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JAMROS - WESTON

Corporate Environmental Programs
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Transmitted via Overnight Courier

February 12, 2004

Mr. Michael Nalipinski
U.S. Environmental Protection Agency
EPA New England
One Congress Street, Suite 1100
Boston, MA 02114-2030

**Re: GE-Pittsfield/Housatonic River Site
East Street Area 2-South (GECD150)
Addendum to Supplemental Pre-Design Investigation Report**

Dear Mr. Nalipinski:

On August 15, 2003, the General Electric Company (GE) submitted to the U.S. Environmental Protection Agency (EPA) a document titled *Supplemental Pre-Design Investigation Report for the East Street Area 2-South Removal Action* (Supplemental PDI Report). That document summarized the supplemental pre-design investigations performed by GE in May 2003 for the East Street Area 2-South Removal Action Area (RAA) in Pittsfield, Massachusetts (Figure 1). Those supplemental investigations included the collection and analysis of approximately 85 soil samples for analysis of polychlorinated biphenyls (PCBs) and/or the other constituents listed in Appendix IX of 40 CFR Part 264 (excluding pesticides and herbicides), plus three additional constituents – benzidine, 2-chloroethylvinyl ether, and 1,2-diphenylhydrazine (Appendix IX+3). In addition to summarizing the results of the most recent investigations, the Supplemental PDI Report identified three additional activities to be performed in order to complete the pre-design phase of the overall response action process. These activities are identified below and further addressed in this letter.

- The sampling results for two of the pre-design surface soil samples collected along the western boundary of the Site (RAA4-H3W and RAA-I3W) contained PCBs at levels above 2 ppm. Given the proximity of these samples to the western boundary of the RAA, GE proposed in the Supplemental PDI Report to conduct additional surface soil sampling and PCB analysis at two adjacent properties (Parcels I9-8-3 and I9-8-4) located immediately west of the Site.
- In the Supplemental PDI Report, GE proposed to conduct a preliminary evaluation of certain sampling results for Appendix IX+3 semi-volatile organic compounds (SVOC), in which a number of SVOCs were not detected but the analytical detection limits were elevated relative to the Practical Quantitation Limits (PQLs) specified in the approved *Field Sampling Plan/Quality Assurance Project Plan* (FSP/QAPP). The purpose of this evaluation was to identify whether these data may lead to a need for soil remediation actions within the RAA.
- Finally, GE indicated in the Supplemental PDI Report that the data summary package for soil samples analyzed by Berkshire Gas Company (BG) had been received from BG's laboratory and that a data quality review and assessment would be conducted to determine data usability in future RD/RA evaluations.

EPA conditionally approved the Supplemental PDI Report (and the follow-up activities proposed therein) in a letter to GE dated September 29, 2003. Since that time, GE has performed the activities identified in the Supplemental PDI Report, as modified by EPA's conditional approval letter. This letter summarizes the results of these activities. In addition, this letter proposes a schedule for submittal of the Conceptual RD/RA Work Plan for East Street Area 2-South

I. Summary of Additional Soil Investigations

As proposed by GE in the Supplemental PDI Report, the additional PCB soil investigation for areas immediately adjacent to the RAA initially called for the collection and analysis of three surface soil samples (0- to 1-foot depth increment) for PCBs from Parcels I9-8-3 and I9-8-4. These three locations generally coincided with the 100-foot grid nodes established for the RAA, as projected over portions of the two adjacent parcels. In its September 29, 2003 conditional approval letter, EPA required that a 50-foot grid spacing be used at Parcel I9-8-4 since that parcel is a residential property. As such, the conditional approval letter required that two additional surface sampling locations be added, directly west of sample locations RAA4-H3W and RAA4-I3W, resulting in a total of five locations to be sampled. Due to the presence of existing buildings on Parcel I9-8-4, sampling locations were slightly relocated. The actual sampling locations (RAA4-H2, RAA4-HH2, RAA4-I2, RAA4-J2, and RAA4-K2) are shown on Figure 2.

On November 25, 2003 five surface soil samples were collected from the locations listed above and submitted for PCB analysis. The results of one of the surface soil samples (RAA4-H2) contained PCBs at levels slightly above 2 ppm. Based on these results, GE verbally proposed to EPA (on December 1, 2003) to collect one additional surface soil sample for PCBs analysis at location RAA4-H1 (Figure 2). EPA verbally approved GE's proposal and the additional sample was collected on December 8, 2003. The result for the surface soil sample collected at location RAA4-H1 is 1.35 ppm.

For the six soil samples collected and analyzed for PCBs during this investigation, preliminary PCB concentrations ranged from non-detect (in one sample) to a concentration of 2.1 ppm with a duplicate result of 3.7 ppm at location RAA4-H2. The PCB concentrations for each surface soil sample are provided below and on Table 1. These data are preliminary and will be validated upon receipt of the data packages from the laboratory.

Sample ID	Depth Interval	Date Collected	Total PCBs (ppm)
I9-8-4-RAA4-H1	0-1	12/8/03	1.35
I9-8-4-RAA4-H2	0-1	11/25/03	2.1 [3.7]
I9-8-4-RAA4-HH2	0-1	11/25/03	0.97
I9-8-4-RAA4-I2	0-1	11/25/03	0.95
I9-8-3-RAA4-J2	0-1	11/25/03	0.42
I9-8-3-RAA4-K2	0-1	11/25/03	ND (0.036)

Notes:

1. Duplicate sample result shown in brackets.
2. ND – indicates PCBs were not detected, the detection limit is shown in parentheses.

Based on the results summarized above, no additional pre-design soil investigations for PCBs are proposed at this time. GE will further evaluate these data while performing detailed Removal Design/Removal Action (RD/RA) evaluations and, prior to submittal of the Conceptual RD/RA Work Plan for the RAA, will discuss with EPA an appropriate course of action for addressing adjacent Parcels I9-8-3 and I9-8-4.

II. Preliminary Evaluations of SVOC Data with Elevated Detection Limits

In accordance with the course of action outlined in the Supplemental PDI Report, GE has conducted a preliminary assessment regarding several non-detect SVOC sample results where the analytical detection limits were elevated (relative to the PQLs presented in the FSP/QAPP). This assessment was performed to evaluate whether and to what extent these sample results may influence the performance of RD/RA evaluations and the possible need for soil remediation at East Street Area 2-South. In the event that it was determined that non-detect sample results with elevated detection limits could potentially result in the need for remediation to achieve the applicable Performance Standards, one of the potential follow-up activities could include the performance of supplemental soil sampling and analysis at former pre-design sampling locations to potentially

achieve lower analytical detection limits. However, as discussed in Part II.A below, GE has determined that no additional SVOC sampling and analysis activities are warranted at this time. In addition, during the performance of the preliminary assessment described herein, GE has identified several concerns related to the existing pre-design data set that could potentially complicate future RD/RA evaluations for East Street Area 2-South, and has identified a few additional or clarified procedural measures that would facilitate the RD/RA evaluation process for Appendix IX+3 volatile organic compounds (VOCs), SVOCs, and inorganics at this RAA. This proposed approach is presented in Part II.B below for EPA's review and consideration.

A. Summary of Preliminary Assessment

The preliminary assessment of the available Appendix IX+3 SVOC data set for East Street Area 2-South was based generally on the procedures outlined in Technical Attachment F of the *Statement of Work for Remedial Actions Outside of the River (SOW)* (Appendix E to the CD). However, unlike the more detailed RD/RA evaluations that will be conducted for the non-PCB Appendix IX+3 constituents, this preliminary assessment did not incorporate the results of any potential remediation actions that may be necessary to achieve the applicable PCB Performance Standards. Any such remediation actions to address PCBs in soil will be incorporated into Appendix IX+3-related RD/RA evaluations to be presented in the Conceptual RD/RA Work Plan.

Consistent with the evaluation process outlined in the SOW, the initial step in the assessment involved a comparison of the maximum concentration of each detected Appendix IX+3 SVOC to its corresponding EPA Region 9 Preliminary Remediation Goal (PRG) (as set forth in Exhibit F-1 to Attachment F to the SOW) or other suitable surrogate PRG. For those constituents that were retained for further evaluation, the next step of the evaluation involved the calculation of arithmetic average concentrations for those constituents for each of the averaging areas and depth increments within the RAA. In this step, the non-detect SVOC results were assigned a concentration equal to $\frac{1}{2}$ the analytical detection limit (e.g., a non-detect sample with a detection limit of 110 ppm would be assigned a concentration of 55 ppm for preliminary evaluation purposes). Those arithmetic average concentrations were then compared to the applicable Method 1 soil standards specified in the Massachusetts Contingency Plan (MCP) (or to derived Method 2 standards if no Method 1 standard exists). If the average concentrations exceed their corresponding MCP Method 1 (or Method 2) soil standards, the SOW allows for either the performance of remediation actions to achieve the MCP soil standards or the performance of an area-specific risk assessment.

The preliminary evaluations outlined above for East Street Area 2-South soils indicated that the average concentrations of several SVOCs retained for evaluation exceed their corresponding MCP Method 1 soil standards in various averaging areas at this RAA. In these circumstances, GE plans to have its risk assessment consultants conduct area-specific risk assessments for such areas in accordance with the procedures specified in the SOW. However, the performance of such detailed area-specific risk assessments have not been conducted at this time, and would first require (at a minimum) the development of a detailed site survey/mapping and an understanding of potential remediation actions that may be needed for PCBs. Therefore, it is not possible to confirm with certainty whether the non-detect SVOC results with elevated detection limits will dictate the need for remediation actions. However, as a means to gauge whether such data could potentially influence the RD/RA evaluations and lead to a need for remediation, GE has utilized preliminary risk-based concentrations (PRBCs), focused on the seven carcinogenic polycyclic aromatic hydrocarbons (PAHs) which are the SVOCs that typically require detailed evaluation and, in some cases, remediation actions within various other RAAs at the GE-Pittsfield/Housatonic River Site (the Site). These PAHs are benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

For these PAHs, the PRBCs have been back-calculated based on the same exposure and toxicity assumptions that will be used in the area-specific risk assessments (i.e., the assumptions prescribed in the SOW). The PRBCs have been developed for the seven carcinogenic PAHs as a group and are expressed in terms of total toxicity equivalents of benzo(a)pyrene [B(a)P equivalents], since, in an area-specific risk assessment, these PAHs are evaluated through the use of Cancer Slope Factors that are adjusted by application of Relative

Potency Factors (RPFs) based on their assumed potency relative to benzo(a)pyrene. The PRBCs relevant to the industrial/commercial areas at East Street Area 2-South are 13 ppm B(a)P equivalents for surface soil (0- to 1-foot depth), based on the commercial groundskeeper scenario, and 41 ppm B(a)P equivalents for subsurface soil (1- to 6-foot depth), based on the utility worker scenario. In addition, for the 200-foot-wide riparian removal zone (which is designated as Averaging Area 4E in the SOW and is considered recreational), a PRBC of 4 ppm B(a)P equivalents, based on the child recreator scenario, was used for the 0- to 1-foot and 1- to 3-foot depth increments. To apply these PRBCs, the average concentrations of the seven carcinogenic PAHs for a given area and depth increment are adjusted through the use of the same RPFs described above to derive a total B(a)P equivalent concentration for that area and depth increment, and the resulting total B(a)P equivalent concentration is compared to the applicable PRBC. If that concentration is well below the PRBC (and assuming that there are no other carcinogenic constituents with significantly elevated concentrations), then it can be concluded that the area-specific risk assessment will most likely find no exceedance of the cancer-risk Performance Standard specified in the SOW (an excess lifetime cancer risk of 1×10^{-5}), and that thus additional sampling is not needed. However, if the average total B(a)P equivalent concentration is close to or above the PRBC, then it can be assumed that the area-specific risk assessment may find an exceedance of that Performance Standard under existing conditions. In such cases, additional sampling may be warranted.

Most of the non-detect SVOC results with elevated detection limits are located within that portion of East Street Area 2-South identified in the SOW as Averaging Area 4B – Former Gas Plant/Scrap Yard Area. For this particular averaging area, the results of the preliminary assessment based on the carcinogenic PAHs indicate that the total B(a)P equivalent concentrations for both surface soils and subsurface soils are well below the commercial area PRBCs, even when including the elevated detection limits for these specific PAHs. As a result, the area-specific risk assessment for that area will most likely find no exceedance of the cancer-risk Performance Standard due to these PAHs. Similar results were found for these PAHs in preliminary evaluations of the other averaging areas at East Street Area 2-South, with one exception: The total B(a)P equivalent concentration for the 1- to 3-foot depth increment at the 200-foot-wide riparian removal zone exceeds the recreational area PRBC. In that case, however, the exceedance is driven by detected PAH concentrations, not by non-detect results with elevated detection limits.

It should be noted that, in addition to the seven carcinogenic PAHs discussed above, several other SVOCs have maximum concentrations exceeding their PRGs and, in some cases, have average concentrations in excess of the applicable MCP Method 1 soil standards. All such constituents that are retained after the screening comparison to the PRGs would be incorporated into the area-specific risk assessments to determine if the applicable Performance Standards have been met. As indicated above, such detailed risk assessments have not yet been performed, and thus GE is unable to determine with certainty whether the results for other SVOCs, including the non-detect results with elevated detection limits, will dictate the need for remediation. However, there is reasonable likelihood that they will not, considering that: (1) the carcinogenic PAHs typically dictate the need for remediation to address Appendix IX+3 SVOCs at this Site; (2) the total B(a)P equivalent concentrations for those PAHs in the Former Gas Plant/Scrap Yard Area (the area with most of the non-detect SVOCs with elevated detection limits) are well below the corresponding PRBCs; and (3) the same is true for other averaging areas within this RAA, except for one area where the exceedance is due to detected PAH concentrations. This outcome is particularly likely if the proposed additional/clarified measures outlined in Part II.B below are implemented for East Street Area 2-South. In these circumstances, GE does not propose any additional SVOC sampling and analysis in this RAA at this time.

B. Proposed Additional/Clarified Procedures for East Street Area 2-South Evaluations

During the course of performing the preliminary assessment summarized above, GE identified several data quality-related topics that could complicate the future performance of detailed RD/RA evaluations, dictate the need for remediation, and potentially lead to additional sampling and analysis activities at a future date. Some of the data-related concerns identified during the preliminary assessment include the following:

- As noted above, a number of the SVOC sampling results were non-detect but had elevated analytical detection limits. Several of these samples were collected and analyzed by EPA, which provided the results to GE. In many of these cases, elevated concentrations of one or more other Appendix IX+3 constituents were detected in the same sample, such that the analytical laboratory equipment was unable to achieve lower detection limits for the remaining constituents. Thus, if samples from the same locations were re-collected and analyzed, it is likely that the same problem would arise such that the results for the non-detect SVOCs would again have elevated detection limits.
- In the detailed RD/RA evaluations, the non-detect results from the samples with elevated detection limits could cause exceedances of the applicable comparison criteria (due to the use of ½ the analytical detection limits to represent the non-detect results) in situations where consideration of only the detected concentrations would result in no such exceedances.
- In addition, certain constituents that may be retained for further evaluation due to an exceedance of a PRG or to the lack of any PRG for that constituent do not have MCP Method 1 soil standards. In addition, it may not be possible to derive Method 2 soil standards for some of these constituents or to incorporate such constituents into a site-specific risk assessment due to the lack of published toxicity information needed to evaluate potential risks.
- Finally, for several Appendix IX+3 constituents, notably certain VOCs and SVOCs, the analytical laboratory is not capable of producing results low enough to allow comparison to the applicable PRGs – i.e., the laboratory PQLs presented in the FSP/QAPP exceed the PRGs.

In consideration of the above items, GE proposes to implement the following additional or clarified procedural measures in its detailed RD/RA evaluations of Appendix IX+3 VOCs, SVOCs, and inorganics at East Street Area 2-South:

- The SOW provides that, for constituents other than dioxins/furans, GE shall compare “the maximum concentration of each detected constituent” to the applicable screening PRGs (SOW, p. 36). Thus, for constituents that are non-detect in all samples in a given area, such constituents would not be included in the initial PRG screening step. Similarly, for those constituents where both detected concentrations and non-detect results are present in the data set for a given area, only the detected concentrations would be considered in this screening step. This approach applies generally to all RAAs at the Site and is not limited to East Street Area 2-South. It is described here simply to clarify that, at this RAA, such non-detect constituents will be screened out at this step and will not be considered in any further evaluations.
- For those constituents that remain following the initial screening step due to the lack of any relevant PRG or surrogate PRG, only those constituents for which toxicity information exists in a standard EPA or Massachusetts Department of Environmental Protection (MDEP) source of toxicity information will be evaluated further. In other words, only those constituents that have MCP Method 1 soil standards, or for which Method 2 soil standards can be derived, or for which an area-specific risk assessment can be conducted will be subject to further evaluation.
- For those constituents that are retained for further evaluation, the calculation of their average concentrations will include consideration of the non-detect sample results, represented as ½ the analytical detection limit, except in situations where the laboratory equipment was unable to achieve appropriate detection limits for certain SVOCs due to the detection of high levels of other SVOCs in the same sample. Specifically, if a sample contains one or more SVOCs at a level that is 10 times (or higher) the corresponding Method 1 soil standard, then any non-detect results for other SVOCs from the same sample which have elevated detection limits will not be included in the calculation of the average concentrations of the latter SVOCs.

These procedures are expected to facilitate the performance of future, detailed RD/RA evaluations at East Street Area 2-South. They are specific to East Street Area 2-South (except as noted above), consistent with the process set forth in Attachment F to the SOW, and based primarily on three important considerations: (1) several SVOC results in the available pre-design data set, including a number of results from samples collected and analyzed by EPA, are non-detect but have elevated detection limits due to the presence of other Appendix IX+3 constituents at that same sample location; (2) the constituents that most likely and typically dictate remediation actions at this Site (e.g., PCBs, carcinogenic PAHs, dioxins/furans, lead, and arsenic) would not be eliminated from detailed evaluations on account of these proposed measures; and (3) all of East Street Area 2-South will continue to be owned and controlled by GE for the indefinite future.

III. Summary of Berkshire Gas Data Quality Review

As noted in the Supplemental PDI Report, GE received a data summary package from BG on August 8, 2003 for the soil samples collected and analyzed by BG, and there was not sufficient time to validate those data prior to submission of that report. The BG data set consists of 4 soil samples that were collected in April 2002 and analyzed for Appendix IX SVOCs, and a total of 30 soil samples (the original 4 samples collected in April 2002 and the remaining 26 samples collected in May and June 2002) that were analyzed for select VOCs, PAHs, and alkylated PAHs. The results for the samples collected by BG were previously presented in the January 2003 *Pre-Design Investigation Report for the East Street Area 2-South Removal Action*. A data quality review of these sample results has now been completed in accordance with Section 7.5 of GE's approved FSP/QAPP to determine whether or not the BG data are usable for future RD/RA evaluations. The results of this review are provided in Attachment A to this letter, and the validated data for these samples are provided in Tables 2 and 3.

As discussed in the attached data quality assessment report, the SVOC analyses of the 4 soil samples collected by BG in April 2002 were conducted in accordance with the methods described in the FSP/QAPP, and those sample results were determined to be usable in future RD/RA evaluation activities. The methods used to analyze the 30 soil samples for PAHs were also in accordance with the methods described in the FSP/QAPP, and the resulting data were likewise determined to be usable in future RD/RA evaluation activities. However, the methods used by the BG laboratory to extract and/or analyze the samples for select VOCs were not in accordance with the methods prescribed in the FSP/QAPP, and the results were either rejected or qualified as estimated quantities and found to be not acceptable for use in future RD/RA evaluations. The alkylated PAH analyses were performed for "finger-printing" purposes to identify whether or not the detected PAHs may be attributable to the processes involved in BG's former operation of a manufactured gas plant at East Street Area 2-South. In addition, the alkylated PAH results were not evaluated as part of this data evaluation since the compounds are not part of the EPA-approved compound target list included in the FSP/QAPP or the list of Appendix IX+3 constituents specified in the CD and SOW. Therefore the alkylated PAH results will not be used in future RD/RA evaluations. The elimination of the rejected data does not leave any data gaps that need to be filled at the present time.

IV. Schedule for Future Activities

With submittal of this letter, GE believes that pre-design activities related to East Street Area 2-South have been completed. Following EPA approval of this letter, GE will initiate the detailed RD/RA evaluations and begin development of the Conceptual RD/RA Work Plan, provided that EPA does not identify any additional data needs in its approval letter. During the course of conducting the RD/RA evaluations, additional data needs may be identified that would require supplemental soil sampling and analysis. In this situation, GE proposes to submit an interim letter report to EPA within 6 months of EPA approval of the present letter, indicating whether additional data needs have been identified. If no additional data needs are identified, the letter report will so state, and GE will proceed to complete the Conceptual RD/RA Work Plan, which it would propose to submit within 3 months after that interim letter report. If additional data needs are identified, the interim letter report will describe the data needs and contain a proposal and schedule for addressing the data needs identified, as well as a schedule for submitting the Conceptual RD/RA Work Plan for this RAA.

Please call Andrew Silfer or me if you have any questions about this report.

Sincerely,



John F. Novotny, P.E.
Manager – Facilities and Brownfields Programs

Attachments

V:\GE_Pittsfield_CD_ESA_2_South\Reports and Presentations\ESA2S Add Supp PDI Report\08942196.doc

cc: Tim Conway, EPA
Rose Howell, EPA
Holly Inglis, EPA
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James Nuss, BBL
James Bieke, Shea & Gardner
Jeffrey Porter, Mintz, Levin
Richard Nasman, Berkshire Gas Company
Michael McHugh, Rich May
Robert Cataldo, ENSR
David Mauro, META
Public Information Repositories
GE Internal Repository

(* without attachments)

Tables

TABLE 1
PCB DATA

ADDENDUM TO SUPPLEMENTAL PRE-DESIGN SOIL INVESTIGATION SAMPLING
EAST STREET AREA 2 - SOUTH
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Sample ID	Depth(Feet)	Date Collected	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	Total PCBs
I9-8-3-RAA4-J-2	0-1	11/25/2003	ND(0.041)	ND(0.041)	ND(0.041)	ND(0.041)	ND(0.041)	0.12	0.30	0.42
I9-8-3-RAA4-K-2	0-1	11/25/2003	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)	ND(0.036)
I9-8-4-RAA4-H1	0-1	12/8/2003	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	ND(0.040)	0.68	0.67	1.35
I9-8-4-RAA4-H-2	0-1	11/25/2003	ND(0.041) [ND(0.042)]	ND(0.041) [ND(0.042)]	ND(0.041) [ND(0.042)]	ND(0.041) [ND(0.042)]	ND(0.041) [ND(0.042)]	1.0 [1.9]	1.1 [1.8]	2.1 [3.7]
I9-8-4-RAA4-HH-2	0-1	11/25/2003	ND(0.041)	ND(0.041)	ND(0.041)	ND(0.041)	ND(0.041)	0.43	0.54	0.97
I9-8-4-RAA4-I-2	0-1	11/25/2003	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.042)	ND(0.042)	0.46	0.49	0.95

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and submitted to CT&E Environmental Services, Inc. for analysis of PCBs.
2. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
3. Field duplicate sample results are presented in brackets.

TABLE 2
BERKSHIRE GAS COMPANY APPENDIX IX+3 SOIL ANALYTICAL RESULTS

ADDENDUM TO SUPPLEMENTAL PRE-DESIGN SOIL INVESTIGATION SAMPLING
EAST STREET AREA 2 - SOUTH
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Sample ID: Sample Depth(Feet): Parameter Date Collected:	A34 0-1' 0-1 05/16/02	A37 6-15' 6-15 05/15/02	B35 6-15' 6-15 05/15/02	C29 1-6' 1-6 05/21/02	C33 0-1' 0-1 05/20/02	C33 1-6' 1-6 05/20/02	C35 1-6' 1-6 05/17/02	C35 6-15' 6-15 05/17/02	D23 6-15' 6-15 05/30/02	D31 6-15' 6-15 05/21/02	D36 1-6' 1-6 05/15/02	E29 6-15' 6-15 05/21/02	E35 6-15' 6-15 05/17/02	E38 6-15' 6-15 05/14/02	E40 0-1' 0-1 05/13/02
Modified Method 8260/8270															
1,2,4-Trimethylbenzene	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present	Present	Present	Present
1-Methylnaphthalene	0.0561	330 DJ	5.7 D	3.09	1.02 J	22.9 J	1.29	0.245 J	ND(0.00580) J	65.0 J	7.63	84 DJ	0.645	200 D	1.11
2-Methylnaphthalene	0.101	580 DJ	1.14	4.43	0.626 J	37.8 J	1.15	0.107 J	0.00357 J	115 J	3.22	75.6 J	0.567	240 D	1.44
Acenaphthene	0.0431	66.8 J	0.489	0.880	0.230 J	1.37 J	0.287	0.102 J	ND(0.00580) J	0.950 J	5.20	51.9 J	0.710	190 D	4.01
Acenaphthylene	0.270	180 DJ	0.330	9.40	2.03 J	5.19 J	2.66	0.624 J	0.0250 J	6.69 J	13.8	34.2 J	1.09	62.1	0.495
Anthracene	0.117	210 DJ	0.367	4.00	1.10 J	5.84 J	1.25	0.331 J	0.0130 J	3.84 J	7.36	30.1 J	0.797	66.1	4.94
Benzene	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present	Present	Present	Present
Benzo(a)anthracene	0.335	58.1 J	0.158	9.63	3.00 J	9.81 J	2.46	0.902 J	0.0339 J	5.97 J	11.7	37.2 J	1.40	180 D	8.04 EJ
Benzo(a)pyrene	0.348	47.1 J	0.155	10.2	2.90 J	9.50 J	3.11	0.753 J	0.0362 J	3.31 J	9.16	34.2 J	1.70	37.0	7.42
Benzo(b)fluoranthene	0.300	25.9 J	0.136	7.54	2.55 J	6.95 J	2.84	0.411 J	0.0387 J	4.17 J	8.93	19.9 J	1.23	20.7	7.83 EJ
Benzo(g,h,i)perylene	0.375	29.9 J	0.145	12.2	2.92 J	7.27 J	3.27	0.503 J	0.0300 J	3.60 J	11.4	25.2 J	1.17	21.9	7.23
Benzo(k)fluoranthene	0.253	25.6 J	0.113	7.41	2.97 J	7.85 J	2.17	0.507 J	0.0288 J	4.57 J	8.14	18.3 J	1.11	19.5	3.86
Chrysene	0.363	49.9 J	0.140	10.0	2.99 J	9.36 J	2.28	0.745 J	0.0408 J	6.18 J	12.1	30.4 J	1.31	37.0	7.22
Dibenzo(a,h)anthracene	0.0925	7.82 J	0.0230	2.79	0.813 J	1.73 J	0.719	0.0920 J	0.00568 J	1.39 J	3.43	5.19 J	0.325	4.24	2.38
Dibenzofuran	0.0265	12.9 J	0.344	0.405	0.255 J	3.00 J	0.245	0.0493 J	0.00422 J	1.30 J	1.73	8.06 J	0.208	9.56	2.33
Ethylbenzene	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present	Present	Present	Present
Fluoranthene	0.651	130 DJ	0.435	14.0	4.57 J	21.8 J	3.50	1.33 J	0.0667 J	9.26 J	19.7	53.2 J	2.65	87.6 D	15.5 EJ
Fluorene	0.0529	110 DJ	1.89	1.81	0.730 J	4.80 J	0.659	0.204 J	ND(0.00580) J	5.21 J	5.25	33.0 J	0.663	142 D	3.51
Indeno(1,2,3-cd)pyrene	0.282	23.0 J	0.109	8.14	2.18 J	5.73 J	2.58	0.309 J	0.0248 J	3.18 J	8.17	17.6 J	1.03	14.5	6.36
m&p-Xylene	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present	Present	Present	Present
Naphthalene	0.187	1100 EDJ	6.5 D	5.49	1.29 J	1550 DJ	3.90	0.252 J	ND(0.00580) J	493 DJ	8.01	185 D	0.741	330 D	3.09
o-Xylene	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present	Present	Present	Present
Phenanthrene	0.526	340 DJ	2.34	15.0	5.20 J	27.2 J	4.26	0.866 J	0.0307 J	19.9 J	26.5	120 DJ	2.60	400 EDJ	18.0 EJ
Pyrene	0.692	210 DJ	0.606	22.2	5.41 J	20.9 J	4.44	2.27 J	0.0567 J	15.9 J	23.1	70.7 J	2.67	130 D	12.7 EJ
Styrene	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present	Present	Present	Present
Toluene	R	Present	R	Present	Present	Present	Present	R	Present	Present	R	Present	R	Present	Present

TABLE 2
BERKSHIRE GAS COMPANY APPENDIX IX+3 SOIL ANALYTICAL RESULTS

ADDENDUM TO SUPPLEMENTAL PRE-DESIGN SOIL INVESTIGATION SAMPLING
EAST STREET AREA 2 - SOUTH
GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
(Results are presented in dry weight parts per million, ppm)

Sample ID: Sample Depth(Feet): Parameter Date Collected:	E41 1-6' 1-6 05/13/02	E41 6-15' 6-15 05/13/02	F29 0-1' 0-1 05/22/02	F29 6-15' 6-15 05/21/02	F36 6-15' 6-15 05/14/02	G27 0-1' 0-1 05/22/02	G27 1-6' 1-6 05/22/02	G27 6-15' 6-15 05/22/02	H29 6-15' 6-15 05/22/02	K21 6-15' 6-15 06/03/02	K29 6-15' 6-15 05/29/02	RAA4-01 6-15 04/25/02	RAA4-E31 6-15 04/25/02	RAA4-I23 6-15 04/25/02	RAA4-K23 6-15 04/25/02
Modified Method 8260/8270															
1,2,4-Trimethylbenzene	R	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
1-Methylnaphthalene	0.0166	3.34	0.154 J	1.50 J	0.0182 J	2.08	0.651	4.98 J	0.121 J	4.72 DJ	0.126	0.00901	137 DJ	4.40 J	63.3 DJ
2-Methylnaphthalene	0.0261 J	0.154 J	0.180 J	2.92 J	0.0308 J	2.91	1.19	2.38 J	0.198 J	7.14 J	0.0750	0.0153	200 DJ	0.596 J	80.7 DJ
Acenaphthene	0.0762	2.13	0.649 J	2.58 J	0.0134 J	1.70	0.292	3.16 J	0.117 J	3.98 DJ	ND(0.00489)	0.00287 J	114 DJ	7.78 J	51.8 J
Acenaphthylene	0.0207	0.734	0.450 J	0.0886 J	0.00503 J	1.27	1.89	1.01 J	0.0544 J	1.25 J	0.295	ND(0.00534)	11.8 J	0.939 J	14.8 DJ
Anthracene	0.215	0.928	1.50 J	1.51 J	0.0179 J	3.10	2.69	1.92 J	0.119 J	7.27 J	ND(0.00489)	0.00298 J	50.8 J	3.76 J	31.5 J
Benzene	R	R	Present	Present	Present	R	Present	R	Present	Present	Present	Present	Present	Present	Present
Benzo(a)anthracene	0.831	0.698	6.01 J	1.53 J	0.0380 J	6.02	5.57	1.36 J	0.371 J	2.09 J	ND(0.00489)	0.00943	24.8 J	4.30 J	30.2 J
Benzo(a)pyrene	0.589	0.671	5.94 J	0.824 J	0.0268 J	5.45	5.40	0.977 J	0.250 J	1.49 J	ND(0.00489)	0.00896	17.2 J	3.73 J	30.8 J
Benzo(b)fluoranthene	0.550	0.286	6.10 J	1.20 J	0.0276 J	5.36	6.57	0.554 J	0.347 J	1.05 J	ND(0.00489)	0.015	7.76 J	2.66 J	17.5 J
Benzo(g,h,i)perylene	0.353	0.453	6.40 J	1.01 J	0.0228 J	4.92	4.75	0.727 J	0.231 J	0.880 J	ND(0.00489)	0.0127	7.54 J	2.29 J	19.4 J
Benzo(k)fluoranthene	0.525	0.357	5.35 J	0.975 J	0.0245 J	5.04	3.35	0.719 J	0.287 J	0.889 J	ND(0.00489)	0.00888	10.0 J	2.56 J	16.6 J
Chrysene	0.673	0.611	6.15 J	1.28 J	0.0377 J	5.19	4.35	1.53 J	0.364 J	2.08 J	ND(0.00489)	0.0183	21.2 J	3.73 J	26.8 J
Dibenzo(a,h)anthracene	0.129	0.0683	1.70 J	0.276 J	0.00559 J	1.32	1.40	0.193 J	0.0673 J	0.256 J	ND(0.00489)	ND(0.00534)	2.63 J	0.672 J	4.23 J
Dibenzofuran	0.0434	0.192	0.304 J	1.87 J	0.0104 J	2.33	1.04	0.615 J	0.0727 J	1.59 J	ND(0.00489)	0.00424 J	6.77 J	1.19 J	6.11 J
Ethylbenzene	R	R	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Fluoranthene	1.66	1.42	12.1 J	4.08 J	0.0862 J	13.1	16.6 D	3.41 J	0.841 J	3.20 J	ND(0.00489)	0.0172	39.1 J	8.07 J	43.0 J
Fluorene	0.0826	1.37	0.634 J	1.90 J	0.0164 J	3.71	1.69	2.42 J	0.111 J	3.67 J	ND(0.00489)	0.00571	52.0 J	4.32 J	27.2 J
Indeno(1,2,3-cd)pyrene	0.329	0.276	4.81 J	0.856 J	0.0161 J	3.92	4.52	0.503 J	0.205 J	0.670 J	ND(0.00489)	0.00809	6.31 J	1.87 J	13.5 J
m&p-Xylene	R	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Naphthalene	0.0476	4.86	0.331 J	1.51 J	0.0371 J	4.08	2.37	9.46 J	0.378 J	2.09 J	1.09	0.0137	238 DJ	4.36 J	90.9 J
o-Xylene	R	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Phenanthrene	0.955	4.06	7.83 J	5.89 J	0.110 J	16.7	11.5 D	8.96 J	0.780 J	9.55 DJ	ND(0.00489)	0.0233	187 DJ	12.0 J	104 DJ
Pyrene	1.36	2.40	10.3 J	3.19 J	0.0734 J	11.0	14.0 D	4.30 J	0.732 J	4.21 J	ND(0.00489)	0.0165	56.9 J	9.05 J	67.8 J
Styrene	R	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	R	Present	Present	Present
Toluene	R	R	Present	Present	Present	Present	Present	Present	Present	Present	Present	R	R	R	R

Notes:

1. Sample collection and analysis performed by Berkshire Gas Company Subcontractors. Samples were submitted to META Environmental, Inc. for analysis of volatile and semi-volatile organic compounds using USEPA Method 8260/8270 as modified by the laboratory.
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan, General Electric Company, Pittsfield, Massachusetts, Blasland Bouck & Lee, Inc. (approved November 4, 2002 and resubmitted December 10, 2002).
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
4. D - Compound quantitated using a secondary dilution.
5. J - Indicates that the associated numerical value is an estimated concentration.
6. Present - Compound is identified as present. Sample results for qualitative purposes only.

TABLE 3
 BERKSHIRE GAS COMPANY APPENDIX IX+3 SOIL ANALYTICAL RESULTS
 ADDENDUM TO SUPPLEMENTAL PRE-DESIGN SOIL INVESTIGATION SAMPLING
 EAST STREET AREA 2 - SOUTH
 GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
 (Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: Sample Depth(Feet): Date Collected:	RAA4-01 6-15 04/25/02	RAA4-E31 6-15 04/25/02	RAA4-I23 6-15 04/25/02	RAA4-K23 6-15 04/25/02
Semivolatile Organics					
1,2,4,5-Tetrachlorobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	0.694
1,2,4-Trichlorobenzene		ND(0.0215)	ND(0.381)	1.16	3.64
1,2-Dichlorobenzene		ND(0.00430)	ND(0.0762)	0.0667 J	0.292
1,3,5-Trinitrobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
1,3-Dichlorobenzene		ND(0.00430)	0.175	0.760	2.70
1,3-Dinitrobenzene		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
1,4-Dichlorobenzene		ND(0.00430)	0.647	1.74	14.0
1,4-Naphthoquinone		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
1-Naphthylamine		ND(0.215)	ND(3.81)	ND(5.05)	ND(4.20)
2,3,4,6-Tetrachlorophenol		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
2,4,5-Trichlorophenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
2,4,6-Trichlorophenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
2,4-Dichlorophenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
2,4-Dimethylphenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
2,4-Dinitrophenol		ND(0.215) J	ND(3.81) J	ND(5.05) J	ND(4.2) J
2,4-Dinitrotoluene		ND(0.0043) J	ND(0.0762) J	ND(0.101) J	ND(0.0841) J
2,6-Dichlorophenol		ND(0.0215)	ND(0.381)	ND(0.505)	0.701
2,6-Dinitrotoluene		ND(0.00430)	ND(0.0762)	37.9	ND(0.0841)
2-Acetylaminofluorene		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
2-Chloronaphthalene		ND(0.00430)	ND(0.0762)	6.45	ND(0.0841)
2-Chlorophenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
2-Methylnaphthalene		0.0142	115 D	0.803	55.7
2-Methylphenol		0.00218 J	ND(0.0762)	8.12	0.378
2-Naphthylamine		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
2-Nitroaniline		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
2-Nitrophenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
2-Picoline		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
3&4-Methylphenol		0.184	ND(0.0762)	0.394	0.135
3,3'-Dichlorobenzidine		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
3,3'-Dimethylbenzidine		ND(0.0215) J	ND(0.381) J	ND(0.505) J	ND(0.42) J
3-Methylcholanthrene		ND(0.0215)	ND(0.381)	ND(0.505)	0.221 J
3-Nitroaniline		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
4,6-Dinitro-2-methylphenol		ND(0.043) J	ND(0.762) J	ND(1.01) J	ND(0.841) J
4-Aminobiphenyl		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
4-Bromophenyl-phenylether		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
4-Chloro-3-methylphenol		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
4-Chloroaniline		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
4-Chlorobenzilate		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
4-Chlorophenyl-phenylether		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
4-Nitroaniline		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
4-Nitrophenol		ND(0.215) J	ND(3.81) J	ND(5.05) J	ND(4.2) J
4-Nitroquinoline-1-oxide		ND(0.215) J	ND(3.81) J	ND(5.05) J	ND(4.2) J
4-Phenylenediamine		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
5-Nitro-o-toluidine		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
7,12-Dimethylbenz(a)anthracene		ND(0.00430)	ND(0.0762)	ND(0.101)	0.324
a,a'-Dimethylphenethylamine		ND(0.0215) J	ND(0.381) J	ND(0.505) J	ND(0.42) J
Acenaphthene		ND(0.00430)	49.3	4.50	33.2
Acenaphthylene		ND(0.00430)	4.01	0.569	9.46
Acetophenone		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Aniline		ND(0.0215)	ND(0.381)	13.7	1.16
Anthracene		0.00301 JB	32.7 B	2.16 B	24.0 B
Aramite		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
Azobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Benzo(a)anthracene		0.00993	[10.2]	2.03	21.4
Benzo(a)pyrene		0.0123	9.59	2.38	23.5
Benzo(b)fluoranthene		0.0175	4.33	1.48	10.4
Benzo(g,h,i)perylene		0.0150 J	3.49	1.40	17.5
Benzo(k)fluoranthene		0.00984	5.74	1.59	12.8
Benzyl Alcohol		0.0288 J	ND(0.762)	ND(1.01)	ND(0.841)
bis(2-Chloroethoxy)methane		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
bis(2-Chloroethyl)ether		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
bis(2-chloroisopropyl)ether		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
bis(2-Ethylhexyl)phthalate		0.0242 B	ND(0.381)	4.86 B	ND(0.420)
Butylbenzylphthalate		0.00651	ND(0.0762) J	ND(0.101) J	ND(0.0841)
Chrysene		0.0168	9.72	1.91	21.0

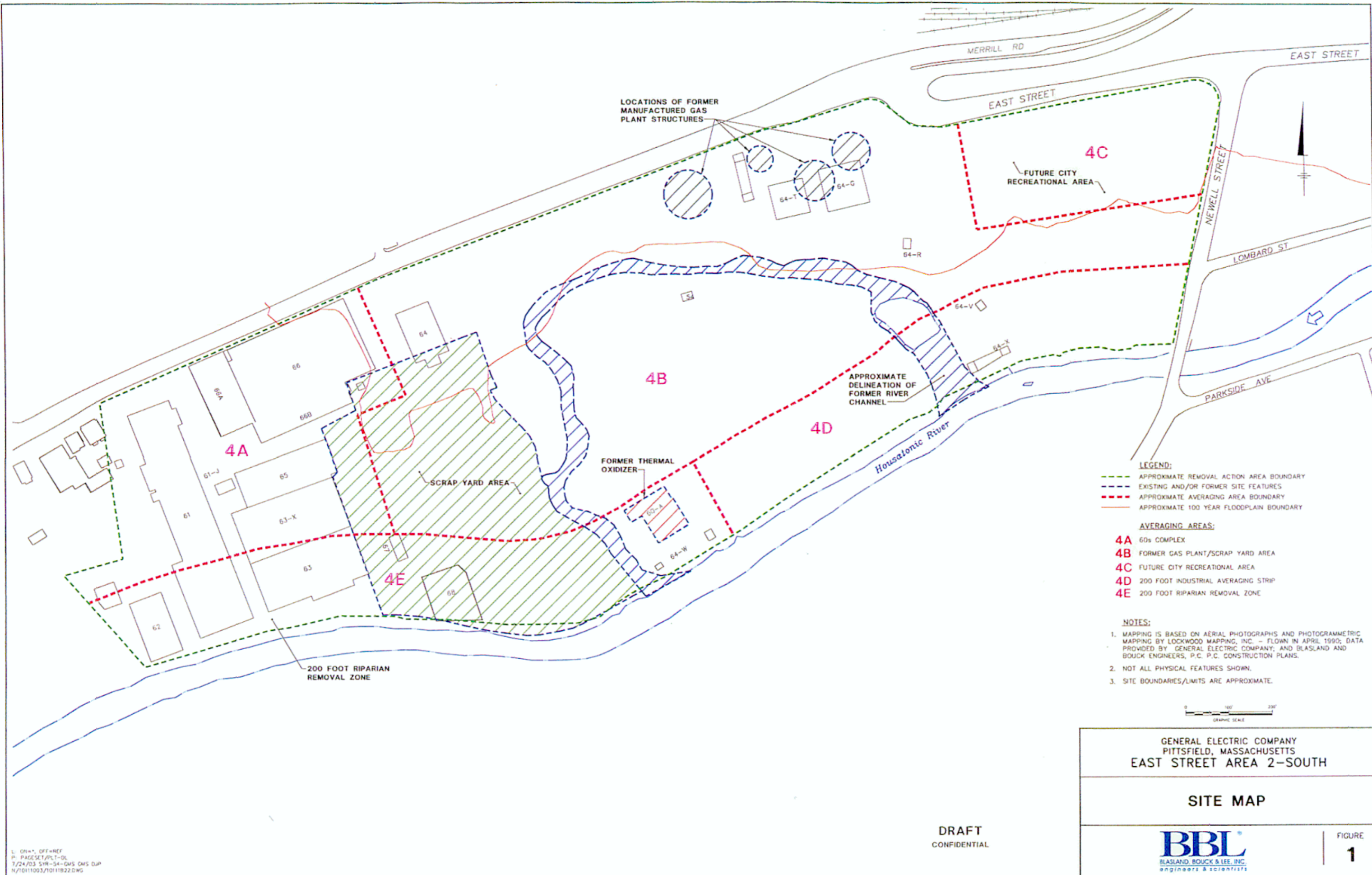
TABLE 3
 BERKSHIRE GAS COMPANY APPENDIX IX+3 SOIL ANALYTICAL RESULTS
 ADDENDUM TO SUPPLEMENTAL PRE-DESIGN SOIL INVESTIGATION SAMPLING
 EAST STREET AREA 2 - SOUTH
 GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
 (Results are presented in dry weight parts per million, ppm)

Parameter	Sample ID: Sample Depth(Feet): Date Collected:	RAA4-01 6-15 04/25/02	RAA4-E31 6-15 04/25/02	RAA4-I23 6-15 04/25/02	RAA4-K23 6-15 04/25/02
Semivolatile Organics (continued)					
Diallate		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
Dibenzo(a,h)anthracene		ND(0.0215)	[1.06]	0.439 J	4.43
Dibenzofuran		ND(0.0430)	3.03	0.745 J	3.99
Diethylphthalate		0.0572 B	ND(0.762)	ND(1.01)	ND(0.841)
Dimethylphthalate		ND(0.0215)	ND(0.381)	ND(0.505)	0.274 J
Di-n-butylphthalate		0.185 B	ND(0.0762)	0.710 B	0.319 B
Di-n-octylphthalate		ND(0.0430)	ND(0.762) J	ND(1.01) J	ND(0.841)
Dinoseb		ND(0.043) J	ND(0.762) J	ND(1.01) J	ND(0.841) J
Ethyl methanesulfonate		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Fluoranthene		0.0175	21.8	4.45	32.4
Fluorene		0.00488	26.0	2.86	16.9
Hexachlorobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Hexachlorobutadiene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Hexachlorocyclopentadiene		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
Hexachloroethane		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Hexachloropropene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Indeno(1,2,3-cd)pyrene		ND(0.0215)	2.90	1.11	12.6
Isophorone		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Isosafrole		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
Methapyrilene		ND(0.043) J	ND(0.762) J	ND(1.01) J	ND(0.841) J
Methyl methanesulfonate		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
Naphthalene		0.0142	150 D	3.41	61.4
Nitrobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
N-Nitrosodiethylamine		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
N-nitrosodimethylamine		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
N-Nitroso-di-n-butylamine		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
N-nitroso-di-n-propylamine		ND(0.00430)	ND(0.0762)	ND(0.101)	2.59
N-Nitrosodiphenylamine		ND(0.00430)	ND(0.0762)	24.6	4.43
N-Nitrosomethylethylamine		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
N-nitrosomorpholine		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
N-Nitrosopiperidine		ND(0.0215)	ND(0.381)	ND(0.505)	ND(0.420)
N-nitrosopyrrolidine		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
O-Toluidine		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
p-Dimethylaminoazobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Pentachlorobenzene		ND(0.00430)	ND(0.0762)	0.100 J	ND(0.0841)
Pentachloronitrobenzene		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Pentachlorophenol		ND(0.043) J	ND(0.762) J	ND(1.01) J	ND(0.841) J
Phenacetin		ND(0.0430)	ND(0.762) J	ND(1.01) J	ND(0.841)
Phenanthrene		0.0195 B	65.4 B	5.88 B	58.8 B
Phenol		0.0629	ND(0.0762)	48.9	ND(0.0841)
Pronamide		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)
Pyrene		0.0176	32.2	5.50	52.1
Pyridine		ND(0.0430)	ND(0.762)	ND(1.01)	ND(0.841)
Safrole		ND(0.00430)	ND(0.0762)	ND(0.101)	ND(0.0841)

Notes:

1. Sample collection and analysis performed by Berkshire Gas Company Subcontractors. Samples were submitted to META Environmental, Inc. for analysis of semi-volatile organic compounds using USEPA Method 8270 as modified by the laboratory.
2. Samples have been validated as per Field Sampling Plan/Quality Assurance Project Plan, General Electric Company, Pittsfield, Massachusetts, Blasland Bouck & Lee, Inc. (approved November 4, 2002 and resubmitted December 10, 2002).
3. ND - Analyte was not detected. The number in parentheses is the associated detection limit.
4. B - Analyte was also detected in the associated method blank.
5. D - Compound quantitated using a secondary dilution.
6. J - Indicates that the associated numerical value is an estimated concentration.

Figures



LOCATIONS OF FORMER MANUFACTURED GAS PLANT STRUCTURES

4C

FUTURE CITY RECREATIONAL AREA

4B

4D

APPROXIMATE DELINEATION OF FORMER RIVER CHANNEL

FORMER THERMAL OXIDIZER

SCRAP YARD AREA

4A

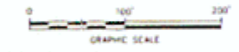
4E

200 FOOT RIPARIAN REMOVAL ZONE

- LEGEND:**
- - - - - APPROXIMATE REMOVAL ACTION AREA BOUNDARY
 - - - - - EXISTING AND/OR FORMER SITE FEATURES
 - - - - - APPROXIMATE AVERAGING AREA BOUNDARY
 - - - - - APPROXIMATE 100 YEAR FLOODPLAIN BOUNDARY

- AVERAGING AREAS:**
- 4A 60s COMPLEX
 - 4B FORMER GAS PLANT/SCRAP YARD AREA
 - 4C FUTURE CITY RECREATIONAL AREA
 - 4D 200 FOOT INDUSTRIAL AVERAGING STRIP
 - 4E 200 FOOT RIPARIAN REMOVAL ZONE

- NOTES:**
1. MAPPING IS BASED ON AERIAL PHOTOGRAPHS AND PHOTOGRAMMETRIC MAPPING BY LOCKWOOD MAPPING, INC. - FLOWN IN APRIL 1990; DATA PROVIDED BY GENERAL ELECTRIC COMPANY; AND BLASLAND AND BOUCK ENGINEERS, P.C. P.C. CONSTRUCTION PLANS.
 2. NOT ALL PHYSICAL FEATURES SHOWN.
 3. SITE BOUNDARIES/LIMITS ARE APPROXIMATE.



GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
EAST STREET AREA 2-SOUTH

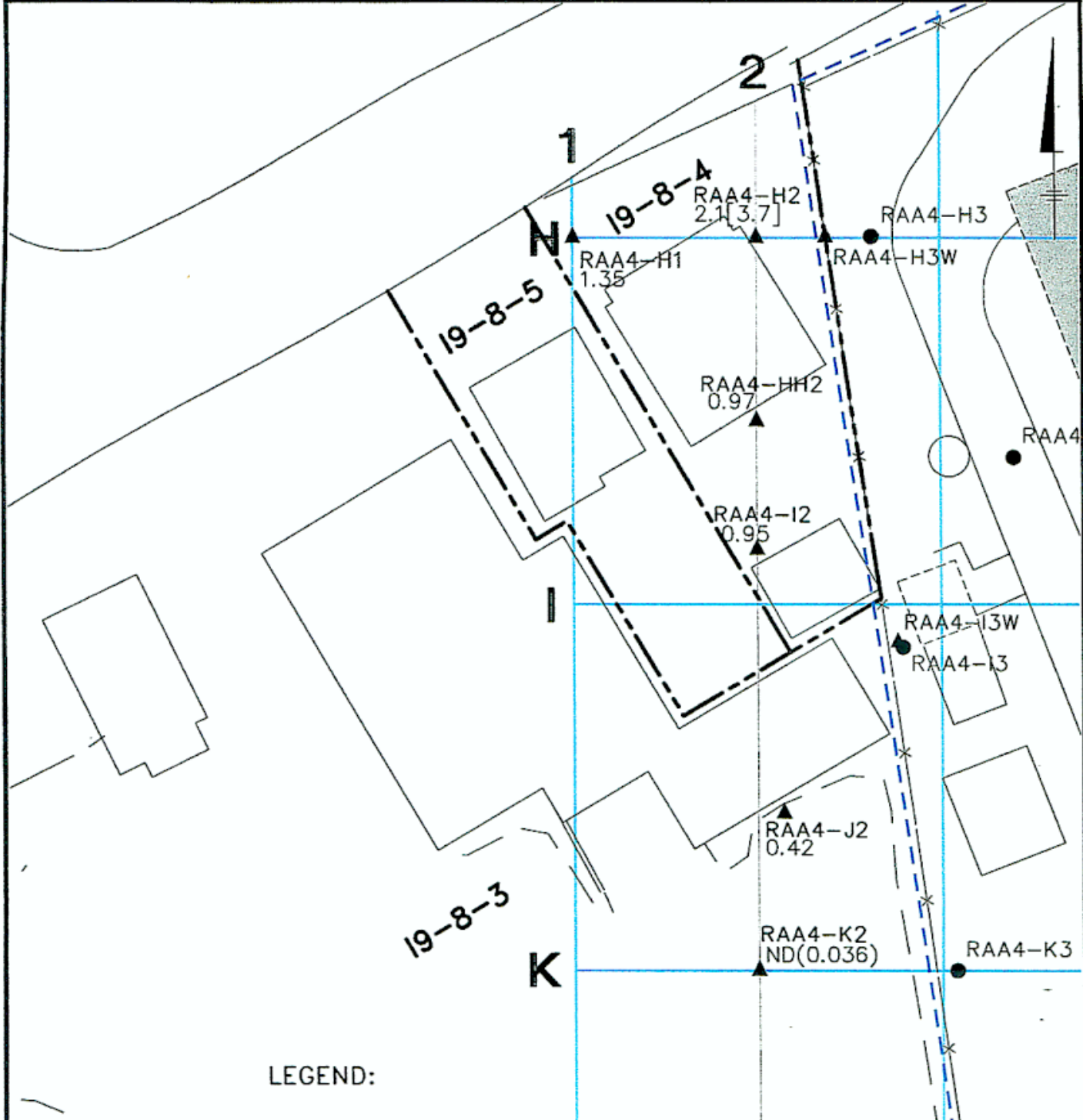
SITE MAP

DRAFT
CONFIDENTIAL



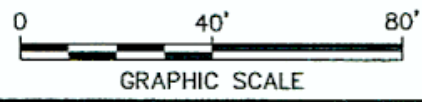
FIGURE
1

L: 0111003, 0111003
P: PAGESET/PLT-06
7/24/03 SYR-54-GMS GMS DWP
N/1011003/1011003.DWG



LEGEND:

- ▲ EXISTING SOIL SAMPLE LOCATION
 - EXISTING SOIL BORING LOCATION
 - - - APPROXIMATE REMOVAL ACTION AREA BOUNDARY
- 0.42
- TOTAL PCB CONCENTRATION (PPM DRY WT.) DUPLICATE RESULTS SHOWN IN BRACKETS.
ND = NON-DETECT



GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
EAST STREET AREA 2-SOUTH

SOIL SAMPLING LOCATIONS

X: 1011X01.DWG
L: ON** OFF**REF* JAREA,
BLDG-DEMO, BLDG-SHD
P: PAGESET/PLT-BL
12/17/03 SYR-85-SOL.DWG LAF



FIGURE
2

Attachment A

ATTACHMENT A

GENERAL ELECTRIC COMPANY PITTSFIELD, MASSACHUSETTS

SOIL SAMPLES COLLECTED BY BERKSHIRE GAS COMPANY FROM THE EAST STREET AREA 2-SOUTH REMOVAL ACTION AREA

SOIL SAMPLING DATA VALIDATION REPORT

1.0 General

This Attachment summarizes the Tier I and Tier II data reviews performed for soil samples collected by Berkshire Gas Company (BG) during investigation activities at the East Street Area 2-South Removal Action Area (RAA), which is part of the GE Pittsfield/Housatonic River site located in Pittsfield, Massachusetts. The soil samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and/or alkylated polycyclic aromatic hydrocarbons (APAHs) by META Environmental, Inc. (MEI) located in Watertown, Massachusetts. The APAHs were not considered in this data review since they are not part of the EPA approved compound list that includes those constituents listed in Appendix IX of 40 CFR Part 264 (excluding pesticides and herbicides), plus three additional constituents - benzidine, 2-chloroethyl vinyl ether, and 1,2-diphenylhydrazine (Appendix IX+3). Data validation was performed for 30 soil samples analyzed for VOCs and SVOCs using a combined method (as discussed below) and for 4 of those samples that were analyzed for Appendix IX+3 SVOCs.

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 October 17, 2000, revised December 10, 2002);
- *Region I Tiered Organic and Inorganic Data Validation Guidelines*, USEPA Region I (USEPA Tiered Guidelines; July 1, 1993);
- *Region I Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses*, USEPA Region I (USEPA Laboratory Guidelines; Draft, December 1996); and
- *USEPA Region I CSF Completeness Evidence Audit Program*, USEPA Region I (USEPA Completeness Program; July 31, 1991).

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

The following data qualifiers have been used in this data evaluation.

- J The compound or analyte 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 or analyte is detected at an estimated concentration less than the Practical Quantitation Limit (PQL).
- U The compound or analyte 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 A-1 for consistency with previous documents prepared for this investigation.
- UJ The compound or analyte 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 A-1 for consistency with previous documents 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 purposes.

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 USEPA Tiered 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 Completeness Program to ensure that all laboratory data and documentation were present. A tabulated summary of the samples subjected to Tier I and Tier II data evaluation is presented below.

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/SVOCs	0	0	0	30	0	0	30
SVOCs	0	0	0	4	0	0	4
Total	0	0	0	34	0	0	34

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 USEPA Region I Tier I data completeness requirements.

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 VOC and SVOC data package summary forms for identification of quality assurance/quality control (QA/QC) deviations and qualification of the data according to the Region I Laboratory 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.

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 Tiered Guidelines. 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 the analytical methods reviewed during this data assessment.

4.0 Data Review

The initial calibration criterion for VOCs and SVOCs requires that the percent relative standard deviation (%RSD) must be less than or equal to 30 percent. Sample data for detected and non-detect compounds with %RSD values greater than 30 percent were qualified as estimated (J). The compounds that did not meet the initial calibration criterion and the number of samples qualified due to those exceedances are identified below.

Compounds Qualified Due to Initial Calibration %RSD Deviations

Analysis	Compounds	Number of Affected Samples	Qualification
SVOCs	2,4-Dinitrophenol	4	J
	2,4-Dinitrotoluene	4	J
	4,6-Dinitro-2-methylphenol	4	J
	4-Nitrophenol	4	J
	4-Nitroquinoline-1-oxide	4	J
	a,a'-Dimethylphenethylamine	4	J
	Dinoseb	4	J
	Methapyrilene	4	J
	Pentachlorophenol	4	J

Continuing the calibration criterion requires that the percentage difference (%D) between the initial calibration RRF and the continuing calibration RRF for VOCs be less than 25%. Sample data for detected and non-detect compounds with %D values that exceeded the continuing calibration criterion were also qualified as estimated (J). A summary of the compounds that did not meet the continuing calibration criterion and the number of samples qualified due to those deviations are identified below.

Compounds Qualified Due to Continuing Calibration of %D Values

Analysis	Compounds	Number of Affected Samples	Qualification
VOCs	1,2,4-Trimethylbenzene	5	J
	2-Methylnaphthalene	1	J
	m&p-Xylene	1	J
SVOCs	3,3'-Dimethylbenzidine	4	J
	4-Nitroquinoline-1-oxide	2	J
	a,a'-Dimethylphenethylamine	2	J
	Butylbenzylphthalate	2	J
	Di-n-octylphthalate	2	J
	Dinoseb	4	J
	Methapyrilene	4	J
	Phenacetin	2	J

Field, laboratory, and method blanks were analyzed to evaluate field sampling equipment or laboratory background contamination which may have contributed to the reported sample results. When detected compounds were identified in a blank sample, blank action levels were calculated at ten times the blank

concentrations for the common laboratory contaminant compounds (methylene chloride, carbon disulfide, acetone, common phthalate esters, etc.) and five times the blank concentration for all other detected compounds. Detected sample results that were below the blank action level were qualified with a "U". The organic compound detected in the method blanks, which resulted in qualification of sample data are presented below.

Compound Qualified Due to Blank Deviations

Analysis	Compound	Number of Affected Samples	Qualification
VOCs	Toluene	11	J

The extraction procedure specified in SW-846 method 5035, as prescribed by the approved FSP/QAPP, uses a combination of the sample and water or methanol to extract the VOCs from the soil matrix. However, the samples analyzed by MEI were extracted using SW-846 method 3550, which uses methylene chloride. According to GE's approved FSP/QAPP, SW-846 method 3550 is only to be used for the extraction of SVOCs. As a result, all non-detect VOCs sample results which were extracted using SW-846 method 3550 have been qualified as rejected (R). In addition, where VOCs were detected, the sample results have been qualified as "present," indicating that the data can be only used on a qualitative basis to indicate the presence of VOCs at an unknown concentration.

Compounds Qualified Due to Incorrect Extraction Procedure

Analysis	Compounds	Number of Affected Samples	Qualification
VOCs/SVOCs	1,2,4-Trimethylbenzene	28	Present
		2	R
	Benzene	25	Present
		5	R
	Ethylbenzene	27	Present
		3	R
	m&p-Xylene	28	Present
		2	R
	o-Xylene	28	Present
		2	R
	Styrene	27	Present
		3	R
	Toluene	19	Present
		11	R

During this data review the following SVOCs were found to be incorrectly reported by the laboratory. The sample results have been recalculated and reported on Table A-1. The SVOC compounds and the number of samples subject to such recalculation of results are identified below.

Compounds Incorrectly Reported By The Laboratory

Analysis	Compounds	Number of Affected Samples
SVOCs	1-Methylnaphthalene	4
	2-Methylnaphthalene	2
	Acenaphthene	1
	Acenaphthylene	1
	Anthracene	1
	Benzo(a)anthracene	1
	Benzo(a)anthracene	1
	Benzo(b)Fluoranthene	1

Compounds Incorrectly Reported By The Laboratory

Analysis	Compounds	Number of Affected Samples
	Fluoranthene	1
	Fluoranthene	1
	Fluorene	2
	Naphthalene	4
	Phenanthrene	3
	Phenanthrene	1
	Pyrene	2
	Pyrene	1
	Styrene	1

The quantitation criterion requires that detected organic sample results be quantitated within the range of the five-point calibration curve. Sample data for detected compounds which were not quantitated within the range of the five-point calibration curve were qualified as estimated (J). A summary of the compounds that did not meet the quantitation criterion and the number of samples qualified due to those deviations are identified below.

Compounds Qualified Due to Quantitation Criteria

Analysis	Compounds	Number of Affected Samples	Qualification
SVOCs	Benzo(a)anthracene	1	J
	Benzo(b)fluoranthene	1	J
	Fluoranthene	1	J
	Phenanthrene	1	J
	Pyrene	1	J

Surrogate compounds are analyzed with every organic sample to aid in evaluation of the sample extraction efficiency or purging efficiency. As specified in the FSP/QAPP, two of the three SVOC surrogate compounds within each fraction must be within the laboratory specified control limits and all surrogate compounds must have a recovery between the laboratory specified control limits for VOC sample analysis. Both VOC and SVOC analyses require that, at a minimum, the surrogate recoveries must be greater than 10 percent or non-detect sample results must be qualified as rejected (R). Sample data for detected and non-detect compounds with surrogate recoveries that did not meet the surrogate recovery criteria and exhibit recoveries greater than 10 percent were qualified as estimated (J). A summary of the compounds affected by surrogate recovery deviations and the number of samples qualified due to those deviations are shown below.

Compounds Qualified Due to Surrogate Recovery Deviations

Analysis	Compound	Number of Affected Samples	Qualification
VOCs/SVOCs	1,2,4-Trimethylbenzene	15	J
	1-Methylnaphthalene	16	J
	2-Methylnaphthalene	16	J
	Acenaphthene	16	J
	Acenaphthylene	16	J
	Anthracene	16	J
	Benzene	13	J
	Benzo(a)anthracene	16	J
	Benzo(a)pyrene	16	J

Compounds Qualified Due to Surrogate Recovery Deviations

Analysis	Compound	Number of Affected Samples	Qualification
	Benzo(b)fluoranthene	16	J
	Benzo(g,h,i)perylene	16	J
	Benzo(k)fluoranthene	16	J
	Chrysene	16	J
	Dibenzo(a,h)anthracene	16	J
	Dibenzofuran	16	J
	Ethylbenzene	14	J
	Fluoranthene	16	J
	Fluorene	16	J
	Indeno(1,2,3-cd)pyrene	16	J
	m&p-Xylene	15	J
VOCs/SVOCs	Naphthalene	16	J
	o-Xylene	15	J
	Phenanthrene	16	J
	Pyrene	16	J
	Styrene	15	J
	Toluene	12	J

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 determined to be usable during the data validation process. Data completeness with respect to usability was calculated separately for each of the organic analyses conducted. The percent usability calculation included analyses evaluated under both the Tier I and Tier II data validation reviews. 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 below.

Data Usability		
Parameter	Percent Usability	Rejected Data
VOCs/SVOCs	98.4	28 VOCs sample results were rejected due to incorrect extraction procedure.
SVOCs	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 MS/MSD samples. For this analytical program, none of the data required qualification for 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, 3.0 % of the data required qualification for calibration deviations, 18% required qualification for surrogate compound standard recoveries, and 0.36% required qualification for MS/MSD recoveries. None of the data required qualification for internal standard recovery deviations, internal standard recovery deviations, or LCS 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 GE's Agency-approved work plans and by following the procedures for sample collection and performing the data assessment/data validation provided herein as described in the FSP/QAPP. Additionally, the analytical program used procedures that were 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. For this analytical program, none of the data required qualification for holding time analysis 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 technologies that improve the sensitivity and stability of the instrumentation or allow 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 (i.e., sample extraction/preparation, instrument calibration, QA/QC procedures, etc.). Through this use of consistent

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

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. The actual completeness of this analytical data set ranged from 98.4% to 100% for individual analytical parameters and had an overall usability of 99.2%, which is greater than the minimum required usability of 90% as specified in the FSP/QAPP.