



05-0077
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October 9, 2000

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

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

**Re: GE-Pittsfield/Housatonic River Site
Plant Site 1 Groundwater Management Area (GECD310)
Results of Monitoring Well Installation - Newell Street Area II**

Dear Mr. Olson:

This letter summarizes the recent investigations conducted by the General Electric Company (GE) for the Newell Street Area II portion of the Plant Site 1 Groundwater Management Area (GMA 1) in Pittsfield, Massachusetts. Between August 28 and 31, 2000, GE installed two groundwater monitoring wells within this portion of the GE-Pittsfield/Housatonic River Site. The investigations, proposed by GE in a monitoring report entitled *Evaluation of NAPL Recovery at Newell Street Area II (Part of Plant Site 1 Groundwater Management Area)* (BBL, July 2000), were conducted to gather additional information concerning the extent of dense non-aqueous phase liquid (DNAPL) and the configuration of the glacial till confining unit in this area. This letter describes the recent investigations, provides the results of those investigations, and proposes future activities for this area.

Background Information

Over the last several years, GE has conducted numerous activities to address the DNAPL present at Newell Street Area II. Included in these activities was the installation of 24 soil borings extending to the glacial till which underlies this area and acts as a barrier to downward migration of DNAPL, the installation of monitoring wells in 23 of these deep soil borings, and the implementation and operation of automated DNAPL recovery systems incorporating seven of these wells. In addition to the operation of these automated DNAPL recovery systems, GE currently monitors 10 of these deep wells for the presence of NAPL on a weekly basis and 19 other wells on a weekly, monthly, or quarterly basis. DNAPL accumulations of greater than 0.5 feet are manually removed from the wells. Through August 2000, over 22,000 gallons of DNAPL have been recovered from this area, since 1996.

The most recent activities which GE has performed related to the DNAPL present at Newell Street Area II are summarized below.

On January 14, 2000, GE submitted a report entitled *DNAPL Recovery Data and Evaluation at the Newell Street Area, Plant Site 1 Groundwater Management Area* (DNAPL Recovery Evaluation) to EPA and MDEP. That report summarized NAPL recovery activities for the period of June through December 1999 and proposed additional DNAPL recovery assessments to be conducted at wells N2SC-02 and N2SC-03I. EPA provided conditional approval of the DNAPL Recovery Evaluation via letter dated February 29, 2000. In accordance with the EPA's February 29, 2000 conditional approval letter, GE performed a series of DNAPL recovery tests at wells N2SC-02 and N2SC-03I between March 6 and 8, 2000.

On March 30, 2000, GE submitted a report to EPA summarizing the DNAPL recovery testing at wells N2SC-02 and N2SC-03I. That letter also discussed DNAPL recovery at well N2SC-01I, and proposed that additional DNAPL recovery systems be installed at wells N2SC-02 and N2SC-03I. EPA approved GE's proposal in a

letter dated April 5, 2000, and GE completed installation of these systems in June 2000. Active recovery operations at wells N2SC-02 and N2SC-03I commenced on June 30, 2000.

Additionally, in its February 29, 2000 conditional approval letter, EPA requested that GE conduct additional investigations in the vicinity of DNAPL recovery well N2SC-01. In response, in a letter dated March 15, 2000, GE proposed a DNAPL investigation involving the installation of three wells located within 50 feet of well N2SC-01I. This proposal was subsequently approved by EPA via letter dated March 27, 2000. These three wells (N2SC-13I, N2SC-14, and N2SC-15), as well as a fourth well (N2SC-13S), were installed between April 3 and 11, 2000. Well N2SC-13S was installed to address a potential shallow NAPL layer observed above a peat layer at 18 feet below grade during the installation of well N2SC-13I. Following installation and development, DNAPL recovery tests were performed at wells N2SC-13I and N2SC-14 on April 18 to 20, 2000. No DNAPL was observed in wells N2SC-13S or N2SC-15; therefore, recovery tests were not performed on these wells.

GE reported the results of these well installations and DNAPL testing activities in a letter to EPA dated May 19, 2000 and proposed to install an automated DNAPL recovery system in well N2SC-14 via letter dated June 5, 2000. EPA gave conditional approval to GE's May 19 and June 5, 2000 submittals in a letter to GE dated June 16, 2000. GE completed installation of the N2SC-14 automated DNAPL recovery system and initiated active recovery operations on July 10, 2000.

On July 14, 2000, GE submitted a report entitled *Evaluation of NAPL Recovery at Newell Street Area II (Part of Plant Site 1 Groundwater Management Area)* to EPA and MDEP. That report summarized NAPL recovery activities for the period of January through June 2000 and proposed the installation of two additional wells (N2SC-16 and N2SC-17) in the vicinity of well N2SC-14. EPA provided conditional approval of the proposal via letter dated July 26, 2000. The installation of those wells and subsequent monitoring results are described below.

Recent Groundwater Investigations

On August 28 to 31, 2000, GE installed two wells (N2SC-16 and N2SC-17) at the locations illustrated on Figure 1. The construction details for these two wells are shown in Table 1. Soil boring logs and well schematics are included as an attachment to this letter. Each well was installed with a 4-inch inside diameter schedule 40 PVC well screen placed to intersect the top of the glacial till unit. A one-foot deep solid PVC sump was installed below each well screen to collect any DNAPL that may migrate into the well. No NAPL was observed during the soil boring/well installation activities. However, a slight sheen and elevated photoionization detector readings were noted in the soil sample collected from directly above the till interface at well N2SC-16.

The new monitoring wells were developed on September 8 and 11, 2000. Initially, a length of discharge tubing equipped with a foot valve and surge block was utilized to manually surge the area around the well screens to mobilize and remove fine materials present within the sand pack. After approximately 30 minutes of surging, a peristaltic pump was utilized to remove groundwater until visibly clear water was produced and any remaining sediment accumulations were removed from the well interiors. Approximately 50 gallons of groundwater were removed from each well. No NAPL was observed during these well development activities.

Following development, the wells were surveyed and added to the ongoing weekly DNAPL monitoring program. During the first weekly monitoring event, a small amount of DNAPL was observed in well N2SC-16 and hence additional monitoring (i.e., more than weekly) was performed at that well in September. The monitoring results to date are summarized in Table 2.

Investigation Results and Future Activities

The recovered soil samples collected during the installation of wells N2SC-16 and N2SC-17 were generally similar to those of other soil borings and monitoring wells installed in this area. Till was encountered at a depth of 39 feet below grade in well N2SC-16 and at 34 feet in well N2SC-17. This information was utilized to produce an updated top-of-till elevation contour map, which is included as Figure 2.

As shown in Table 2, since the installation of these wells, no NAPL has been observed in well N2SC-17 and no significant quantities of DNAPL have accumulated in well N2SC-16. Therefore, DNAPL recovery testing at these wells is not necessary at this time. GE proposes to monitor these two wells on a weekly basis as part of the DNAPL monitoring program for Newell Street Area II. In accordance with the program protocols, DNAPL will be manually removed from these wells if observed at a thickness of greater than 0.5 feet. Other proposed revisions to this monitoring program are included in GE's *Baseline Monitoring Program Proposal for the Plant Site 1 Groundwater Management Area*, which was submitted to the EPA on September 29, 2000.

In the event that increased volumes of DNAPL are observed in these wells during future monitoring events, GE will consider conducting a DNAPL recovery test(s) in the affected well(s) for the purpose of assessing the feasibility of installing additional automated DNAPL recovery systems. GE will propose any such assessment in the semi-annual NAPL monitoring reports prepared for Newell Street Area II (which will be incorporated into the GMA 1 semi-annual NAPL monitoring reports, following approval of GE's September 29, 2000 baseline monitoring proposal).

No further investigations are warranted in this area at this time. As shown on Figure 2, the extent of DNAPL appears to be generally confined to within a prominent depression of the glacial till surface located adjacent to the western edge of the Newell Street parking lot.

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

Sincerely,



John F. Novotny, P.E.
Manager - Facility and Brownfields Programs

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Enclosures

cc: J. L. Cutler, DEP (2 copies)*
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M. Nalipinski, EPA*
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Mayor G.S. Doyle
Pittsfield Commissioner of Public Health*
M. Carroll, GE
A. Silber, GE*
A. Thomas, Esq., GE*
J. Nuss, BBL*
Public Information Repositories ECL I-IV(A)(1)*
GE Internal Repositories*

(* with enclosures)

TABLE 1
GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
PLANT SITE 1 GROUNDWATER MANAGEMENT AREA
NEWELL STREET AREA II
MONITORING WELL CONSTRUCTION DATA

Well Number	N2SC-16	N2SC-17
Installation Date	8/29/00	8/31/00
Well Diameter (inches)	4	4
Ground Elevation (feet AMSL)	983.4	982.5
Measuring Point Elevation (feet AMSL)	985.62	984.73
Total Depth (feet)	40	35
Screened Interval (feet)	29-39	24-34
Average Depth to Groundwater (feet below MP)	12.94	12.54
Average Depth to Groundwater (feet below grade)	10.72	10.31
Average Groundwater Elevation (feet AMSL)	972.68	972.19

Note:

1. Average depth to groundwater measurements incorporate data collected between September 8 and 29, 2000.

TABLE 2

GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
 PLANT SITE 1 GROUNDWATER MANAGEMENT AREA

NEWELL STREET AREA II

WELL MONITORING RESULTS

Well Number	Date	Depth to Water (feet below MP)	Depth to DNAPL (feet below MP)	Well Depth (feet below MP)	DNAPL Thickness (feet)
N2SC-16	9/8/00	13.22	None	41.95	0.00
N2SC-16	9/18/00	12.70	41.73	41.91	0.18
N2SC-16	9/20/00	12.91	41.90	41.91	0.01
N2SC-16	9/22/00	12.99	41.69	41.93	0.24
N2SC-16	9/25/00	13.17	41.64	41.91	0.27
N2SC-16	9/27/00	12.25	41.55	41.90	0.35
N2SC-16	9/29/00	13.37	41.58	41.89	0.31
N2SC-17	9/11/00	12.83	None	37.22	0.00
N2SC-17	9/18/00	12.09	None	37.17	0.00
N2SC-17	9/25/00	12.49	None	37.16	0.00
N2SC-17	9/27/00	12.59	None	37.16	0.00
N2SC-17	9/29/00	12.71	None	37.16	0.00

Note:

1. Depth measurements are presented in feet below measuring point (MP).



LEGEND	
J9-23-12	PARCEL NUMBER
---x---	APPROXIMATE EXISTING FENCE LOCATION
- - - - -	APPROXIMATE PARCEL BOUNDARY
--- ---	NON-RESIDENTIAL PROPERTY BOUNDARY
▲ NS-2A	SOIL BORING LOCATION
○ NS-1	MONITORING WELL
● NS-32	ACTIVE NAPL REMOVAL
○ N2SC-16	MONITORING WELL INSTALLED IN AUGUST 2000

- NOTES:
1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1996 AERIAL PHOTOGRAPHS.
 2. SAMPLING LOCATIONS HAVE BEEN SURVEYED TO KNOW PHYSICAL FEATURES BY BLASLAND, BOUCK & LEE, INC. AND HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. SAMPLING LOCATIONS SHOWN ON THIS MAPPING ARE APPROXIMATE. HOWEVER SURVEY DATA ARE AVAILABLE TO IDENTIFY PRECISE SAMPLING LOCATIONS.
 3. LIMITS OF BUILDINGS, PROPERTY BOUNDARIES, AND ROADS ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
NEWELL STREET AREA II

SITE PLAN

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

FIGURE 1

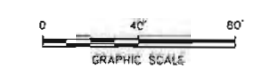
X: 20183X01
P: STD/D3.DWG
10/9/00 SWR-54-DWW RCB DMW
20183D01/20183D03.DWG



LEGEND

- J9-23-12 PARCEL NUMBER
- x-x- APPROXIMATE EXISTING FENCE LOCATION
- - - - APPROXIMATE PARCEL BOUNDARY
- - - - NON-RESIDENTIAL PROPERTY BOUNDARY
- ▲ NS-2A SOIL BORING LOCATION
- NS-1 MONITORING WELL
- NS-32 ACTIVE NAPL REMOVAL
- DNAPL OBSERVED IN WELL DURING 2000 MONITORING
- LNAPL OBSERVED IN WELL DURING 2000 MONITORING
- ▲ 948.1 TOP OF TILL ELEVATION (FEET ABOVE MEAN SEA LEVEL)
- 948 TOP OF TILL ELEVATION CONTOUR (FEET ABOVE MEAN SEA LEVEL), DASHED WHERE INFERRED

- NOTES:**
1. THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS.
 2. SAMPLING LOCATIONS HAVE BEEN SURVEYED TO KNOWN PHYSICAL FEATURES BY BLASLAND, BOUCK & LEE, INC. AND HILL ENGINEERS, ARCHITECTS, PLANNERS, INC. SAMPLING LOCATIONS SHOWN ON THIS MAPPING ARE APPROXIMATE. HOWEVER SURVEY DATA ARE AVAILABLE TO IDENTIFY PRECISE SAMPLING LOCATIONS.
 3. LIMITS OF BUILDINGS, PROPERTY BOUNDARIES, AND ROADS ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
NEWELL STREET AREA II

**EXTENT OF NAPL AND
TOP OF TILL ELEVATION**

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

FIGURE
2

X: 20183X01
P: STD/CL_02BL
10/19/00 SYR-54-DWW RCB DWG
20183X01/20183G04.DWG

Date Start/Finish: 8/28/00 - 8/29/00 Drilling Company: Parratt-Wolff, Inc. Driller's Name: G. Lansing Drilling Method: Drive & Wash Auger Size: 6" Rig Type: Ingersoll Rand A-300 Sampling Method: 2" Split Spoon	Northing: 532613.39949 Easting: 131558.11942 Casing Elevation: 985.62 Borehole Depth: 40.5' Surface Elevation: 983.4 Geologist: N. A. Smith	Well ID: N2SC-16 Client: General Electric Company Location: Newell Street Area II Pittsfield, Massachusetts
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well Construction
	985									Steel Protective Casing with Lock Pressure-Fitted Well Cap
0		0-2	/	0.9	2	6	3.0		(0 - 0.25 feet) - Brown fine SAND and wood fragments, dry. (0.25 - 0.5 feet) - Light brown fine SAND, trace fine Gravel, dry. (0.5 - 2.0 feet) - Dark gray-black fine SAND, trace fine-coarse Gravel, angular, and white fine Sand, dry (FILL).	Concrete 0 - 1 feet bgs.
5	980	2-4	/	1.4	8	17	12.5		(2.0 - 4.0 feet) - Light brown fine SAND, trace to little medium Gravel, dry, layered with dark gray-orange fine Sand (FILL), layers 0.1' - 0.6' thick.	4" ID SCH 40 PVC Casing +2 - 29 feet bgs.
		4-6	/	2.0	2	5	46.2		(4.0 - 5.1 feet) - Light gray-white, very fine SAND, damp. (5.1 - 6.6 feet) - Brown-gray fine SAND, trace medium Sand, dry-damp, trace odor 5.5 - 6.0 ft.	
		6-8	/	1.2	2	7	22.5		(6.6 - 6.85 feet) - Dark gray-black fine SAND, trace Silt and fine to medium Shaly Gravel, damp (FILL). (6.85 - 8.0 feet) - Brown-gray fine SAND, some Silt, damp.	Portland Cement/Bentonite Grout 1 - 25 feet bgs
10	975	8-10	/	0.7	2	7	35.5		(8.0 - 8.5 feet) - Brown fine SAND, trace medium Sand, damp. (8.5 - 10 feet) - Brown-gray fine SAND, trace Silt, medium Sand and Gravel, damp.	
		10-12	/	0.5	2	6	1.3		(10 - 12 feet) - Brown fine to medium SAND, trace iron staining, wet from drive and wash sampling.	
		12-14	/	0.2	2	5	7.5		(12 - 14 feet) - Dark gray-brown fine to medium SAND, trace fine Gravel, loose, wet.	
15	970	14-16	/	1.2	2	4	3.7		(14 - 14.5 feet) - Brown fine SAND, trace medium Sand and Silt, wet. (14.5 - 16.2 feet) - Gray fine to medium SAND, some fine Gravel, rounded, trace sheen 14.5' - 15.2'.	

 BLASLAND, BOUCK & LEE, INC. <i>engineers & scientists</i>	Remarks:	Saturated Zones		
		Date / Time	Elevation	Depth

Client:
 General Electric Company
 Location:
 Newell Street Area II
 Pittsfield, Massachusetts

Well ID: N2SC-16
 Total Depth: 40.5'

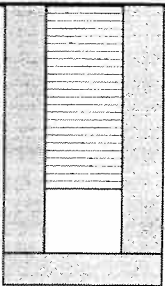
DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well Construction
16-18	965	16-18	/	0.6	2 3 4 4	7	7.7	(16.2 - 18 feet) - Gray fine to medium SAND, trace woody organics, wet.	4" ID SCH 40 PVC Casing +2-29 feet bgs.	
18-20	20	18-20	/	0.9	3 5 5 5	10	6.5	(18 - 18.5 feet) - Light gray fine GRAVEL and medium SAND, rounded, layered with brown SILT and ORGANICS, wet layers <0.1 - 0.4' thick. (18.5 - 20.4 feet) - Gray fine to medium SAND, trace fine Gravel, wet.		
20-22		20-22	/	0.7	5 6 5 4	11	6.0	(20.4 - 22 feet) - Gray fine SAND, trace Silt, medium Sand, and fine Gravel, wet.		
22-24	960	22-24	/	1.8	5 5 4 6	9	5.1	(22 - 23.1 feet) - Light gray medium to coarse SAND and fine GRAVEL, trace coarse Gravel, rounded, wet. (23.1 - 24 feet) - Gray fine to medium SAND, little fine Gravel, trace Silt, wet.		
24-26	25	24-26	/	0.7	4 5 5 5	10	2.7	(24 - 30 feet) - Brown-gray fine to coarse SAND, some fine to medium Gravel, trace Silt, wet.		Hydrated Bentonite Chip Seal 25 - 27 feet bgs.
26-28		26-28	/	0.5	3 4 4 5	8	1.6			
28-30	955	28-30	/	0.7	7 8 7 6	15	1.6			
30-32	30	30-32	/	0.8	7 6 7 7	13	3.1	(30 - 32 feet) - Brown fine to coarse SAND, some fine to medium Gravel, trace to little Silt, trace to coarse Gravel, wet.		
32-34	950	32-34	/	0.5	5 7 6 7	13	3.0	(32 - 36 feet) - Brown-gray fine to medium SAND, some fine to medium Gravel, little Silt, compact, wet.		#0 Silica Sandpack 27 - 40.5 feet bgs.
34-36	35	34-36	/	0	4 4 5 4	9	N/A			




Remarks:

Saturated Zones		
Date / Time	Elevation	Depth

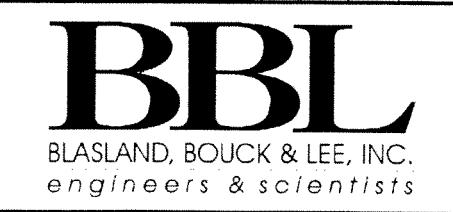
Client: General Electric Company Well ID: N2SC-16
 Location: Newell Street Area II Total Depth: 40.5'
 Pittsfield, Massachusetts

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well Construction
36-38			/	0.2	4 5 6	12	479		(36 - 38 feet) - Brown SILT, some fine Gravel, little fine Sand, slight odor, wet.	 <p>#0 Silica Sandpack 27 - 40.5 feet bgs. 4" ID SCH 40 PVC Screen, 0.01" Slot 29 - 39 feet bgs. 4" ID SCH 40 mPVC Sump 39 - 40 feet bgs. Bottom of Borehole 40.5 feet bgs.</p>
38-40	94.5		/	1.2	7 8 11	19	3570		(38 - 39 feet) - Brown-gray fine to medium GRAVEL, little Silt, wet, slight odor, trace sheen.	
					14		43.3		(39 - 40 feet) - Yellow-brown SILT, little very fine Sand, trace Clay and medium Gravel, moist, no sheen, no odor (TILL).	
									Bottom of boring at 40 feet.	
40										
45										
50										
55										

 BLASLAND, BOUCK & LEE, INC. <i>engineers & scientists</i>	Remarks: 	Saturated Zones		
		Date / Time	Elevation	Depth

Date Start/Finish: 8/30/00 - 8/31/00 Drilling Company: Parratt-Wolff, Inc. Driller's Name: G. Lansing Drilling Method: Drive & Wash Auger Size: 6" Rig Type: Ingersoll Rand A-300 Sampling Method: 2" Split Spoon	Northing: 532647.06484 Easting: 131530.10286 Casing Elevation: 984.73 Borehole Depth: 38' Surface Elevation: 982.5 Geologist: N. A. Smith	Well ID: N2SC-17 Client: General Electric Company Location: Newell Street Area II Pittsfield, Massachusetts
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well Construction
	985									Steel Protective Casing & Lock Pressure-Fitted Well Cap
		0-2	/	0.8	3	6	59		(0 - 2.0 feet) - Brown fine SAND, trace fine to medium Gravel and Organics in top 0.2 feet, dry.	Concrete 0 - 1 feet bgs.
		2-4	/	11	3	6	4.7		(2.0 - 2.4 feet) - Dark brown fine SAND, trace Silt and fine to medium Gravel, dry. (2.4 - 4.0 feet) - Brown fine to medium SAND, trace glass, slag, and metal bolt (FILL), dry.	4" ID SCH 40 PVC Casing +2 - 24 feet bgs.
5	980	4-6	/	11	3	7	117		(4.0 - 6.5 feet) - Brown-black fine SAND, little Silt, trace fine Gravel, slag, and brick debris (FILL), dry.	
		6-8	/	10	2	4	4.9		(6.5 - 6.8 feet) - Light brown fine to medium SAND, damp. (6.8 - 8.0 feet) - Brown fine SAND, trace Silt, damp.	
		8-10	/	07	2	4	4.3		(8.0 - 10.5 feet) - Light brown fine SAND, little medium Sand, iron staining from 8.3 to 8.4 ft., wet from drive and wash sampling.	
10	975	10-12	/	12	2	4	3.8		(10.5 - 12.2 feet) - Brown-gray fine to medium SAND, little to some fine Gravel, angular, wet.	Portland Cement/Bentonite Grout 1 - 20 feet bgs.
		12-14	/	1.1	2	5	3.7		(12.2 - 12.5 feet) - Brown fine SAND, wet. (12.5 - 14.5 feet) - Gray fine SAND, little medium Sand, scattered Organic layers, wet.	
15	970	14-16	/	10	5	6	7.6		(14.5 - 16 feet) - Gray fine to medium SAND, some fine Gravel, trace medium Gravel, subrounded, wet.	



Remarks:
Split spoon sample only collected from 36 to 38 feet.

Saturated Zones		
Date / Time	Elevation	Depth

Client:

General Electric Company

Well ID: N2SC-17

Location:

Newell Street Area II
Pittsfield, Massachusetts

Total Depth: 38'

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well Construction
20	965	16-18	/	14	3 2 3 3	5	22.4		(16 - 18 feet) - Alternating sequence layers 0.1 to 0.25 ft thick. LAYER 1: Gray fine to medium SAND, some fine Gravel, trace medium Gravel. LAYER 2: Dark brown-gray fine SAND, little woody Organics and Silt.	Portland Cement/Bentonite Grout 1 - 20 feet bgs. 4" ID SCH 40 PVC Casing +2 - 24 feet bgs. Hydrated Bentonite Chip Seal 20 - 22 feet bgs.
		18-20	/	10	1 1 3 2	4	29.4		(18 - 18.4 feet) - Brown-gray-white fine GRAVEL, some fine to medium SAND, rounded, wet. (18.4 - 20.5 feet) - Medium-dark gray fine SAND, little Silt, contains Silt stringers, wet.	
		20-22	/	10	1 1 3 2	4	9.3		(20.5 - 22.3 feet) - Gray fine to medium SAND, trace medium to coarse Gravel, rounded, interbedded with gray fine SAND, wet.	
		22-24	/	12	2 2 3 4	5	5.2		(22.3 - 24 feet) - Gray-brown fine SAND, some fine Gravel, trace Silt, wet.	
25	960	24-26	/	0.8	8 8 6 5	14	5.0		(24 - 28 feet) - Gray-brown fine to medium SAND, trace fine to medium Gravel, subrounded, wet.	#0 Silica Sand Pack 22 - 35.5 feet bgs.
		26-28	/	1.2	5 6 8 8	14	5.3			
		28-30	/	0.6	5 6 7 10	13	3.4		(28 - 30 feet) - Gray fine SAND, some medium Sand, trace Silt, contains lenses of fine GRAVEL, some fine to medium Sand, wet.	
		30-32	/	0.6	8 12 9 7	21	3.9		(30 - 32 feet) - Brown fine SAND, some fine to medium Gravel, trace Silt, subangular, compact, wet.	
30	955	32-34	/	0.5	5 10 9 8	19	2.9		(32 - 34 feet) - Brown fine to medium SAND, trace fine Gravel, wet.	4" ID SCH 40 PVC Screen, 0.01" Slot 24 - 34 feet bgs.
		34-36	/	0.9	6 10 8 6	18	2.0		(34 - 36 feet) - Brown SILT, trace Clay, fine Sand, and fine to medium Gravel, subangular, Moist (TILL).	
35	950								4" ID SCH 40 PVC Sump 34 - 35 feet bgs. Bottom of Borehole 35.4 feet bgs.	



Remarks:

Split spoon sample only collected from 36 to 38 feet.

Saturated Zones

Date / Time	Elevation	Depth

Client: General Electric Company Location: Newell Street Area II Pittsfield, Massachusetts	Well ID: N2SC-17 Total Depth: 38'
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Well Construction
		36-38		1.1	8 8 11 12	19	17		(36 - 38 feet) - Brown SILT, little Clay, trace fine Sand and fine to medium Gravel, moist (TILL). Bottom of Boring at 38 feet.	
40	945									
45	940									
50	935									
55	930									



Remarks:
 Split spoon sample only collected from 36 to 38 feet.

Saturated Zones		
Date / Time	Elevation	Depth