



GE
159 Plastics Avenue
Pittsfield, MA 01201
USA

Transmitted Via Overnight Delivery

November 14, 2006

Dean Tagliaferro
U.S. Environmental Protection Agency
c/o Weston Solutions
10 Lyman Street
Pittsfield, MA 01201

**Re: GE-Pittsfield/Housatonic River Site
Silver Lake Area (GECD600)
Addendum to the Fourth Interim Pre-Design Investigation Report
for Soils Adjacent to Silver Lake**

Dear Mr. Tagliaferro:

On September 8, 2006, the General Electric Company (GE) submitted to the U.S. Environmental Protection Agency (EPA) a document titled *Fourth Interim Pre-Design Investigation Report for Soils Adjacent to Silver Lake* (Fourth Interim PDI Report). That document included: (a) a description of the soil investigations performed by GE in June and August 2006 at properties within the Silver Lake Area Removal Action Area (Silver Lake RAA); (b) a summary of the available soil data set for this RAA; (c) a status update related to site survey and mapping activities (including a proposal for inclusion of a portion of an additional property [Parcel I9-10-11] within the RAA); (d) an evaluation of the need for additional soil sampling for polychlorinated biphenyls (PCBs) and/or other constituents listed in Appendix IX of 40 CFR Part 264, plus three additional constituents (benzidine, 2-chloroethyl vinyl ether, and 1,2-diphenylhydrazine) (Appendix IX+3); (e) a proposal for additional delineation sampling for certain non-PCB constituents; and (f) a proposed schedule for the performance and reporting of the activities proposed therein.

As noted in the Fourth Interim PDI Report, the June and August 2006 soil investigations were conducted in accordance with GE's December 2005 *Third Interim Pre-Design Investigation Report for Soils Adjacent to Silver Lake* (Third Interim PDI Report) and subsequent April 2006 *Addendum to the Third Interim Pre-Design Investigation Report for Soils Adjacent to Silver Lake* (Third Interim PDI Report Addendum), as conditionally approved by EPA, except at one property – Parcel I9-9-19 (see Figure 1). At that property, the property owner had denied GE access to conduct the proposed sampling until late August 2006 when verbal permission for sampling was provided to GE. Subsequently, on August 29 and 31, 2006, GE performed soil investigations on that property, involving the collection of surface (0- to 1-foot depth) samples from 7 locations for analysis of lead. One of these samples, from location I9-9-19-SB-2-SS, was initially submitted for analysis, with the remaining samples held for potential lead analysis depending on the lead result from sample I9-9-19-SB-2-SS.

At the time of submission of the Fourth Interim PDI Report, analytical results had not yet been received by GE. Therefore, the Fourth Interim PDI Report indicated that following receipt of the analytical data and performance of a data quality assessment for the result(s) of the samples collected at Parcel I9-9-19 for lead analysis, the result(s), along with an evaluation of the need for additional data to characterize lead in bank soils at Parcel I9-9-19, would be provided to EPA in a brief addendum to the Fourth Interim PDI Report.

Additionally, following submittal of the Fourth Interim PDI Report, additional, updated survey information was prepared by Hill Engineers, Planners and Surveyors (Hill) to support future Removal Design/Removal Action (RD/RA) evaluation activities. Based on this information, the boundaries of certain parcels within or adjacent to the western portion of the Silver Lake RAA (i.e., Parcels I9-10-8 through I9-10-15) slightly differ from those depicted in the Fourth Interim PDI Report. Figure 1 shows the current boundary of the Silver Lake RAA, encompassing the bank plus non-bank portions of properties that have been included in that RAA, and includes updated information on parcel boundaries.

Based on the above discussions, this letter provides the following:

- The results of recent soil sampling for lead at Parcel I9-9-19, including a data quality review and validation of those data, and an assessment regarding the need for additional lead soil sampling at that property; and
- An update of site survey information relating to parcel boundaries.

1. Summary of Recent Analytical Data from Parcel I9-9-19

As described in the Third Interim PDI Report Addendum, GE had proposed additional surface soil sampling for lead at Parcel I9-9-19 to determine the extent of a relatively elevated lead concentration that had previously been found in a surface soil on the bank portion of that property (at location I9-9-19-SB-2-S). Following permission to access Parcel I9-9-19, GE collected seven surface samples on August 27 and 31, 2006, at the locations identified in the Third Interim PDI Report Addendum. As discussed in the Fourth Interim PDI Report, only one of these samples (collected from location I9-9-19-SB-2-SS) was initially submitted for lead analysis, with the remaining samples held for analysis contingent on the lead result from I9-9-19-SB-2-SS.

The analytical data for the surface sample collected at I9-9-19-SB-2-SS showed an estimated lead concentration of 137 ppm, with duplicate sample result of 168 ppm, as shown in Table 1. The location of this soil sample, as well as prior non-PCB soil sample locations at that property, are shown on Figure 2. A soil boring log associated with location I9-9-19-SB-2-SS is presented in Appendix A. Using the lead results from this sample, GE updated previous preliminary RD/RA evaluations for Parcel I9-9-19, and determined that there was no need for analysis of additional lead samples to provide the necessary delineation. As a result, the remaining surface samples collected from Parcel I9-9-19 were not submitted for lead analysis.

The laboratory analytical data for lead from the sample collected at location I9-9-19-SB-2-SS have undergone data validation in accordance with Section 7.5 of GE's approved *Field Sampling Plan/Quality Assurance Project Plan* (FSP/QAPP). The results of this data validation, presented in Appendix B indicate that both the original and duplicate lead results from this sample are usable. Table 1 incorporates the results of this data validation.

2. Updated Site Survey Information on Parcel Boundaries

In December 2005, Hill performed detailed site mapping to support future RD/RA evaluation activities. Based on those site survey activities, surveyed locations of tax parcel boundaries were included in the Fourth Interim PDI Report for all parcels within or immediately adjacent to the Silver Lake RAA.

In September 2006, GE received additional, updated survey information from Hill for certain Silver Lake Area parcel boundaries. This updated survey information identified slight changes to the boundaries of certain parcels within or adjacent to the western portion of the Silver Lake RAA (i.e., Parcels I9-10-8 through I9-10-15), including the property (Parcel I9-10-11) on which GE had proposed to include a portion within the RAA. This information indicates that the boundaries of Parcels I9-10-10 through I9-10-15 are in fact located approximately 10 to 25 feet to the north from their depiction in the Fourth Interim PDI Report. The revised boundaries of these parcels, along with the parcel boundaries previously identified in the Fourth Interim PDI Report, are shown on Figure 1. Based on review of this information, these revised parcel boundaries do not affect the preliminary soil evaluations completed to date for these parcels or the sample collection locations proposed in the Fourth Interim PDI Report.

3. Proposed Schedule

Following EPA's approval of the Fourth Interim PDI Report and this Addendum, GE will perform the soil sampling activities described in the Fourth Interim PDI Report (subject to receipt of access permission) and submit a report to EPA within three months after EPA's approval. GE anticipates that this report will constitute a Final Pre-Design Investigation Report for soils at the Silver Lake RAA and will propose a schedule for submitting the Conceptual RD/RA Work Plan for those soils.

Please contact me if you have any questions or comments regarding this Addendum.

Sincerely,



Richard W. Gates
Remediation Project Manager

JJL/csc

Attachments

V:\GE_Silver_Lake\Reports and Presentations\Addendum to 4th Int PDI\59862196Ltr.doc

cc: Tim Conway, EPA
Rose Howell, EPA*
Holly Inglis, EPA
K.C. Mitkevicius, USACE (CD-ROM)
Linda Palmieri, Weston (CD-ROM)
Susan Steenstrup, MDEP (2 copies)
Anna Symington, MDEP*
Jane Rothchild, MDEP*
Nancy E. Harper, MA AG*
Dale Young, MA EOEA*

Mayor James Ruberto, City of Pittsfield
Michael Carroll, GE*
Andrew Silfer, GE
Rod McLaren, GE*
James Nuss, BBL
James Bieke, Goodwin Procter
Public Information Repositories
GE Internal Repository
Affected Property Owners

**cover letter only*

Table

**TABLE 1
SUMMARY OF AUGUST 2006 SOIL ANALYTICAL DATA**

**ADDENDUM TO THE FOURTH INTERIM PRE-DESIGN INVESTIGATION REPORT
FOR SOILS ADJACENT TO SILVER LAKE**

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

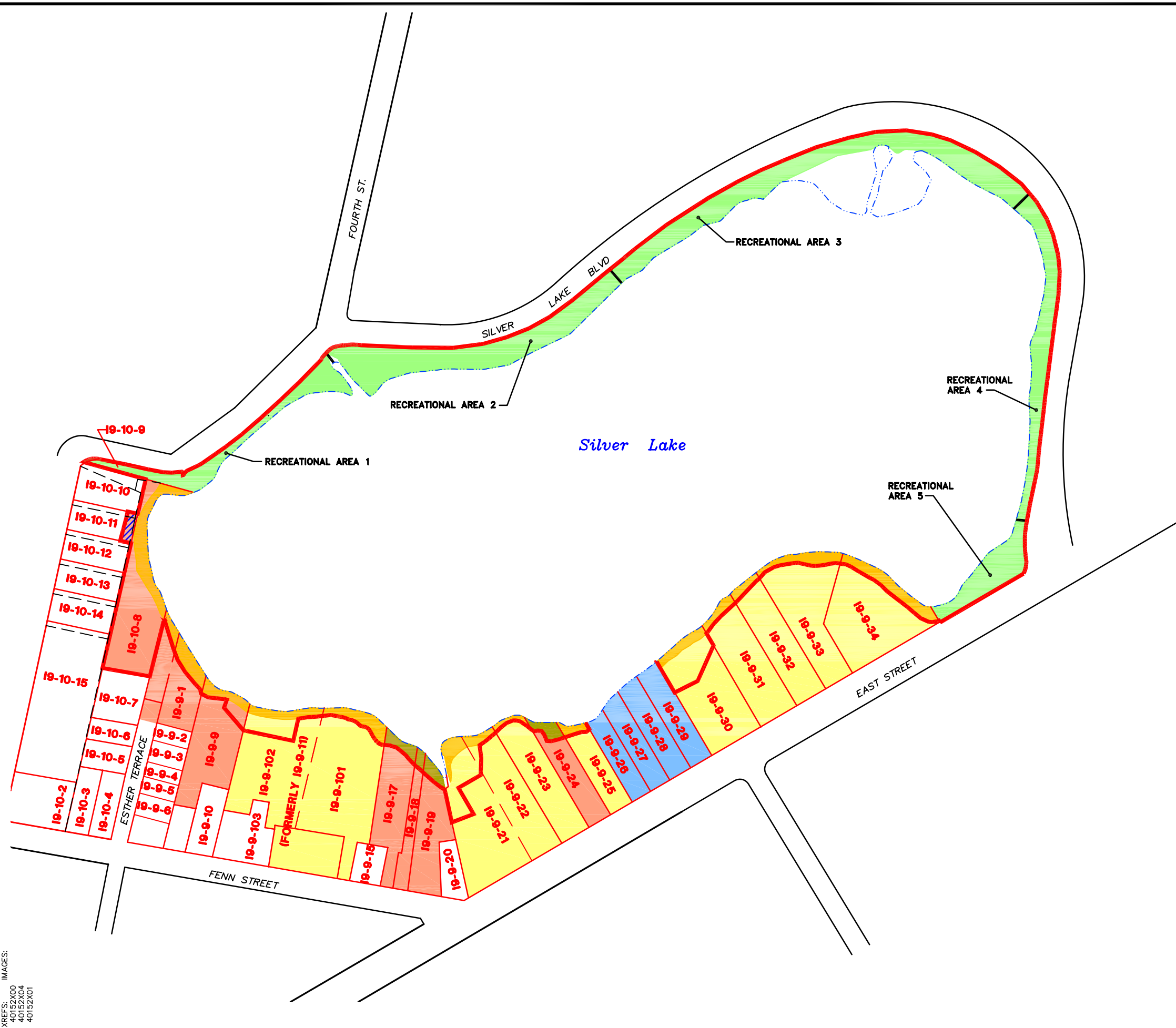
Sample ID:	19-9-19-SB-2-SS
Sample Depth(Feet):	0-1
Parameter	Date Collected:
	08/29/06
Inorganics	
Lead	137 J [168 J]

Notes:





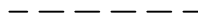

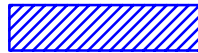






1. Samples were collected by BBL, an ARCADIS company (BBL), and submitted to SGS Environmental Services, Inc. for analysis of lead.
2. Field duplicate sample results are presented in brackets.
3. J - Indicates that the associated numerical value is an estimated concentration.

Figures

SYR-85-DWM BGP SDL L: ON=*, OFF=*REF*
 G:\GE_ACTIVE\N\40152002\4THINTRM\40152030.DWG
 PROJECTNAME: 40152X00
 XREFS: 40152X04
 40152X01
 LAYOUT: Layout1 PAGES: 11/14/2006 11:37 AM BY: LFORAKER



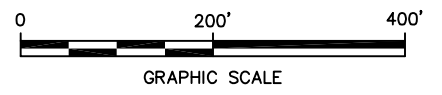
LEGEND:

-  MEAN WATER ELEV (975.9) (APPROX.)
-  PROPERTY BOUNDARY
-  BOUNDARY BETWEEN COMMONLY OWNED PROPERTIES
-  19-9-102 PROPERTY ID
-  PREVIOUSLY IDENTIFIED PROPERTY BOUNDARIES
-  LIMIT OF SILVER LAKE SOILS RAA BOUNDARY
-  PORTION OF PARCEL 19-10-11 PROPOSED FOR INCLUSION IN SILVER LAKE RAA
-  COMMERCIAL/INDUSTRIAL PROPERTY
-  BANK PORTIONS OF COMMERCIAL/INDUSTRIAL PROPERTIES
-  RESIDENTIAL PROPERTY
-  BANK PORTIONS OF RESIDENTIAL PROPERTIES
-  PROPERTY ADDRESSED AS PART OF ADMINISTRATIVE CONSENT ORDER WITH MDEP
-  RECREATIONAL AVERAGING AREAS



NOTE:

1. BASE MAP MODIFIED FROM ELECTRONIC FILE OF SURVEY PERFORMED BY HILL ENGINEERS, ARCHITECTS AND PLANNERS, DRAWING NO. GE1104-CX101, REV C, DATED 9/26/06.
2. PREVIOUS PROPERTY BOUNDARY INFORMATION FROM SURVEY PERFORMED BY HILL ENGINEERS, ARCHITECTS AND PLANNERS, DRAWING NO. GE1104-CX101, REV B, DATED 5/9/06.
3. THE APPROXIMATE MEAN WATER ELEVATION BASED ON HILL TOPOGRAPHIC SURVEY AND OCEAN SURVEYS, INC. BATHYMETRIC SURVEY (JUNE 2003).



GENERAL ELECTRIC COMPANY
 PITTSFIELD, MASSACHUSETTS
**ADDENDUM TO THE FOURTH INTERIM PRE-DESIGN
 INVESTIGATION REPORT FOR SOILS ADJACENT TO SILVER LAKE**

**SILVER LAKE
 AREA SITE MAP**


 an ARCADIS company

FIGURE
1

Appendices

Appendix A

Soil Boring Log

Date Start/Finish: 8/27/06
Drilling Company: BBL
Driller's Name: JJB
Drilling Method: Direct Push
Auger Size: NA
Rig Type: Slide Hammer
Sample Method: 2' Macrocore


Northing: 532892.7459
Easting: 129853.8779
Casing Elevation: NA

Borehole Depth: 1' below grade
Surface Elevation: 978.0

Descriptions By: TOR

Boring ID: I9-9-19-SB-2-SS
Client: General Electric Company

Location: Silver Lake Parcel I9-9-19

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	PID Headspace (ppm)	Geologic Column	Stratigraphic Description	Boring Construction
980								
0		1	0-1	1.0	0.0	x x x x x x	Dark brown SILT and fine SAND, trace Organics. COAL/ASH (Fill)	 Borehole backfilled with Bentonite.
975								
5								
970								
10								
965								
15								



Remarks: bgs = below ground surface; NA = Not Applicable/Available.
 Analyses: 0-1': Lead.
 Duplicate Sample ID: I9-9-19-DUP-1 (Lead, 0-1').
 MS/MSD collected (Lead, 0-1').

Appendix B

Data Validation Report

**APPENDIX B
DATA VALIDATION REPORT
ADDENDUM TO THE FOURTH INTERIM PDI REPORT
FOR SOILS ADJACENT TO SILVER LAKE**

**GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS**

1.0 General

This appendix summarizes the Tier I and Tier II data reviews performed for soil samples collected during Interim Pre-Design Investigation activities conducted in support of the Removal Design/Removal Action (RD/RA) at Silver Lake site located in Pittsfield, Massachusetts. The samples were analyzed for lead by SGS Environmental Services, Inc. (formerly CT&E) of Charleston, West Virginia. Data validation was performed for the results of analysis of lead in two soil samples.

2.0 Data Evaluation Procedures

This appendix 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); and
- *Region I Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses*, USEPA Region I (June 13, 1988) (Modified February 1989).

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).

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, July 31, 1991), 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. 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	
Lead	0	0	0	1	1	0	2
Total	0	0	0	1	1	0	2

As specified in the FSP/QAPP, 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.

4.0 Data Review

Matrix spike/matrix spike duplicate (MS/MSD) sample analysis recovery criteria for inorganics require that the MS/MSD recovery be within 75% to 125%. Associated inorganic sample results with MS/MSD recoveries that were less than the 75% control limit were qualified as estimated (J). The analyte that did not meet MS/MSD recovery criteria and the number of samples qualified due to those deviations are presented in the following table.

Analytes Qualified Due to MS/MSD Recovery Deviations

Analysis	Analyte	Number of Affected Samples	Qualification
Inorganics	Lead	2	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 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
Lead	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 relative percent difference (RPD) between duplicate sample results. The duplicate samples used to evaluate precision included laboratory duplicates and MS/MSD samples. For this analytical program, none of the data required qualification due to laboratory duplicate RPD or 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 contract required detection limit (CRDL) samples. For this analytical program, 100% of the data required qualification due to none of the data required qualification due to MS/MSD recovery deviations. For this analytical program, none of the data required qualification due to calibration, CRDL standard recovery, internal standards recovery, 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 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. For this analytical program, none of the data required qualification for exceeding holding time requirements.

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. 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
ADDENDUM TO THE FOURTH INTERIM PDI REPORT**

**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
Lead											
G135-164	I9-9-19-DUP-1 (0 - 1)	8/29/2006	Soil	Tier II	Yes	Lead	MS/MSD %R	235.2%, 391.7%	75% to 125%	168 J	I9-9-19-SB-2-SS
G135-164	I9-9-19-SB-2-SS (0 - 1)	8/29/2006	Soil	Tier II	Yes	Lead	MS/MSD %R	235.2%, 391.7%	75% to 125%	137 J	