.	
30	960	7	24-28	3.8	NA	NA	NA	[Dotted pattern]	Gray medium to coarse SAND, some fine subangular Gravel.	
									Gray fine SAND.	
									Gray medium to coarse SAND, some fine subangular Gravel, wet.	
35	955	8	28-32	3.4	NA	NA	NA	[Dotted pattern]	Gray medium SAND, some medium subrounded Gravel.	
									Gray fine SAND, little Silt, and medium to coarse subangular to subrounded Gravel.	
		9	32-36	4.0	NA	NA	NA	[Dotted pattern]		



Remarks: Preprobed to 20.0' for 20'-24' bgs sample
 AMSL = above mean sea level; bgs = below ground surface.

Client: General Electric Company Site Location: Housatonic River 1/2 Mile Cell J1 Monitoring Well Installation	Well/Boring ID: HR-J1-MW-3 Borehole Depth: 38' below grade
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DEPTH	ELEVATION	Sample Run Number	Sample/In/Type	Recovery (feet)	PID Headspace (ppm)	Blows / 6 Inches	N - Value	Geologic Column	Stratigraphic Description	Well/Boring Construction
	950	10	36-38	2.0	NA	NA	NA		Gray fine SAND, little Silt, wet.	
									Gray fine SAND, some subangular Gravel, tight. [TILL]	
40										
	945									
45										
	940									
50										
	935									
55										

BLASLAND, BOUCK & LEE, INC. <i>engineers & scientists</i>	Remarks: Preprobed to 20.0' for 20'-24' bgs sample AMSL = above mean sea level; bgs = below ground surface.
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