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Transmitted via Overnight Courier

September 15, 2006

Mr. William P. Lovely, Jr.
U.S. Environmental Protection Agency
EPA New England
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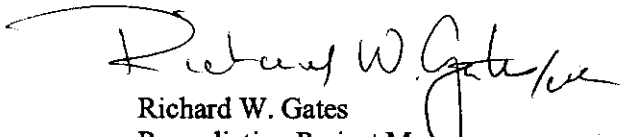
**Re: GE-Pittsfield/Housatonic River Site
Groundwater Management Area 3 (GEC330)
Soil Gas Investigation Summary Report**

Dear Mr. Lovely:

In accordance with EPA's July 11, 2006 conditional approval letter regarding GE's May 31, 2006 *Soil Gas Investigation Work Plan for Groundwater Management Area 3*, enclosed is a document entitled *Soil Gas Investigation Summary Report for Groundwater Management Area 3*. As we have discussed with EPA, this summary report describes the sampling activities that GE performed to assess whether constituents detected in the light non-aqueous-phase liquid (LNAPL) adjacent to Building 51 are present in soil gas near the building, and it presents the analytical results obtained. GE will provide a separate submittal presenting an evaluation of these results and, as warranted, a proposal for further follow-up activities.

Please contact me if you have any questions or comments.

Sincerely,



Richard W. Gates
Remediation Project Manager

Enclosure

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REPORT

***Soil Gas Investigation Summary Report
for Groundwater Management Area 3***

**General Electric Company
Pittsfield, Massachusetts**

September 2006

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an ARCADIS company

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1. Introduction

On May 31, 2006, the General Electric Company (GE) submitted to the United States Environmental Protection Agency (EPA) a document entitled *Soil Gas Investigation Work Plan for Groundwater Management Area 3* (Work Plan). This Work Plan was submitted in response to the identification of light non-aqueous phase liquid (LNAPL) in the vicinity of Building 51 at GE's Pittsfield, Massachusetts facility and in response to a May 2, 2006 conditional approval letter issued by EPA concerning GE's *Groundwater Management Area 3 Groundwater Quality and NAPL Monitoring Interim Report for Fall 2005* (GMA 3 Fall 2005 Report). As discussed in the Work Plan, an LNAPL sample collected from well 51-8, located adjacent to Building 51, had shown concentrations of certain constituents (trichloroethene, 1,2,4-trichlorobenzene, and naphthalene) that would exceed the Method 1 GW-2 standards set forth in the Massachusetts Contingency Plan (MCP) if those concentrations had been found in groundwater. (The MCP GW-2 standards address groundwater that is a potential source of vapors to the indoor air of buildings, and apply to groundwater located within 30 feet of an existing occupied building at an average depth of 15 feet or less from the ground surface.) GE's Work Plan proposed the collection and analysis of soil gas samples to determine whether such constituents detected in the LNAPL near Building 51 are present within the soil gas near Building 51.

EPA conditionally approved the Work Plan in a letter dated July 11, 2006. That letter directed GE to analyze the soil gas samples by EPA Compendium Method TO-15 and to report all analytes detected in those samples. It also directed GE to consider collecting groundwater and LNAPL samples from two monitoring wells (wells 51-8 and GMA3-10) and one piezometer (UB-PZ-3GE) near Building 51 at the same time as the collection of the soil gas samples.

GE conducted the EPA-approved field sampling activities on August 7-8, 2006. This Soil Gas Investigation Summary Report (Summary Report) describes the sampling activities that were performed and the analytical results obtained. It also notes that GE will provide a further submittal presenting an evaluation of the results and, as warranted, a proposal for additional follow-up activities to further assess potential indoor air concentrations in this area.

2. Field Activities and Analytical Results

2.1 General

The activities conducted in August 2006 involved the collection and analysis of soil gas, LNAPL, and groundwater samples from locations adjacent to Building 51 within the known extent of LNAPL (as shown on Figure 1). The collection of these samples and the analytical results obtained are described below.

2.2 Soil Gas Sampling and Analysis

2.2.1 Soil Gas Sample Collection

On August 7, 2006, GE collected soil gas samples from three locations near Building 51, as shown on Figure 1. All soil gas samples were collected and analyzed in accordance with EPA Compendium Method TO-15, titled *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air – Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, and following the methods outlined in the Standard Operating Procedures (SOPs) included as Attachments 1 and 2 to the Work Plan.

Prior to sampling, nearby monitoring wells 51-8, 59-7 and GMA3-13 were gauged to determine the depth to LNAPL and depth to groundwater. Monitoring well 51-8 is located along the east side of Building 51 near sample location SG-51E. Monitoring well 59-7 is located in the roadway between the south side of Building 51 and the north side of Building 59, and is near sample location SG-51S. Monitoring well GMA3-13 is located in the lawn between Plastics Avenue and the west side of Building 51, and is near sample location SG-51W. These well locations are also depicted on Figure 1.

Based on the depth to groundwater in the area of Building 51, soil gas sampling locations SG-51E, SG-51S, and SG-51W were installed in the unsaturated zone such that samples were collected at depths of approximately 10, 11, and 10 feet below ground surface (bgs), respectively. Each soil gas sampling location consisted of a 1¼-inch-diameter steel drive rod affixed with an expendable point holder and expendable point at the downhole end. The monitoring point was installed using a direct push drill rig. Laboratory grade ¼-inch-inside diameter polyethylene

tubing was used to connect each sampling point to a laboratory certified clean 1-liter SUMMA canister. A twist-to-lock connector was attached to one end of the sample collection tubing. The twist-to-lock connector was threaded into the expendable point holder. A hydrated bentonite mix was used to seal the borehole at each location to mitigate the potential for short-circuiting to the surface.

Prior to collecting a soil gas sample, the sampling point and tubing were purged (one to three volumes) using a portable vacuum pump. Approximate purge volumes were recorded on the Soil Gas Sample Collection Logs (included in Appendix A).

The flow controller/regulator on each SUMMA canister, as well as the vacuum canister, was used to collect a sample directly from the subsurface stainless steel sampling point. A duplicate sample was collected from soil gas sampling point SG-51S, using a stainless steel "Tee" fitting. The soil gas samples were collected over a two-hour time period.

A helium tracer gas was used to verify the integrity of the soil vapor probe seal. An inverted plastic bucket was used as an enclosure to keep the tracer gas in contact with the probe seal. A portable monitoring instrument was used at each vapor sampling point to monitor the concentration of helium before, during purging, and after the soil gas sample was collected to verify the integrity of the probe seal. The soil gas sampling records for each location are included in Appendix A.

2.2.2 Soil Gas Analyses

Following collection, the soil gas samples and associated quality assurance/quality control (QA/QC) samples were submitted for analysis of volatile organic compounds (VOCs), as well as certain semi-volatile organic compounds (SVOCs) that can also be identified during the analysis (including 1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and naphthalene). Analyses were conducted by Lancaster Laboratories, Inc. of Lancaster, Pennsylvania, which has current National Environmental Laboratory Accreditation Program (NELAP) certification and is accredited in the Commonwealth of Massachusetts for conducting analyses in accordance with EPA Compendium Method TO-15.

2.2.3 Soil Gas Analytical Results

The complete analytical results for the three soil gas samples collected in August 2006 are presented in Table 1. In summary, a total of 40 individual VOCs and 2 SVOCs were detected in one or more of the soil gas samples. Sample SG-51S, located on the south side of Building 51, generally contained the highest concentrations of detected constituents, although certain constituents were detected at higher levels at one of the other two soil gas sampling locations (i.e., trichloroethene at location SG-51E on the east side of Building 51).

2.3 LNAPL Sampling and Analysis

2.3.1 LNAPL Sample Collection

On August 8, 2006, GE collected LNAPL samples from two monitoring wells (51-8 and GMA3-10) and one piezometer (UB-PZ-3) near Building 51. Monitoring well 51-8 is located along the east side of Building 51, approximately 40 feet south of soil gas sample location SG-51E. Monitoring well GMA3-10 is located along the west side of Building 51, approximately 90 feet north of soil gas sample location SG-51W. Piezometer UB-PZ-3 is near the southwest corner of Building 51, approximately 100 feet south of soil gas sample location SG-51W and 150 feet west of soil gas sample location SG-51S. The sampling locations are illustrated on Figure 1.

An interface probe was used at each sampling point to measure the LNAPL thickness present before sampling. The LNAPL layer in well 51-8 was measured at 1.52 feet thick, while 0.66 foot and 0.28 foot of LNAPL were present in well GMA3-10 and piezometer UB-PZ-3, respectively. The samples were collected with a peristaltic pump. The LNAPL sampling details are included on the groundwater sampling records for each location contained in Appendix A.

2.3.2 LNAPL Analyses

Following collection, the LNAPL samples and associated QA/QC samples were submitted to SGS Environmental Services, Inc. of Wilmington, North Carolina, for laboratory analysis of the VOCs listed in GE's *Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP)*, as well as five compounds listed as SVOCs in the FSP/QAPP (1,2-dichlorobenzene, 1,3-dichlorobenzene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, and naphthalene), using EPA Method 8260B.

2.3.3 LNAPL Analytical Results

The complete analytical results for the three LNAPL samples collected in August 2006 and analyzed for VOCs and select SVOCs are presented in Table 2. In summary, 5 VOCs and 4 SVOCs were detected in the LNAPL samples. Two of the VOCs (tetrachloroethene and trichloroethene) and one SVOC (naphthalene) were only detected in one LNAPL sample (from well 51-8).

2.4 Groundwater Sampling and Analysis

2.4.1 Groundwater Sample Collection

On August 8, 2006, GE collected groundwater samples from the same monitoring wells (51-8 and GMA3-10) and piezometer (UB-PZ-3) utilized for LNAPL sampling near Building 51 (Figure 1). Groundwater samples were collected following removal of LNAPL from the wells. A peristaltic pump was utilized to collect the groundwater samples.

Due to the presence of NAPL in the monitoring wells and piezometer, and the desire to collect groundwater samples without contamination of the samples or monitoring equipment by LNAPL, the low-flow purging techniques specified in the FSP/QAPP were not utilized during this purging. Instead, once all LNAPL was removed from the wells, the peristaltic pump tubing was replaced with clean tubing, and only a sufficient quantity of groundwater to clear the tubing and to measure field parameters was removed from the wells prior to sample collection. A single set of field parameter data at the time of sampling was recorded from each groundwater sample location by using portable monitoring instruments during groundwater sample collection. This approach is consistent with prior LNAPL sampling activities conducted at the Groundwater Management Areas at the GE-Pittsfield/Housatonic River Site. The groundwater sampling records for each location are included in Appendix A.

2.4.2 Groundwater Analyses

Following collection, the groundwater samples and associated QA/QC samples were submitted to SGS Environmental Services, Inc. of Wilmington, North Carolina, for laboratory analysis of the VOCs listed in GE's FSP/QAPP, as well as the same five SVOCs for which the LNAPL samples were analyzed. These analyses were performed using EPA Method 8260B.

2.4.3 Groundwater Analytical Results

The complete analytical results for the three groundwater samples collected in August 2006 and analyzed for VOCs and select SVOCs are presented in Table 3. In summary, 5 VOCs and 3 SVOCs were detected in at least one of the groundwater samples.

2.5 Data Validation

The soil gas, LNAPL, and groundwater analytical data collected during this investigation have been validated in accordance with the procedures outlined in GE's FSP/QAPP. This validation was completed during the week of September 11, 2006. The results of this review are included in Appendix B. They indicate that 100% of the analytical data are considered usable. Thus, this data set meets the data quality objectives (DQOs) set forth in the FSP/QAPP.

3. Future Activities

As noted in Section 2.5, the data validation for the soil gas, LNAPL, and groundwater sampling data described in Section 2 was completed during the week of September 11, 2006. GE will now proceed to conduct a detailed evaluation of the results and to determine the need for and scope of additional follow-up activities to further assess potential indoor air concentrations in Building 51 and nearby buildings. These activities will include the following:

- As an initial screening step, in accordance with the Work Plan, GE will compare the soil gas analytical results from the three locations near Building 51 to certain screening values set forth in technical guidance tables contained in a draft EPA guidance document titled *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*, EPA530-D-02-004, November 2002 (OSWER Vapor Intrusion Guidance). For the present application, use of these guidance table values is a conservative screening-level approach, because those values were designed for use in residential settings, whereas Building 51 consists of an occupational setting involving workers. The OSWER Vapor Intrusion Guidance explicitly recognizes that “[t]he approaches suggested in this draft guidance are primarily designed to ensure protection of the public in residential settings” (p. 2) and that “EPA does not expect this guidance be used for settings that are primarily occupational” (p. 3). Nevertheless, GE will use values from this Guidance solely as an initial screening step.

The specific values to be used in this screening will consist of the values set forth in Table 2b of the Guidance for “Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.01.” These values are recommended in the Guidance for soil gas samples taken at depths greater 5 feet below the foundation level (p. 28), such as the soil gas samples collected in this case; and they utilize the 10^{-5} cancer risk level (or a non-cancer Hazard Quotient of 1 for non-carcinogens), as recommended in the Guidance as a “generally reasonable screening mechanism” (p. 9).

- In addition, the LNAPL and groundwater results for constituents detected in the August 2006 samples will be compared to the MCP Method 1 GW-2 standards for groundwater. Under the MCP, volatile constituents present within GW-2 groundwater represent a potential source of organic vapors to the indoor air of the overlying or nearby occupied structures. Although the GW-2 standards do not directly apply to LNAPL

samples, the LNAPL analytical data will be compared to those standards to provide a frame of reference to assist in assessing the potential migration of vapors emanating from the NAPL to the indoor air of the building. Further, for any constituents detected in groundwater or LNAPL at levels exceeding the GW-2 standards, GE will evaluate whether such constituents were detected in the soil gas samples, since those that were not detected in the soil gas would not be expected to have an appreciable impact on the indoor air in the building.

- For any constituent detected in LNAPL that was also detected in soil gas at concentrations greater than the conservative EPA soil gas screening values based on residential exposure, GE will conduct a further site-specific assessment. Such an assessment may include application of EPA's version of the Johnson and Ettinger (J&E) model (Version 3.1, dated February 2004) to estimate the concentrations of such constituent within the indoor air of nearby buildings. If such modeling is performed, it would use the soil gas analytical data for the constituent(s) of interest, combined with as much building-specific information and site-specific parameters as can be obtained, and default values would be used where such site-specific information is not available. Using this information, the J&E model would be applied to estimate the indoor air vapor concentrations that would be associated with the soil gas.

Alternatively, or in addition, GE will consider additional sampling of appropriate media to provide additional information to conduct the assessment of the potential impacts of the constituent(s) of interest on the indoor air quality.

- Since the EPA screening values set forth in the OSWER Vapor Intrusion Guidance are not applicable to occupational settings, GE will also compare soil gas data, as well as any estimated indoor air concentrations, to the workplace exposure limits established by the U.S. Occupational Safety and Health Administration (OSHA) and the guidelines established by the National Institute for Occupational Safety and Health (NIOSH), which are applicable to occupational settings.

GE proposes to conduct the above evaluations and to provide a supplemental soil gas investigation report to EPA by October 9, 2006. That report will include the results of the evaluations conducted and, if warranted, a proposal for additional follow-up activities to further evaluate potential impacts from constituents in the LNAPL on indoor air quality in this area.

Tables

**TABLE 1
SOIL GAS ANALYTICAL RESULTS**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in ug/m³)**

Parameter	Sample ID: Date Collected:	SG-51E 08/07/06	SG-51S 08/07/06	SG-51W 08/07/06
Volatile Organics				
1,1,1,2-Tetrachloroethane		ND(6.9)	ND(69) [ND(69)]	ND(6.9)
1,1,1-Trichloroethane		25	ND(55) [ND(55)]	ND(5.5)
1,1,2,2-Tetrachloroethane		ND(6.9)	ND(69) [ND(69)]	ND(6.9)
1,1,2-trichloro-1,2,2-trifluoroethane		33	ND(77) [45 J]	ND(7.7)
1,1,2-Trichloroethane		ND(5.5)	ND(55) [ND(55)]	ND(5.5)
1,1-Dichloroethane		2.3 J	ND(40) [ND(40)]	ND(4.0)
1,1-Dichloroethene		ND(4.0)	ND(40) [ND(40)]	ND(4.0)
1,2,3-Trichloropropane		ND(6.0)	ND(60) [ND(60)]	ND(6.0)
1,2,4-Trimethylbenzene		24	24 J [25 J]	240
1,2-Dibromoethane		ND(7.7)	ND(77) [ND(77)]	ND(7.7)
1,2-Dichloroethane		ND(4.0)	ND(40) [11 J]	ND(4.0)
1,2-Dichloropropane		ND(4.6)	ND(46) [ND(46)]	ND(4.6)
1,3,5-Trimethylbenzene		6.9	9.8 J [12 J]	57
1,3-butadiene		2.5 J	ND(44) [ND(44)]	3.3 J
1,4-Dioxane		ND(3.6 J)	ND(36 J) [ND(36 J)]	ND(3.6 J)
2-Butanone		130	870 [770]	380
2-Hexanone		ND(8.2)	35 J [ND(82)]	ND(8.2)
3-Chloropropene		ND(3.1)	ND(31) [ND(31)]	ND(3.1)
4-Ethyltoluene		19	29 J [26 J]	110
4-Methyl-2-pentanone		4.4 J	ND(82) [ND(82)]	21
Acetone		270	3,300 [3,900]	480
Acetonitrile		ND(3.4)	48 [68]	ND(3.4)
Acrolein		ND(4.6)	ND(46) [ND(46)]	ND(4.6)
Acrylonitrile		ND(4.3)	ND(43) [ND(43)]	ND(4.3)
Alpha Methyl Styrene		ND(4.8)	ND(48) [ND(48)]	ND(4.8)
Benzene		3.5	9.9 J [12 J]	4.2
Bromobenzene		ND(6.4)	ND(64) [ND(64)]	ND(6.4)
Bromodichloromethane		ND(6.7 J)	ND(67 J) [ND(67 J)]	ND(6.7 J)
Bromoform		ND(10)	ND(100) [ND(100)]	ND(10)
Bromomethane		ND(3.9)	ND(39) [ND(39)]	ND(3.9)
Carbon Disulfide		3.0 J	130 [140]	ND(3.1)
Carbon Tetrachloride		8.0	ND(63) [ND(63)]	ND(6.3)
Chlorobenzene		ND(4.6)	ND(46) [ND(46)]	ND(4.6)
Chlorodifluoromethane		ND(3.5)	ND(35) [59]	ND(3.5)
Chloroethane		ND(2.6)	ND(26) [ND(26)]	ND(2.6)
Chloroform		62	31 J [32 J]	1.5 J
Chloromethane		ND(2.1)	ND(21) [ND(21)]	ND(2.1)
cis-1,2-Dichloroethene		14	ND(40) [ND(40)]	ND(4.0)
cis-1,3-Dichloropropene		ND(4.5)	ND(45) [ND(45)]	ND(4.5)
Cumene		1.6 J	ND(49) [ND(49)]	6.9
Dibromochloromethane		ND(8.5)	ND(85) [ND(85)]	ND(8.5)
Dibromomethane		ND(7.1)	ND(71) [ND(71)]	ND(7.1)
Dichlorodifluoromethane		1.9 J	ND(49) [ND(49)]	ND(4.9)
Dichlorofluoromethane		ND(4.2)	ND(42) [ND(42)]	ND(4.2)
Ethyl Acetate		ND(3.6)	49 [54]	9.2
Ethyl Acrylate		ND(4.1)	ND(41) [ND(41)]	ND(4.1)
Ethyl Methacrylate		ND(4.7)	ND(47) [ND(47)]	ND(4.7)
Ethylbenzene		13	380 [360]	67
Freon 114		ND(7.0)	ND(70) [ND(70)]	ND(7.0)
Heptane		9.4	44 [39 J]	11
Hexane		10	40 [50]	15
Iodomethane		ND(5.8)	ND(58) [ND(58)]	ND(5.8)
Isooctane		ND(4.7)	28 J [47]	2.0 J
m&p-Xylene		29	710 [670]	110
Methyl Acrylate		ND(3.5)	ND(35) [ND(35)]	ND(3.5)

**TABLE 1
SOIL GAS ANALYTICAL RESULTS**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in ug/m³)**

Parameter	Sample ID: Date Collected:	SG-51E 08/07/06	SG-51S 08/07/06	SG-51W 08/07/06
Volatile Organics (continued)				
Methyl Methacrylate		ND(4.1)	ND(41) [89]	ND(4.1)
Methyl tert-butyl ether		2.1 J	49 [45]	13
Methylene Chloride		ND(3.5)	73 J [190 J]	ND(3.5)
Octane		3.7 J	1,200 [1,100]	5.6
o-Xylene		12	160 [160]	58
Pentane		28	220 [220]	71
Propene		180	170 [170]	380
Styrene		1.7 J	17 J [16 J]	7.4
tert-Butyl Alcohol		1.4 J	ND(30) [ND(30)]	ND(3.0)
Tetrachloroethene		61	ND(68) [ND(68)]	ND(6.8)
Toluene		8.4	5,700 [6,000]	40
trans-1,2-Dichloroethene		ND(4.0)	ND(40) [ND(40)]	ND(4.0)
trans-1,3-Dichloropropene		ND(4.5)	ND(45) [ND(45)]	ND(4.5)
Trichloroethene		910	82 [81]	ND(5.4)
Trichlorofluoromethane		12	ND(56) [19 J]	21
Vinyl Acetate		ND(3.5)	ND(35) [ND(35)]	ND(3.5)
Vinyl Chloride		ND(2.6)	ND(26) [ND(26)]	ND(2.6)
Semivolatile Organics				
1,2,4-Trichlorobenzene		ND(15)	ND(150) [ND(150)]	ND(15)
1,2-Dichlorobenzene		ND(6.0)	ND(60) [ND(60)]	ND(6.0)
1,3-Dichlorobenzene		5.1 J	ND(60) [ND(60)]	11
1,4-Dichlorobenzene		ND(6.0)	ND(60) [ND(60)]	ND(6.0)
Hexachlorobutadiene		ND(21)	ND(210) [ND(210)]	ND(21)
Hexachloroethane		ND(9.7)	ND(97) [ND(97)]	ND(9.7)
Naphthalene		9.6	17 [17]	21

Notes:

1. Samples were collected by BBL Inc., an ARCADIS company (BBL), and submitted to Lancaster Laboratories, Inc. for analysis of volatiles and selected semivolatiles.
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, Blasland Bouck & Lee, Inc. (approved May 29, 2004 and resubmitted June 19, 2004).
3. Detected analytes are presented in **bold** type.
4. ND - Analyte was not detected. The number in parenthesis is the associated detection limit.
5. Field duplicate sample results are presented in brackets.

Data Qualifiers:

Organics (volatiles, semivolatiles)

J - Indicates that the associated numerical value is an estimated concentration.

**TABLE 2
LNAPL ANALYTICAL RESULTS**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in parts per million, ppm)**

Parameter	Sample ID: Date Collected:	51-8 08/08/06	GMA3-10 08/08/06	UB-PZ-3 08/08/06
Volatile Organics				
1,1,1,2-Tetrachloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,1,1-Trichloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,1,2,2-Tetrachloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,1,2-Trichloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,1-Dichloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,1-Dichloroethene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,2,3-Trichloropropane		ND(1.0 J) [ND(1.0 J)]	ND(1.0 J)	ND(1.0 J)
1,2-Dibromo-3-chloropropane		ND(5.0) [ND(5.0)]	ND(5.0)	ND(5.0)
1,2-Dibromoethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,2-Dichloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,2-Dichloropropane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,4-Dioxane		ND(100) [ND(100)]	ND(100)	ND(100)
2-Butanone		ND(5.0 J) [ND(5.0 J)]	ND(5.0 J)	ND(5.0 J)
2-Chloro-1,3-butadiene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
2-Chloroethylvinylether		ND(10 J) [ND(10 J)]	ND(10 J)	ND(10 J)
2-Hexanone		ND(5.0) [ND(5.0)]	ND(5.0)	ND(5.0)
3-Chloropropene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
4-Methyl-2-pentanone		ND(5.0) [ND(5.0)]	ND(5.0)	ND(5.0)
Acetone		ND(5.0 J) [ND(5.0 J)]	ND(5.0 J)	ND(5.0 J)
Acetonitrile		ND(20) [ND(20)]	ND(20)	ND(20)
Acrolein		ND(25 J) [ND(25 J)]	ND(25 J)	ND(25 J)
Acrylonitrile		ND(25 J) [ND(25 J)]	ND(25 J)	ND(25 J)
Benzene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Bromodichloromethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Bromoforn		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Bromomethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Carbon Disulfide		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Carbon Tetrachloride		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Chlorobenzene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Chloroethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Chloroform		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Chloromethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
cis-1,3-Dichloropropene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Dibromochloromethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Dibromomethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Dichlorodifluoromethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Ethyl Methacrylate		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Ethylbenzene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Iodomethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Isobutanol		ND(100) [ND(100)]	ND(100)	ND(100)
Methacrylonitrile		ND(5.0) [ND(5.0)]	ND(5.0)	ND(5.0)
Methyl Methacrylate		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Methylene Chloride		0.90 J [0.67 J]	0.77 J	0.73 J
Propionitrile		ND(20) [ND(20)]	ND(20)	ND(20)
Styrene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Tetrachloroethene		0.55 J [0.47 J]	ND(1.0)	ND(1.0)
Toluene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
trans-1,2-Dichloroethene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
trans-1,3-Dichloropropene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
trans-1,4-Dichloro-2-butene		ND(5.0 J) [ND(5.0 J)]	ND(5.0 J)	ND(5.0 J)
Trichloroethene		0.65 J [0.34 J]	ND(1.0)	ND(1.0)
Trichlorofluoromethane		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Vinyl Acetate		ND(2.5 J) [ND(2.5 J)]	ND(2.5 J)	ND(2.5 J)
Vinyl Chloride		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
Xylenes (total)		ND(5.0) [ND(5.0)]	ND(5.0)	ND(5.0)

**TABLE 2
LNAPL ANALYTICAL RESULTS**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in parts per million, ppm)**

Parameter	Sample ID: Date Collected:	51-8 08/08/06	GMA3-10 08/08/06	UB-PZ-3 08/08/06
Semivolatile Organics				
1,2,4-Trichlorobenzene		7.7 [8.1]	0.89 J	7.9
1,2-Dichlorobenzene		ND(1.0) [ND(1.0)]	ND(1.0)	ND(1.0)
1,3-Dichlorobenzene		1.5 [1.5]	ND(1.0)	1.2
1,4-Dichlorobenzene		4.2 [4.0]	0.22 J	ND(1.0)
Naphthalene		ND(1.0) [0.29 J]	ND(1.0)	ND(1.0)

Notes:

1. Samples were collected by BBL Inc., an ARCADIS company (BBL), and submitted to Lancaster Laboratories, Inc. for analysis of volatiles and selected semivolatiles.
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, Blasland Bouck & Lee, Inc. (approved May 29, 2004 and resubmitted June 19, 2004).
3. Detected analytes are presented in **bold** type.
4. ND - Analyte was not detected. The number in parenthesis is the associated detection limit.
5. Field duplicate sample results are presented in brackets.

Data Qualifiers:

Organics (volatiles, semivolatiles)

J - Indicates that the associated numerical value is an estimated concentration.

**TABLE 3
GROUNDWATER ANALYTICAL RESULTS**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in parts per million, ppm)**

Parameter	Sample ID: Date Collected:	51-8 08/08/06	GMA3-10 08/08/06	UB-PZ-3 08/08/06
Volatile Organics				
1,1,1,2-Tetrachloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1,1-Trichloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1,2,2-Tetrachloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1,2-Trichloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1-Dichloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,1-Dichloroethene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2,3-Trichloropropane		ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010 J)	ND(0.0010 J)
1,2-Dibromo-3-chloropropane		ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050 J)	ND(0.0050 J)
1,2-Dibromoethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2-Dichloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,2-Dichloropropane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,4-Dioxane		ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)
2-Butanone		0.0056 J [0.0058 J]	0.0042 J	0.0042 J
2-Chloro-1,3-butadiene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
2-Chloroethylvinylether		ND(0.010 J) [ND(0.010 J)]	ND(0.010 J)	ND(0.010 J)
2-Hexanone		ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
3-Chloropropene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
4-Methyl-2-pentanone		ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
Acetone		0.017 J [0.018 J]	0.011 J	0.014 J
Acetonitrile		ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)
Acrolein		ND(0.025 J) [ND(0.025 J)]	ND(0.025 J)	ND(0.025 J)
Acrylonitrile		ND(0.025 J) [ND(0.025 J)]	ND(0.025 J)	ND(0.025 J)
Benzene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Bromodichloromethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Bromoform		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Bromomethane		ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010 J)	ND(0.0010 J)
Carbon Disulfide		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Carbon Tetrachloride		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chlorobenzene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chloroethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chloroform		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Chloromethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
cis-1,3-Dichloropropene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Dibromochloromethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Dibromomethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Dichlorodifluoromethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Ethyl Methacrylate		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Ethylbenzene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Iodomethane		ND(0.0010 J) [ND(0.0010 J)]	ND(0.0010 J)	ND(0.0010 J)
Isobutanol		ND(0.10) [ND(0.10)]	ND(0.10)	ND(0.10)
Methacrylonitrile		ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)
Methyl Methacrylate		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Methylene Chloride		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Propionitrile		ND(0.020) [ND(0.020)]	ND(0.020)	ND(0.020)
Styrene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Tetrachloroethene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Toluene		0.00021 J [ND(0.0010)]	ND(0.0010)	ND(0.0010)
trans-1,2-Dichloroethene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
trans-1,3-Dichloropropene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
trans-1,4-Dichloro-2-butene		ND(0.0050 J) [ND(0.0050 J)]	ND(0.0050 J)	ND(0.0050 J)
Trichloroethene		0.00096 J [0.0010]	ND(0.0010)	0.00027 J
Trichlorofluoromethane		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
Vinyl Acetate		ND(0.0025 J) [ND(0.0025 J)]	ND(0.0025 J)	ND(0.0025 J)
Vinyl Chloride		0.0013 [0.0015]	ND(0.0010)	ND(0.0010)
Xylenes (total)		ND(0.0050) [ND(0.0050)]	ND(0.0050)	ND(0.0050)

**TABLE 3
GROUNDWATER ANALYTICAL RESULTS**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in parts per million, ppm)**

Parameter	Sample ID: Date Collected:	51-8 08/08/06	GMA3-10 08/08/06	UB-PZ-3 08/08/06
Semivolatile Organics				
1,2,4-Trichlorobenzene		0.0014 [0.0012]	ND(0.0010)	0.0015
1,2-Dichlorobenzene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)
1,3-Dichlorobenzene		0.00048 J [0.00052 J]	ND(0.0010)	0.00030 J
1,4-Dichlorobenzene		0.0024 [0.0025]	0.00026 J	ND(0.0010)
Naphthalene		ND(0.0010) [ND(0.0010)]	ND(0.0010)	ND(0.0010)

Notes:

1. Samples were collected by BBL Inc., an ARCADIS company (BBL), and submitted to Lancaster Laboratories, Inc. for analysis of volatiles and selected semivolatiles.
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan (FSP/QAPP), General Electric Company, Pittsfield, Massachusetts, Blasland Bouck & Lee, Inc. (approved May 29, 2004 and resubmitted June 19, 2004).
3. Detected analytes are presented in **bold** type.
4. ND - Analyte was not detected. The number in parenthesis is the associated detection limit.
5. Field duplicate sample results are presented in brackets.

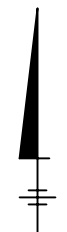
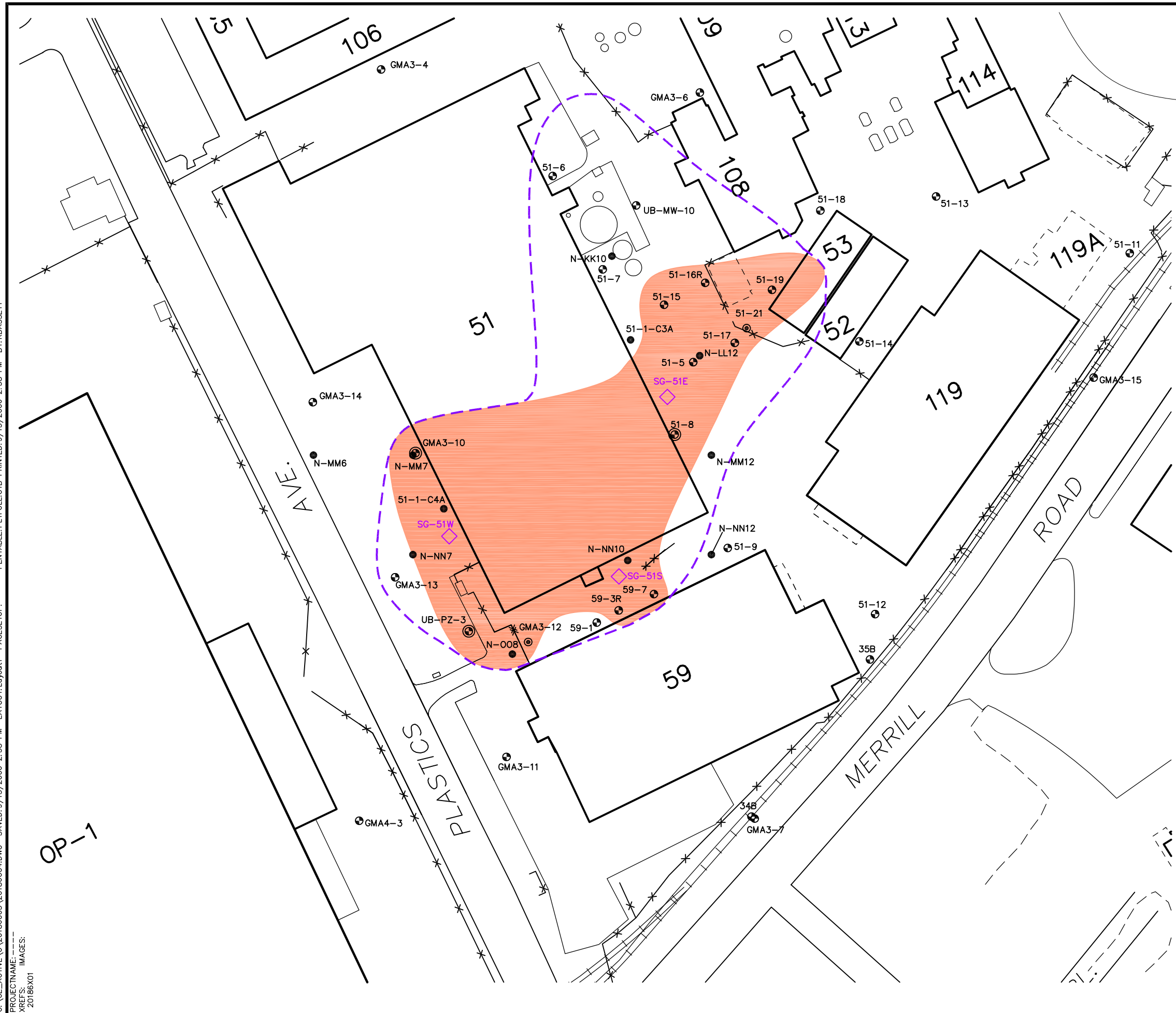
Data Qualifiers:

Organics (volatiles, semivolatiles)

J - Indicates that the associated numerical value is an estimated concentration.

Figure

SYR-85-LAF GHS RCB LAYER: ON=* OFF=#REF*
 G:\GE_ACTIVE\C\20186003\20186004.DWG SAVED:9/15/2006 2:38 PM LAYOUT:Layout1 PAGESETUP:----- PENTABLE:PLTIFULL.CTB PRINTED:9/15/2006 2:38 PM BY:RBASSETT
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 20186X01

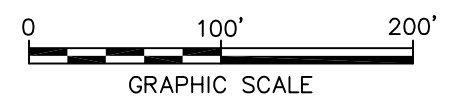


LEGEND:

- 51-6 ● EXISTING MONITORING WELL
- 51-21 ⊙ NAPL RECOVERY WELL (SKIMMER)
- EXTENT OF MEASURABLE LNAPL DURING AUGUST 2006 ROUTINE MONITORING ACTIVITIES
- MAXIMUM HISTORICAL EXTENT OF MEASURABLE LNAPL
- SG-51E ◇ SOIL GAS SAMPLE LOCATION
- N-LL12 ▲ EXISTING SURFACE SOIL SAMPLE LOCATION (0- TO 1-FOOT SAMPLE DEPTH)
- N-008 ● EXISTING SOIL BORING LOCATION (1-FOOT OR GREATER SAMPLE DEPTH)
- 51-8 ⊙ GROUNDWATER / LNAPL SAMPLE LOCATION

NOTES:

1. FIGURE IS BASED ON PHOTOGRAPHIC MAPPING BY LOCKWOOD MAPPING, INC.—FLOWN IN APRIL 1990 AND DATA PROVIDED BY GENERAL ELECTRIC COMPANY.
2. NOT ALL PHYSICAL FEATURES SHOWN.
3. SITE BOUNDARIES, SAMPLE AND BUILDING LOCATIONS ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS BUILDING 51 SOIL GAS INVESTIGATION	
EXTENT OF LNAPL AND SAMPLING LOCATIONS	
	FIGURE 1

Appendices

Appendix A

Field Sampling Records

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists		Soil-Gas Sample Collection Log	
		Sample ID:	SG-51E
Client:	General Electric	Date/Day:	Ⓟ Sunny 8-7-06 Monday
Project:	SOIL GAS PLASTICS 51	Weather:	Sunny
Location:	PITTSFIELD, MA	Temperature:	85°F
Project #:	20186.003	Wind Speed/Direction:	44 FT/min
Samplers:	JJB, ASA	Subcontractor:	BBLES
Logged By:	JAP	Equipment:	Truck-mounted 9600 Powerprobe
Coordinates:	N/A	Moisture Content of Sampling Zone (circle one):	<u>Dry</u> Moist
Sampling Depth:	~10'	Approximate Purge Volume:	140ml.
Time of Collection:	START: 1535 END: 1738	Background PID Ambient Air Reading:	61 ppb

Nearby Groundwater Monitoring Wells/Water Levels:

Well ID	Depth to Groundwater (ft)
51-8	16.75

SUMMA Canister Information:

Size (circle one): 1 L 6 L
 Canister ID: 0307
 Flow Controller ID: N/A

Tracer Gas Information (if applicable):

Tracer Gas: Helium

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
* NONE REPORTED	-27.0	-7

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
	20.5%	18.3%

General Observations/Notes:

Manometer: -0.014
Purge ppb: 133

Approximating One-Well Volume (for purging):

When using 1/4-inch "Dummy Point" and a 6-inch sampling interval, the sampling space will have a volume of approximately 150 mL. Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.



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

Soil-Gas Sample Collection Log

		Sample ID:	SG-515 / SG-DUP-1
Client:	General Electric	Date/Day:	8-7-06 Monday
Project:	SOIL GAS PLASTICS 51	Weather:	Sunny
Location:	PITTSFIELD, MA	Temperature:	85°F
Project #:	20186-003	Wind Speed/Direction:	6.4 FT/MIN
Samplers:	JSB, ASA	Subcontractor:	BBLES
Logged By:	JAP	Equipment:	Truck-mounted 9600 Powerprobe
Coordinates:	N/A	Moisture Content of Sampling Zone (circle one):	<input checked="" type="radio"/> Dry <input type="radio"/> Moist
Sampling Depth:	11'	Approximate Purge Volume:	150 mL
Time of Collection:	START: 1500 END: 1705	Background PID Ambient Air Reading:	64 PPB

Nearby Groundwater Monitoring Wells/Water Levels:

Well ID	Depth to Groundwater (ft)
59-7	~12.82

SUMMA Canister Information:

Size (circle one): 1 L 6 L / Dup
 Canister ID: 0073 / 0263
 Flow Controller ID: "FOR DUPLICATE ONLY", T

Tracer Gas Information (if applicable):

Tracer Gas: Helium

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
* NONE REPORTED	-30+	-10


Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
	29.37%	25.17%

General Observations/Notes:

Manometer #: -0.003 in Hg
Purge ppb = 173

Approximating One-Well Volume (for purging):

When using 1/4-inch "Dummy Point" and a 6-inch sampling interval, the sampling space will have a volume of approximately 150 mL. Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.

 BLASLAND, BOUCK & LEE, INC. <i>engineers, scientists, economists</i>		Soil-Gas Sample Collection Log	
		Sample ID:	SG-51W
Client:	GENERAL ELECTRIC	Date/Day:	8-7-06 MONDAY
Project:	SOIL GAS PLASTICS 51	Weather:	SUNNY, ☀
Location:	PINDFIELD, MA	Temperature:	84°F
Project #:	20186.003	Wind Speed/Direction:	55 FT / MIN NE
Samplers:	JJB, ASA	Subcontractor:	BLES
Logged By:	JJB	Equipment:	TRUCK-MOUNTED 9000 PURGE/ANALYZER
Coordinates:	N/A	Moisture Content of Sampling Zone (circle one):	Dry / Moist
Sampling Depth:	10' BGS	Approximate Purge Volume:	140 ml.
Time of Collection:	START: 1350 END: 1604	Background PID Ambient Air Reading:	64 PPB

Nearby Groundwater Monitoring Wells/Water Levels:

Well ID	Depth to Groundwater (ft)
GMA 3-13	12.00 BGS

SUMMA Canister Information:

Size (circle one): 1 L 6 L

Canister ID: 0413

Flow Controller ID: 211 778

Tracer Gas Information (if applicable):

Tracer Gas: HELIUM

Canister Pressure (inches Hg):		
Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
*NONE REPORTED	-28.5	-6

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
	19.7%	8.3%

General Observations/Notes:

MANOMETER - 0.030
Purge ppb: 224

Approximating One-Well Volume (for purging):

When using 1/4-inch "Dummy Point" and a 6-inch sampling interval, the sampling space will have a volume of approximately 150 mL. Each foot of 1/4-inch tubing will have a volume of approximately 10 mL.

GROUNDWATER SAMPLING LOG

Well No. 51-8
 Key No. -
 PID Background (ppm) -
 Well Headspace (ppm) -

Site/GMA Name GMA3
 Sampling Personnel JAP, JJB, ASA
 Date 8/8/06
 Weather Partly Cloudy, 80°F

WELL INFORMATION

Reference Point Marked? Y N
 Height of Reference Point _____ Meas. From _____
 Well Diameter _____
 Screen Interval Depth _____ Meas. From _____
 Water Table Depth 12.88 Meas. From TIC
 Well Depth _____ Meas. From _____
 Length of Water Column _____
 Volume of Water in Well _____
 Intake Depth of Pump/Tubing _____ Meas. From _____

Sample Time 940
 Sample ID 51-8
 Duplicate ID DWP-1
 MS/MSD _____
 Split Sample ID _____

Reference Point Identification:

TIC: Top of Inner (PVC) Casing
 TOC: Top of Outer (Protective) Casing
 Grade/BGS: Ground Surface

Redevelop? Y N

Required	Analytical Parameters:	Collected
(X)	VOCs (Standard List)	(X)
()	VOCs (Expanded List)	()
(X)	SVOCs (5)	(X)
()	PCBs (Unfiltered)	()
()	PCBs (Filtered)	()
()	Metals/Inorganics (Unfiltered)	()
()	Metals/Inorganics (Filtered)	()
()	Total Cyanide (Unfiltered)	()
()	Total Cyanide (Filtered)	()
()	PAC Cyanide (Filtered)	()
()	PCDDs/PCDFs	()
()	Pesticides/Herbicides	()
()	Natural Attenuation	()
()	Other (Specify)	()

EVACUATION INFORMATION

Pump Start Time _____
 Pump Stop Time _____
 Minutes of Pumping _____
 Volume of Water Removed _____
 Did Well Go Dry? Y N

Evacuation Method: Bailer Bladder Pump ()
 Peristaltic Pump () Submersible Pump () Other/Specify ()
 Pump Type: _____
 Samples collected by same method as evacuation? Y N (specify)

Water Quality Meter Type(s) / Serial Numbers: _____

Time	Pump Rate (L/min.)	Total Gallons Removed	Water Level (ft TIC)	Temp. (Celsius) [3%]*	pH [0.1 units]*	Sp. Cond. (mS/cm) [3%]*	Turbidity (NTU) [10% or 1 NTU]*	DO (mg/l) [10% or 0.1 mg/l]*	ORP (mV) [10 mV]*
940			12.88	22.5	6.35	1.12	27	0.52	

* The stabilization criteria for each field parameter (three consecutive readings collected at 3- to 5-minute intervals) is listed in each column heading.

OBSERVATIONS/SAMPLING METHOD DEVIATIONS

LNAPL sample taken at 930
DEPTH TO LNAPL: 11' 36" (from TIC)

SAMPLE DESTINATION

Laboratory: SGS
 Delivered Via: _____
 Airbill #: _____

Field Sampling Coordinator: Jiel Kiskor

GROUNDWATER SAMPLING LOG

Well No. UB-PZ-3
 Key No. —
 PID Background (ppm) —
 Well Headspace (ppm) —

Site/GMA Name GMA3
 Sampling Personnel JAP, JJB, ASA
 Date 8/8/06
 Weather Partly cloudy, 80°F

WELL INFORMATION

Reference Point Marked? Y N
 Height of Reference Point _____ Meas. From _____
 Well Diameter _____
 Screen Interval Depth _____ Meas. From _____
 Water Table Depth 12.76 Meas. From TIC
 Well Depth _____ Meas. From _____
 Length of Water Column _____
 Volume of Water in Well _____
 Intake Depth of Pump/Tubing _____ Meas. From _____

Sample Time 1125
 Sample ID UB-PZ-3
 Duplicate ID —
 MS/MSD —
 Split Sample ID —

Reference Point Identification:

TIC: Top of Inner (PVC) Casing
 TOC: Top of Outer (Protective) Casing
 Grade/BGS: Ground Surface

Redevelop? Y N

Required	Analytical Parameters:	Collected
(X)	VOCs (Standard List)	(X)
()	VOCs (Expanded List)	()
(X)	SVOCs (5)	(X)
()	PCBs (Unfiltered)	()
()	PCBs (Filtered)	()
()	Metals/Inorganics (Unfiltered)	()
()	Metals/Inorganics (Filtered)	()
()	Total Cyanide (Unfiltered)	()
()	Total Cyanide (Filtered)	()
()	PAC Cyanide (Filtered)	()
()	PCDDs/PCDFs	()
()	Pesticides/Herbicides	()
()	Natural Attenuation	()
()	Other (Specify)	()

EVACUATION INFORMATION

Pump Start Time _____
 Pump Stop Time _____
 Minutes of Pumping _____
 Volume of Water Removed _____
 Did Well Go Dry? Y N

Evacuation Method: Bailer (X) Bladder Pump ()
 Peristaltic Pump () Submersible Pump () Other/Specify ()
 Pump Type: _____
 Samples collected by same method as evacuation? (Y) N (specify)

Water Quality Meter Type(s) / Serial Numbers: _____

Time	Pump Rate (L/min.)	Total Gallons Removed	Water Level (ft TIC)	Temp. (Celsius) [3%]*	pH [0.1 units]*	Sp. Cond. (mS/cm) [3%]*	Turbidity (NTU) [10% or 1 NTU]*	DO (mg/l) [10% or 0.1 mg/l]*	ORP (mV) [10 mV]*
1125			12.76	21.5	6.22	0.845	94	0.60	

* The stabilization criteria for each field parameter (three consecutive readings collected at 3- to 5-minute intervals) is listed in each column heading.

OBSERVATIONS/SAMPLING METHOD DEVIATIONS

LNAPL sample taken at 1120
DEPTH TO LNAPL: 12.48' (from TIC)

SAMPLE DESTINATION

Laboratory: SGS
 Delivered Via: _____
 Airbill #: _____

Field Sampling Coordinator: Jill Kerkovz

GROUNDWATER SAMPLING LOG

Well No. GMA3-10
 Key No. —
 PID Background (ppm) —
 Well Headspace (ppm) —

Site/GMA Name GMA3
 Sampling Personnel JAP, JTB, ASA
 Date 8/8/06
 Weather Partly cloudy, 80°F

WELL INFORMATION

Reference Point Marked? Y N
 Height of Reference Point _____ Meas. From _____
 Well Diameter _____
 Screen Interval Depth _____ Meas. From _____
 Water Table Depth 12.30 Meas. From TIC
 Well Depth _____ Meas. From _____
 Length of Water Column _____
 Volume of Water in Well _____
 Intake Depth of Pump/Tubing _____ Meas. From _____

Sample Time 1220
 Sample ID GMA3-10
 Duplicate ID —
 MS/MSD —
 Split Sample ID —

Reference Point Identification:

TIC: Top of Inner (PVC) Casing
 TOC: Top of Outer (Protective) Casing
 Grade/BGS: Ground Surface

Redevelop? Y N

Required	Analytical Parameters:	Collected
(X)	VOCs (Standard List)	(X)
()	VOCs (Expanded List)	()
(X)	SVOCs (5)	(X)
()	PCBs (Unfiltered)	()
()	PCBs (Filtered)	()
()	Metals/Inorganics (Unfiltered)	()
()	Metals/Inorganics (Filtered)	()
()	Total Cyanide (Unfiltered)	()
()	Total Cyanide (Filtered)	()
()	PAC Cyanide (Filtered)	()
()	PCDDs/PCDFs	()
()	Pesticides/Herbicides	()
()	Natural Attenuation	()
()	Other (Specify)	()

EVACUATION INFORMATION

Pump Start Time _____
 Pump Stop Time _____
 Minutes of Pumping _____
 Volume of Water Removed _____
 Did Well Go Dry? Y N

Evacuation Method: Bailer (X) Bladder Pump ()
 Peristaltic Pump () Submersible Pump () Other/Specify ()
 Pump Type: _____
 Samples collected by same method as evacuation? (Y) N (specify)

Water Quality Meter Type(s) / Serial Numbers: _____

Time	Pump Rate (L/min.)	Total Gallons Removed	Water Level (ft TIC)	Temp. (Celsius) [3%]*	pH [0.1 units]*	Sp. Cond. (mS/cm) [3%]*	Turbidity (NTU) [10% or 1 NTU]*	DO (mg/l) [10% or 0.1 mg/l]*	ORP (mV) [10 mV]*
1220			12.30	19.4	5.07	0.588	86	0.63	

* The stabilization criteria for each field parameter (three consecutive readings collected at 3- to 5-minute intervals) is listed in each column heading.

OBSERVATIONS/SAMPLING METHOD DEVIATIONS

LNAPL sample taken at 1210
DEPTH TO LNAPL: 11.64' (from TIC)

SAMPLE DESTINATION

Laboratory: SGS
 Delivered Via: _____
 Airbill #: _____

Field Sampling Coordinator: Jill Roster

Appendix B

Data Validation Report

**APPENDIX B
DATA VALIDATION REPORT**

**SOIL GAS INVESTIGATION SUMMARY REPORT
GROUNDWATER MANAGEMENT AREA 3**

**GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS**

1.0 General

This attachment summarizes the Tier I and Tier II data reviews performed for soil gas, groundwater and NAPL samples collected during Remedial Investigation activities conducted at the Groundwater Management Area 3 located in Pittsfield, Massachusetts. The samples were analyzed for volatile organic compound (VOC) constituents listed in Appendix IX of 40 CFR Part 264, plus one additional constituent -- 2-chloroethyl vinyl ether (hereafter referred to as Appendix IX+1) by SGS Environmental Services, Inc. (formerly Paradigm Analytical Labs, Inc.) of Wilmington, North Carolina and Lancaster Laboratories, Inc of Lancaster, Pennsylvania. Data validation was performed for 14 VOC samples.

2.0 Data Evaluation Procedures

This attachment outlines the applicable quality control criteria utilized during the data review process and any deviations from those criteria. The data review was conducted in accordance with the following documents:

- *Field Sampling Plan/Quality Assurance Project Plan, General Electric Company, Pittsfield, Massachusetts*, Blasland, Bouck & Lee, Inc. (BBL; FSP/QAPP, approved May 25, 2004 and resubmitted June 15, 2004);
- *Region I Tiered Organic and Inorganic Data Validation Guidelines*, USEPA Region I (July 1, 1993);
- *Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, USEPA Region I (February 1, 1988) (Modified November 1, 1988); and
- *Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, USEPA Region I (Draft, December 1996).

A tabulated summary of the Tier I and Tier II data evaluations is presented in Table B-1. Each sample subjected to evaluation is listed in Table B-1 to document that data review was performed, as well as present the highest level of data validation (Tier I or Tier II) that was applied. Samples that required data qualification are listed separately for each parameter (compound or analyte) that required qualification.

The following data qualifiers were used in this data evaluation.

- J The compound was positively identified, but the associated numerical value is an estimated concentration. This qualifier is used when the data evaluation procedure identifies a deficiency in the data generation process. This qualifier is also used when a compound is detected at an estimated concentration less than the corresponding practical quantitation limit (PQL).

- U The compound was analyzed for, but was not detected. The sample quantitation limit is presented and adjusted for dilution and (for solid samples only) percent moisture. Non-detect sample results are presented as ND(PQL) within this report and in Table B-1 for consistency with documents previously prepared for investigations conducted at this site.
- UJ The compound was not detected above the reported sample quantitation limit. However, the reported limit is estimated and may or may not represent the actual level of quantitation. Non-detect sample results that required qualification are presented as ND(PQL) J within this report and in Table B-1 for consistency with documents previously prepared for this investigation.
- R Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data should not be used for any qualitative or quantitative purpose.

3.0 Data Validation Procedures

The FSP/QAPP provides (in Section 7.5) that all analytical data will be validated to a Tier I level following the procedures presented in the *Region I Tiered Organic and Inorganic Data Validation Guidelines* (USEPA guidelines). Accordingly, 100% of the analytical data for these investigations were subjected to Tier I review. The Tier I review consisted of a completeness evidence audit, as outlined in the *USEPA Region I CSF Completeness Evidence Audit Program* (USEPA Region I, 7/31/91), to ensure that all laboratory data and documentation were present. In the event data packages were determined to be incomplete, the missing information was requested from the laboratory. Upon completion of the Tier I review, the data packages complied with the USEPA Region I Tier I data completeness requirements.

As specified in the FSP/QAPP, the laboratory sample delivery group package was randomly chosen to be subjected to Tier II review. A Tier II review was also performed to resolve data usability limitations identified from laboratory qualification of the data during the Tier I data review. The Tier II data review consisted of a review of all data package summary forms for identification of quality assurance/quality control (QA/QC) deviations and qualification of the data according to the Region I Data Validation Functional Guidelines. The Tier II review resulted in the qualification of data for several samples due to minor QA/QC deficiencies. Additionally, all field duplicates were examined for relative percent difference (RPD) compliance with the criteria specified in the FSP/QAPP. A tabulated summary of the samples subjected to Tier I and Tier II data evaluation is presented in the following table.

Summary of Samples Subjected to Tier I and Tier II Data Validation

Parameter	Tier I Only			Tier I & Tier II			Total
	Samples	Duplicates	Blanks	Samples	Duplicates	Blanks	
VOCs	0	0	0	9	3	2	14
Total	0	0	0	9	3	2	14

When qualification of the sample data was required, the sample results associated with a QA/QC parameter deviation were qualified in accordance with the procedures outlined in USEPA Region I data validation guidance documents. When the data validation process identified several quality control deficiencies, the cumulative effect of the various deficiencies was employed in assigning the final data qualifier. A summary of the QA/QC parameter deviations that resulted in data qualification is presented below for each analytical method.

4.0 Data Review

The initial calibration criterion for organic analyses requires that the average relative response factor (RRF) has a value greater than 0.05. Sample results were qualified as estimated (J) when this criterion was not met. The compounds that did not meet the initial calibration criterion and the number of samples qualified are presented in the following table.

Compounds Qualified Due to Initial Calibration Deviations (RRF)

Analysis	Compound	Number of Affected Samples	Qualification
VOCs	2-Butanone	9	J
	Acetone	9	J
	Acrolein	9	J
	Acrylonitrile	9	J
	trans-1,4-Dichloro-2-butene	9	J
	Vinyl Acetate	9	J

Continuing calibration criterion for VOCs requires that the continuing calibration RRF have a value greater than 0.05. Sample data for detect and non-detect compounds with RRF values greater than 0.05 were qualified as estimated (J). The compounds that exceeded continuing calibration criterion and the number of samples qualified due to those exceedences are presented in the following table.

Compounds Qualified Due to Continuing Calibration Deviations (RRF)

Analysis	Compound	Number of Affected Samples	Qualification
VOCs	1,2-Dibromo-3-chloropropane	5	J
	1,4-Dioxane	5	J
	2-Chloroethylvinylether	9	J

Several of the organic compounds (including the compounds presented in the above tables detailing RRF deviations) exhibit instrument response factors (RFs) below the USEPA Region I minimum value of 0.05, but meet the analytical method criterion which does not specify minimum RFs for these compounds. These compounds were analyzed by the laboratory at a higher concentration than the compounds that normally exhibit RFs greater than the USEPA Region I minimum value of 0.05 in an effort to demonstrate acceptable response. USEPA Region I guidelines state that non-detect compound results associated with a RF less than the minimum value of 0.05 are to be rejected (R). However, in the case of these select organic compounds, the RF is an inherent problem with the current analytical methodology; therefore, the non-detect sample results were qualified as estimated (J).

Initial calibration criterion for SVOCs requires that the percent relative standard deviation (%RSD) must be less than or equal to 30%. Sample data for detected and non-detected compounds with %RSD values greater than 30% were qualified as estimated (J). The compound that exceeded initial calibration criterion and the number of samples qualified due those exceeded are identified below.

Compound Qualified Due to Initial Calibration %RSD Deviations

Analysis	Compound	Number of Affected Samples	Qualification
VOCs	1,2,3-Trichloropropane	9	J
	Bromodichloromethane	5	J

The continuing calibration criterion requires that the percent difference (%D) between the initial calibration RRF and the continuing calibration RRF for VOCs be less than 25%. Sample data for detect and non-detect compounds with %D values that exceeded the continuing calibration criteria were qualified as estimated (J). A summary of the compound that exceeded the continuing calibration criterion and the number of samples qualified due to those deviations are presented in the following table.

Compound Qualified Due to Continuing Calibration of %D Values

Analysis	Compound	Number of Affected Samples	Qualification
VOCs	2-Chloroethylvinylether	4	J
	Acetone	5	J
	Bromomethane	5	J
	Iodomethane	5	J
	trans-1,4-Dichloro-2-butene	5	J

Field duplicate samples were analyzed to evaluate the overall precision of laboratory and field procedures. The RPD between field duplicate samples is required to be less than 25% for air sample values greater than five times the PQL for organics. Sample results that exceeded these limits were qualified as estimated (J). The compounds that did not meet field duplicate RPD requirements and the number of samples qualified due to those deviations are presented in the following table.

Compounds Qualified Due to Field Duplicate Deviations

Analysis	Compounds	Number of Affected Samples	Qualification
VOCs	Methylene Chloride	2	J

The qualitative identification of each compound as determined by VOC GC/MS methods TO-15 and SW-846 8260B is determined by the retention time and comparison of the reference mass spectrum versus the sample mass spectrum. The compound that did not meet qualitative identification criteria and the number of samples qualified due to those deviations are presented in the following table.

Compounds Qualified Due to Identification Deviations

Analysis	Compounds	Number of Affected Samples	Qualification
VOCs	Acrolein	2	U

5.0 Overall Data Usability

This section summarizes the analytical data in terms of its completeness and usability for site characterization purposes. Data completeness is defined as the percentage of sample results that have been determined to be usable during the data validation process. The percent usability calculation included analyses evaluated under both the Tier I and Tier II data validation reviews. Data completeness with respect to usability was calculated separately for inorganic and each of the organic analysis. The percent usability calculation also includes quality control samples collected to aid in the evaluation of data usability. Therefore, field/equipment blank, trip blank, and field duplicate data determined to be unusable as a result of the validation process are represented in the percent usability value tabulated in the following table.

Data Usability		
Parameter	Percent Usability	Rejected Data
VOCs	100	None

The data package completeness, as determined from the Tier I data review, was used in combination with the data quality deviations identified during the Tier II data review to determine overall data quality. As specified in the FSP/QAPP, the overall precision, accuracy, representativeness, comparability, and completeness (PARCC) parameters determined from the Tier I and Tier II data reviews were used as indicators of overall data quality. These parameters were assessed through an evaluation of the results of the field and laboratory QA/QC sample analyses to provide a measure of compliance of the analytical data with the Data Quality Objectives (DQOs) specified in the FSP/QAPP. Therefore, the following sections present summaries of the PARCC parameters assessment with regard to the DQOs specified in the FSP/QAPP.

5.1 Precision

Precision measures the reproducibility of measurements under a given set of conditions. Specifically, it is a quantitative measure of the variability of a group of measurements compared to their average value. For this investigation, precision was defined as the RPD between duplicate sample results. The duplicate samples used to evaluate precision included field duplicates and MS/MSD samples. For this analytical program, 0.2% of the data required qualification due to field duplicate deviations. None of the data required qualification due to MS/MSD RPD deviations.

5.2 Accuracy

Accuracy measures the bias in an analytical system or the degree of agreement of a measurement with a known reference value. For this investigation, accuracy was defined as the percent recovery of QA/QC samples that were spiked with a known concentration of an analyte or compound of interest. The QA/QC samples used to evaluate analytical accuracy included instrument calibration, internal standards, Laboratory Control Standards (LCSs), MS/MSD samples, and surrogate compound recoveries. For this analytical program, 13.5% of the data required qualification due to instrument calibration deviations. None of the data required qualification due to internal standards, LCS recovery, MS/MSD recovery or surrogate compound recovery deviations.

5.3 Representativeness

Representativeness expresses the degree to which sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. Representativeness is a qualitative parameter, which is most concerned with the proper design of the sampling program. The representativeness criterion is best satisfied by making certain that sampling locations are selected properly and a sufficient number of samples are collected. This parameter has been addressed by collecting samples at locations specified in MDEP-approved work plans, and by following the procedures for sample collection/analyses that were described in the FSP/QAPP. Additionally, the analytical program used procedures consistent with USEPA-approved analytical methodology. A QA/QC parameter that is an indicator of the representativeness of a sample is holding time. Holding time criteria are established to maintain the samples in a state that is representative of the in-situ field conditions before analysis. None of the data required qualification due to holding time deviations.

5.4 Comparability

Comparability is a qualitative parameter expressing the confidence with which one data set can be compared with another. This goal was achieved through the use of the standardized techniques for sample collection and analysis presented in the FSP/QAPP. The USEPA SW-846¹ analytical methods presented in the FSP/QAPP are updated on occasion by the USEPA to benefit from recent technological advancements in analytical chemistry and instrumentation. In most cases, the method upgrades include the incorporation of new technology that improves the sensitivity and stability of the instrumentation or allows the laboratory to increase throughput without hindering accuracy and precision. Overall, the analytical methods for this investigation have remained consistent in their general approach through continued use of the basic analytical techniques (e.g., sample extraction/preparation, instrument calibration, QA/QC procedures). Through this use of consistent base analytical procedures and by requiring that updated procedures meet the QA/QC criteria specified in the FSP/QAPP, the analytical data from past, present, and future sampling events will be comparable to allow for qualitative and quantitative assessment of site conditions.

5.5 Completeness

Completeness is defined as the percentage of measurements that are judged to be valid or usable to meet the prescribed DQOs. The completeness criterion is essentially the same for all data uses -- the generation of a sufficient amount of valid data. This analytical data set had an overall usability of 100%.

¹ Test Methods for evaluating Solid Waste, SW-846, USEPA, Final Update III, December 1996.

**TABLE B - 1
ANALYTICAL DATA VALIDATION SUMMARY
SOIL GAS, GROUNDWATER AND NON-AQUEOUS PHASE LIQUID SAMPLING (NAPL) INVESTIGATION SUMMARY REPORT FOR GROUNDWATER MANAGEMENT AREA 3 (GMA 3)**

**GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in parts per million, ppm)**

Sample Delivery Group No.	Sample ID	Date Collected	Matrix	Validation Level	Qualification	Compound	QA/QC Parameter	Value	Control Limits	Qualified Result	Notes
VOCs											
1000790	SG-51E	8/7/2006	Air	Tier II	Yes	1,4-Dioxane	CCAL RRF	0.049	>0.05	ND(3.6) J	
						Bromodichloromethane	ICAL %RSD	39.0%	<30%	ND(6.7) J	
1000790	SG-51S	8/7/2006	Air	Tier II	Yes	1,4-Dioxane	CCAL RRF	0.049	>0.05	ND(36) J	
						Acrolein	Incorrect Identification	46 J	-	ND(46)	
						Bromodichloromethane	ICAL %RSD	39.0%	<30%	ND(67) J	
						Methylene Chloride	Field Duplicate RPD (Air)	89.0%	<50%	73 J	
1000790	SG-51W	8/7/2006	Air	Tier II	Yes	1,4-Dioxane	CCAL RRF	0.049	>0.05	ND(3.6) J	
						Bromodichloromethane	ICAL %RSD	39.0%	<30%	ND(6.7) J	
1000790	SG-DUP-1	8/7/2006	Air	Tier II	Yes	1,4-Dioxane	CCAL RRF	0.049	>0.05	ND(36) J	SG-51S
						Acrolein	Incorrect Identification	46 J	-	ND(46)	
						Bromodichloromethane	ICAL %RSD	39.0%	<30%	ND(67) J	
						Methylene Chloride	Field Duplicate RPD (Air)	89.0%	<50%	190 J	
1000790	Field Blank	8/7/2006	Air	Tier II	Yes	1,4-Dioxane	CCAL RRF	0.049	>0.05	ND(3.6) J	
						Bromodichloromethane	ICAL %RSD	39.0%	<30%	ND(6.7) J	
G135-134	51-8	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(1.0) J	
						2-Butanone	ICAL RRF	0.032	>0.05	ND(5.0) J	
						2-Chloroethylvinylether	CCAL %D	27.3%	<25%	ND(10) J	
						2-Chloroethylvinylether	CCAL RRF	0.028	>0.05	ND(10) J	
						Acetone	ICAL RRF	0.020	>0.05	ND(5.0) J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(25) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(25) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(5.0) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(2.5) J	
G135-134	51-8	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(0.0010) J	
						1,2-Dibromo-3-chloropropane	CCAL RRF	0.025	>0.05	ND(0.0050) J	
						2-Butanone	ICAL RRF	0.032	>0.05	0.0056 J	
						2-Chloroethylvinylether	CCAL RRF	0.027	>0.05	ND(0.010) J	
						Acetone	ICAL RRF	0.020	>0.05	0.017 J	
						Acetone	CCAL %D	33.9%	<25%	0.017 J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(0.025) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(0.025) J	
						Bromomethane	CCAL %D	26.9%	<25%	ND(0.0010) J	
						Iodomethane	CCAL %D	36.3%	<25%	ND(0.0010) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(0.0050) J	
						trans-1,4-Dichloro-2-butene	CCAL %D	26.2%	<25%	ND(0.0050) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(0.0025) J	
G135-134	GMA3-10	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(1.0) J	
						2-Butanone	ICAL RRF	0.032	>0.05	ND(5.0) J	
						2-Chloroethylvinylether	CCAL %D	27.3%	<25%	ND(10) J	
						2-Chloroethylvinylether	CCAL RRF	0.028	>0.05	ND(10) J	
						Acetone	ICAL RRF	0.020	>0.05	ND(5.0) J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(25) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(25) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(5.0) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(2.5) J	
G135-134	GMA3-10	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(0.0010) J	
						1,2-Dibromo-3-chloropropane	CCAL RRF	0.025	>0.05	ND(0.0050) J	
						2-Butanone	ICAL RRF	0.032	>0.05	0.0042 J	
						2-Chloroethylvinylether	CCAL RRF	0.027	>0.05	ND(0.010) J	
						Acetone	ICAL RRF	0.020	>0.05	0.011 J	
						Acetone	CCAL %D	33.9%	<25%	0.011 J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(0.025) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(0.025) J	

TABLE B - 1
ANALYTICAL DATA VALIDATION SUMMARY
SOIL GAS, GROUNDWATER AND NON-AQUEOUS PHASE LIQUID SAMPLING (NAPL) INVESTIGATION SUMMARY REPORT FOR GROUNDWATER MANAGEMENT AREA 3 (GMA 3)
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in parts per million, ppm)

Sample Delivery Group No.	Sample ID	Date Collected	Matrix	Validation Level	Qualification	Compound	QA/QC Parameter	Value	Control Limits	Qualified Result	Notes
VOCs (continued)											
G135-134	GMA3-10	8/8/2006	Water	Tier II	Yes	Bromomethane	CCAL %D	26.9%	<25%	ND(0.0010) J	
						Iodomethane	CCAL %D	36.3%	<25%	ND(0.0010) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(0.0050) J	
						trans-1,4-Dichloro-2-butene	CCAL %D	26.2%	<25%	ND(0.0050) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(0.0025) J	
G135-134	UB-PZ-3	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(1.0) J	
						2-Butanone	ICAL RRF	0.032	>0.05	ND(5.0) J	
						2-Chloroethylvinylether	CCAL %D	27.3%	<25%	ND(10) J	
						2-Chloroethylvinylether	CCAL RRF	0.028	>0.05	ND(10) J	
						Acetone	ICAL RRF	0.020	>0.05	ND(5.0) J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(25) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(25) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(5.0) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(2.5) J	
						1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(0.0010) J	
						1,2-Dibromo-3-chloropropane	CCAL RRF	0.025	>0.05	ND(0.0050) J	
G135-134	UB-PZ-3	8/8/2006	Water	Tier II	Yes	2-Butanone	ICAL RRF	0.032	>0.05	0.0042 J	
						2-Chloroethylvinylether	CCAL RRF	0.027	>0.05	ND(0.010) J	
						Acetone	ICAL RRF	0.020	>0.05	0.014 J	
						Acetone	CCAL %D	33.9%	<25%	0.014 J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(0.025) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(0.025) J	
						Bromomethane	CCAL %D	26.9%	<25%	ND(0.0010) J	
						Iodomethane	CCAL %D	36.3%	<25%	ND(0.0010) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(0.0050) J	
						trans-1,4-Dichloro-2-butene	CCAL %D	26.2%	<25%	ND(0.0050) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(0.0025) J	
G135-134	DUP-1	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(1.0) J	51-8
						2-Butanone	ICAL RRF	0.032	>0.05	ND(5.0) J	
						2-Chloroethylvinylether	CCAL %D	27.3%	<25%	ND(10) J	
						2-Chloroethylvinylether	CCAL RRF	0.028	>0.05	ND(10) J	
						Acetone	ICAL RRF	0.020	>0.05	ND(5.0) J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(25) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(25) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(5.0) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(2.5) J	
						1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(0.0010) J	51-8
						1,2-Dibromo-3-chloropropane	CCAL RRF	0.025	>0.05	ND(0.0050) J	
G135-134	DUP-1	8/8/2006	Water	Tier II	Yes	2-Butanone	ICAL RRF	0.032	>0.05	0.0058 J	
						2-Chloroethylvinylether	CCAL RRF	0.027	>0.05	ND(0.010) J	
						Acetone	ICAL RRF	0.020	>0.05	0.018 J	
						Acetone	CCAL %D	33.9%	<25%	0.018 J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(0.025) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(0.025) J	
						Bromomethane	CCAL %D	26.9%	<25%	ND(0.0010) J	
						Iodomethane	CCAL %D	36.3%	<25%	ND(0.0010) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(0.0050) J	
						trans-1,4-Dichloro-2-butene	CCAL %D	26.2%	<25%	ND(0.0050) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(0.0025) J	

TABLE B - 1
ANALYTICAL DATA VALIDATION SUMMARY
SOIL GAS, GROUNDWATER AND NON-AQUEOUS PHASE LIQUID SAMPLING (NAPL) INVESTIGATION SUMMARY REPORT FOR GROUNDWATER MANAGEMENT AREA 3 (GMA 3)

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
 (Results are presented in parts per million, ppm)

Sample Delivery Group No.	Sample ID	Date Collected	Matrix	Validation Level	Qualification	Compound	QA/QC Parameter	Value	Control Limits	Qualified Result	Notes
VOCs (continued)											
G135-134	Trip Blank	8/8/2006	Water	Tier II	Yes	1,2,3-Trichloropropane	ICAL %RSD	104.0%	<30%	ND(0.0010) J	
						1,2-Dibromo-3-chloropropane	CCAL RRF	0.025	>0.05	ND(0.0050) J	
						2-Butanone	ICAL RRF	0.032	>0.05	ND(0.0050) J	
						2-Chloroethylvinylether	CCAL RRF	0.027	>0.05	ND(0.010) J	
						Acetone	ICAL RRF	0.020	>0.05	ND(0.0050) J	
						Acetone	CCAL %D	33.9%	<25%	ND(0.0050) J	
						Acrolein	ICAL RRF	0.009	>0.05	ND(0.025) J	
						Acrylonitrile	ICAL RRF	0.024	>0.05	ND(0.025) J	
						Bromomethane	CCAL %D	26.9%	<25%	ND(0.0010) J	
						Iodomethane	CCAL %D	36.3%	<25%	ND(0.0010) J	
						trans-1,4-Dichloro-2-butene	ICAL RRF	0.034	>0.05	ND(0.0050) J	
						trans-1,4-Dichloro-2-butene	CCAL %D	26.2%	<25%	ND(0.0050) J	
						Vinyl Acetate	ICAL RRF	0.018	>0.05	ND(0.0025) J	