



SDMS 273511

OG-0761

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

MAY 25 2001

Transmitted via Federal Express

May 22, 2001

Ms. J. Lyn Cutler
Section Chief, Special Projects
Bureau of Waste Site Cleanup
Department of Environmental Protection
436 Dwight Street
Springfield, Massachusetts 01103

BERKSHIRE
REGIONAL PLANNING COMMISSION

Re: Evaluation of Appendix IX+3 Constituents and Revised Soil Removal Limits for Parcel K10-16-3 (Site No. GEACO210)

Dear Ms. Cutler:

On March 26, 2001, the General Electric Company (GE) submitted to the Massachusetts Department of Environmental Protection (MDEP) a Remedial Action Work Plan (RAWP) for Parcel K10-16-3 in Pittsfield, Massachusetts. In that document, GE presented evaluations concerning the need for and scope of remedial actions to address PCBs in soils at this property. GE proposed the removal of approximately 30 cy of soil from Parcel K10-16-3 to achieve a level of No Significant Risk with respect to PCBs.

In the RAWP, GE proposed the collection of three soil samples at Parcel K10-16-3 for analysis of non-PCB constituents listed in Appendix IX of 40 CFR 264 (excluding pesticides and herbicides), plus benzidene, 2-chloroethyl vinyl ether, and 1,2-diphenylhydrazine (Appendix IX+3). The purpose of the proposed additional sampling was to ensure that the remedial actions proposed to address PCB-containing soils will be sufficient to achieve a Permanent Solution (for all constituents) and support the subsequent filing of a Class A-2 Response Action Outcome (RAO) Statement for this property. The purpose of this letter is to summarize and evaluate the recently collected data and identify the additional soil removal necessary to achieve a condition of No Significant Risk for both PCB and non-PCB constituents at this property.

On April 24, 2001, GE collected surface (top 1 foot) soil samples for Appendix IX+3 analyses at three locations on this property. The locations sampled are shown on Figure 1 and listed below:

- Parcel K10-16-3 - sample locations K10-16-3-SS-5/SB-6, -SS-6/SB-5, and -SB-1

The protocol for selecting the locations of the three Appendix IX+3 soil samples involved collecting one sample corresponding to the highest PCB concentration inside the soil removal area proposed to address PCB-containing soils and collecting the remaining two samples at selected locations on the property. These three samples formed the data set for the Appendix IX+3 evaluation presented in this document. The data for all three samples, which were collected from the 0- to 1-foot depth increment, are presented in Table 1.

Following collection and analyses of the recent soil samples, those data were evaluated using the general approach outlined below. This approach has been used by GE and approved by the MDEP for evaluating non-PCB Appendix IX+3 constituents in soil at other residential properties outside the GE-Pittsfield/Housatonic River Site (as defined in the Consent Decree for that Site):

1. The pre-remediation (existing) maximum and median concentrations for each constituent were identified and compared to the corresponding maximum and median concentrations from the available regional background data set, using the MDEP's summary statistics approach. The background data set consists of: (a) prior data from off-site residential properties, excluding samples with detectable PCB concentrations and samples containing fill; (b) data from the Housatonic River floodplain upstream of the GE facility; and (c) data from backfill sources used by GE to restore properties following the completion of remedial actions.
2. For any non-PCB sample results within the soil removal limits identified to address PCBs, the soil associated with those results was assumed to be removed and replaced with soil containing non-PCB constituent concentrations equal to the arithmetic average of the backfill samples included in the backfill data set.
3. Post-PCB remediation arithmetic average concentrations were calculated, for each property, for those non-PCB constituents whose concentrations were shown in Step 1 to exceed their corresponding background concentrations (based on application of the MDEP's summary statistics approach). These averages were then compared to the corresponding MCP Method 1 soil standards for these constituents (using the lower of the S-1/GW-2 or S-1/GW-3 standards).
4. If the arithmetic average of a constituent exceeded its corresponding Method 1 soil standard, the post-PCB remediation maximum and median concentrations for each constituent were compared to the maximum and median concentrations from the background data set, using the MDEP's summary statistics approach.
5. Additional soil removal is proposed for any property where: (a) one or more Appendix IX+3 constituents have arithmetic average concentrations (following PCB-based soil removal) that exceed the corresponding MCP Method 1 soil standards; and (b) the post-PCB remediation concentrations of those same constituents exceed the corresponding background concentrations under the MDEP's summary statistics data evaluation approach.

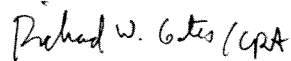
The evaluation for Parcel K10-16-3 indicated that soil removal is necessary at each of the three locations where Appendix IX+3 soil samples were collected. However, soil removal to address PCBs was already proposed at one of these sample locations -- K10-16-3-SB-1. At the other two locations, additional soil removal is proposed, consisting generally of removal of the upper one foot of soil from 10-foot by 10-foot boxes centered on the appropriate sample locations. The additional soil removal associated with the Appendix IX+3 data at these sample locations has been incorporated into revised soil removal limits, which are presented on Figure 1.

Table 2 presents the evaluation of the post-remedial action concentrations of Appendix IX+3 constituents at Parcel K10-16-3. This table presents only those constituents retained for further evaluation after performance of the background screening step using the MDEP's summary statistics approach (i.e., Step 1 of the evaluation approach outlined above). As shown in Table 2, the performance of the proposed soil removal illustrated on Figure 1 will reduce the arithmetic average concentrations for all detected constituents at this property to levels below their corresponding MCP Method 1 soil standards.

The proposed soil removal will result in the additional excavation and disposal of approximately 10 cy of soil from Parcel K10-16-3. Therefore, the revised soil removal volume attributed to PCB and non-PCB constituents at Parcel K10-16-3 is approximately 40 cy. The evaluation and additional soil removal proposed in this document will support the filing of a Class A-2 RAO Statement for Parcel K10-16-3.

Please contact me with any questions or comments.

Very truly yours,



Richard W. Gates
Remediation Project Manager

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Enclosure

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Public Information Repositories I-P-IV(A)(1)*
GE Internal Repositories*
Affected Property Owner - Parcel K10-16-3*

(* with enclosure)

TABLE 1

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
PARCEL K10-16-3 INVESTIGATION

SUMMARY OF APPENDIX-IX+3 DATA
(Results in ppm, dry-weight)

Sample ID: Sample Depth(Feet): Date Collected:	MCP RCS-1 Reportable Concentrations	K10-16-3-SB-1 0-1 04/24/01	K10-16-3-SS-5/SB-6 0-1 04/24/01	K10-16-3-SS-6/SB-5 0-1 04/24/01
Volatile Organics				
Acetone	3	0.050 J [ND(0.10)]	ND(0.10)	ND(0.10)
Semivolatile Organics				
Acenaphthene	20	ND(0.88) [0.46]	ND(0.42)	ND(0.50)
Acenaphthylene	100	ND(0.88) [1.0]	ND(0.42)	ND(0.50)
Anthracene	1000	ND(0.88) [1.3]	ND(0.42)	ND(0.50)
Benzo(a)anthracene	0.7	3.0 [3.7]	ND(0.42)	1.4
Benzo(a)pyrene	0.7	3.3 [3.4]	ND(0.42)	1.3
Benzo(b)fluoranthene	0.7	2.9 [2.9]	ND(0.42)	1.1
Benzo(g,h,i)perylene	1000	2.1 [2.2]	ND(0.42)	0.89
Benzo(k)fluoranthene	7	2.6 [2.8]	ND(0.42)	1.1
Chrysene	7	4.4 [4.7]	ND(0.42)	1.4
Fluoranthene	1000	7.2 [12]	0.60	3.9
Fluorene	400	ND(0.88) [0.60]	ND(0.42)	ND(0.50)
Indeno(1,2,3-cd)pyrene	0.7	2.3 [2.7]	ND(0.86)	1.1
Phenanthrene	100	4.7 [6.8]	ND(0.42)	1.5
Pyrene	700	7.6 [7.9]	0.51	2.2
Furans				
2,3,7,8-TCDF	Not Listed	0.000022 [0.000027]	0.000024	0.000058
TCDFs (total)	Not Listed	0.00092 [0.0011]	0.000052	0.0013 I
1,2,3,7,8-PeCDF	Not Listed	0.0000082 w [0.00012]	0.000019	0.000039
2,3,4,7,8-PeCDF	Not Listed	0.000016 [0.000012]	0.000011	0.000035
PeCDFs (total)	Not Listed	0.0014 [0.0011 QI]	0.000094	0.0013
1,2,3,4,7,8-HxCDF	Not Listed	0.000015 [0.000078]	0.000043	0.000068
1,2,3,6,7,8-HxCDF	Not Listed	0.00012 [0.00012]	0.000024	0.000089
1,2,3,7,8,9-HxCDF	Not Listed	ND(0.000039) [ND(0.000044)]	0.0000081	0.000011
2,3,4,6,7,8-HxCDF	Not Listed	0.00014 [0.00012]	0.000012	0.000095
HxCDFs (total)	Not Listed	0.00085 [0.00088]	0.00018	0.00092
1,2,3,4,6,7,8-HpCDF	Not Listed	0.000080 [0.000073 I]	0.000014	0.00012
1,2,3,4,7,8,9-HpCDF	Not Listed	0.0000041 J** [0.0000040 w]	0.000040	0.000017
HpCDFs (total)	Not Listed	0.00012 [0.000073 I]	0.000080	0.00018
OCDF	Not Listed	0.000022 w [0.000022]	0.000037	0.000064
Total Furans	Not Listed	0.0033 [0.0032]	0.00044	0.0038
Dioxins				
2,3,7,8-TCDD	0.000004	ND(0.000022) [ND(0.000019)]	0.0000035 w	ND(0.000017)
TCDDs (total)	Not Listed	D(0.0000061) Q*I [ND(0.000019)]	0.0000019	0.000030
1,2,3,7,8-PeCDD	Not Listed	ND(0.0000031) [ND(0.0000051)]	0.00000082 J**	ND(0.0000071)
PeCDDs (total)	Not Listed	(0.0000072) Q* [ND(0.0000053)]	0.0000050	ND(0.0000072)
1,2,3,4,7,8-HxCDD	Not Listed	ND(0.0000022) [ND(0.0000020)]	0.00000079 J**	ND(0.0000037)
1,2,3,6,7,8-HxCDD	Not Listed	ND(0.0000023) [ND(0.0000021)]	0.0000017 J**	ND(0.0000039)
1,2,3,7,8,9-HxCDD	Not Listed	ND(0.0000021) [ND(0.0000019)]	0.0000011 J**	ND(0.0000036)
HxCDDs (total)	Not Listed	ND(0.0000022) [ND(0.0000039)]	0.000014	ND(0.0000047)
1,2,3,4,6,7,8-HpCDD	Not Listed	0.000021 [0.000026]	0.000018	0.000037
HpCDDs (total)	Not Listed	0.000040 [0.000054]	0.000035	0.000072
OCDD	Not Listed	0.00014 [0.00018]	0.000094	0.00026
Total Dioxins	Not Listed	0.00018 [0.00023]	0.00015	0.00034
Total TEQs (MDEP TEFs)	0.000004	0.00014 [0.00018]	0.000040	0.00017
Total TEQs (EPA TEFs)	Not Applicable	0.000039 [0.000048]	0.000020	0.000054

TABLE 1

GENERAL ELECTRIC COMPANY - PITTSFIELD, MASSACHUSETTS
PARCEL K10-16-3 INVESTIGATION

SUMMARY OF APPENDIX-IX+3 DATA
(Results in ppm, dry-weight)

Sample ID: Sample Depth(Feet): Date Collected:	MCP RCS-1 Reportable Concentrations	K10-16-3-SB-1 0-1 04/24/01	K10-16-3-SS-5/SB-6 0-1 04/24/01	K10-16-3-SS-6/SB-5 0-1 04/24/01
Inorganics				
Arsenic	30	7.20 J* [ND(15.0)]	ND(15.0)	7.20 J*
Barium	1000	68.0 [70.0]	61.0	83.0
Beryllium	0.7	0.280 [0.410]	0.270	0.320
Cadmium	30	0.110 J* [ND(2.10)]	ND(1.90)	ND(2.10)
Chromium	1000	10.0 [15.0]	12.0	15.0
Cobalt	500	9.90 J* [11.0]	ND(9.60)	ND(10.0)
Copper	1000	27.0 [110]	30.0	80.0
Lead	300	94.0 [110]	100	140
Mercury	20	ND(0.270) [ND(0.280)]	0.270	ND(0.280)
Nickel	300	18.0 [22.0]	18.0	17.0
Silver	100	0.120 J* [ND(1.00)]	ND(0.960)	0.180 J*
Sulfide	Not Listed	17.0 [53.0]	25.0	28.0
Thallium	8	0.870 J* [2.20]	ND(1.90)	ND(2.10)
Vanadium	400	11.0 [19.0]	11.0	12.0
Zinc	2500	110 [150]	100	180

Notes:

1. Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to CT&E Environmental Services, Inc. for analysis of Appendix IX+3 constituents (excluding herbicides and pesticides).
2. ND - Analyte was not detected. The number in parentheses is the associated quantitation limit for volatiles and semivolatiles and the associated detection limit for other constituents.
3. w - Estimated maximum possible concentration.
4. J - Indicates an estimated value less than the practical quantitation limit (PQL).
5. J* - Indicates an estimated value between the instrument detection limit and practical quantitation limit (PQL).
6. J** - Indicates an estimated value between the lower calibration limit and the target detection limit.
7. Q - Indicates the presence of quantitative interferences.
8. Q* - Elevated detection limit due to the presence of quantitative interferences.
9. I - Polychlorinated Diphenyl Ether (PCDPE) Interference.
10. Total dioxins/furans determined as the sum of the total homolog concentrations; non-detect values considered as zero.
11. Total 2,3,7,8-TCDD toxicity equivalents (TEQs) were calculated using both MDEP's and EPA's Toxicity Equivalency Factors (TEFs) for all PCDD/PCDF congeners, although GE does not accept the validity of these TEFs.
12. With the exception of dioxin/furans, only those constituents detected in at least one sample are summarized.
13. Duplicate results are presented in brackets.
14. Shading indicates that value exceeds MCP RCS-1 reportable concentration.

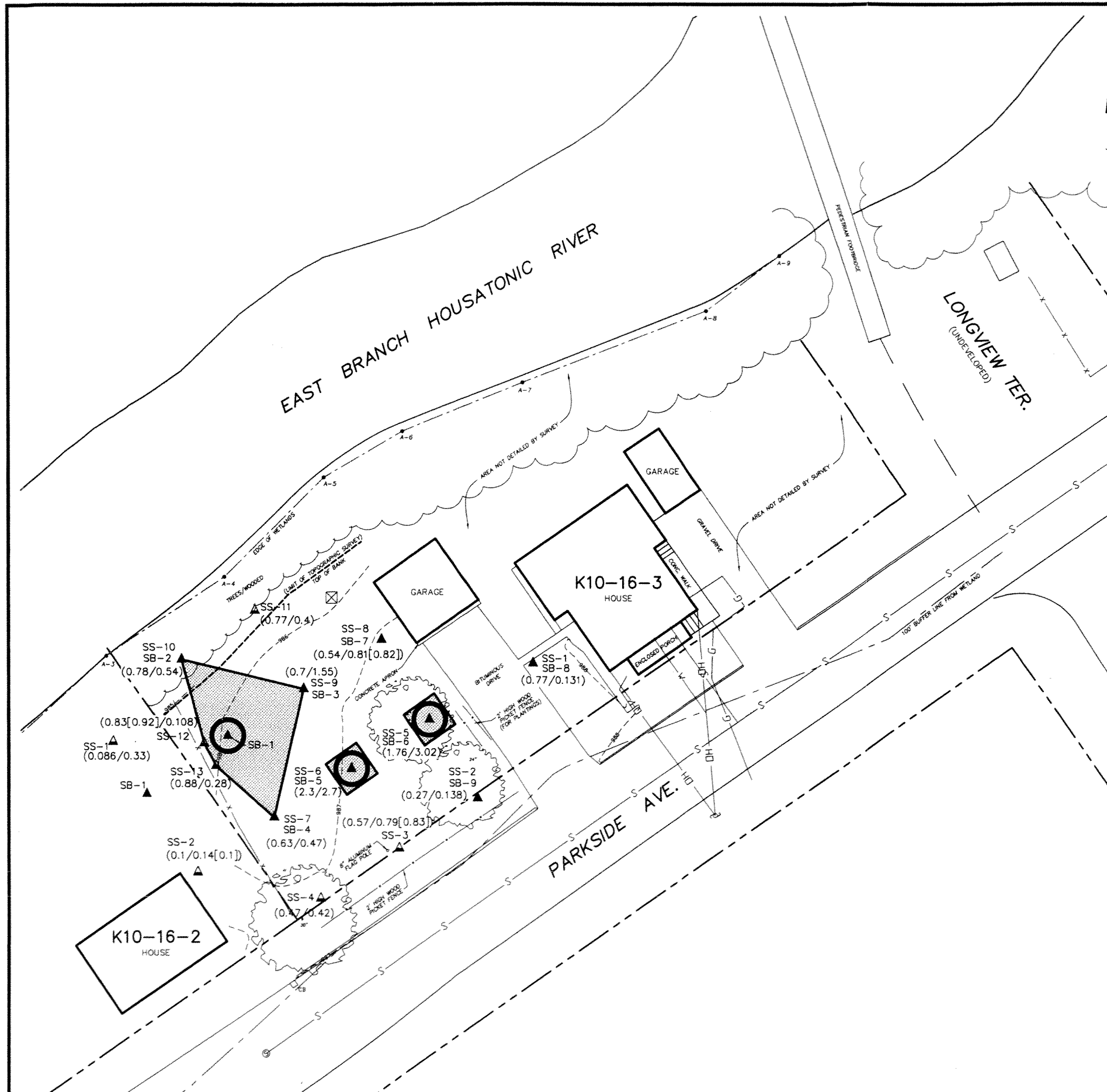
TABLE 2

GENERAL ELECTRIC COMPANY
PITTSFIELD, MASSACHUSETTS
PARCEL K10-16-3
POST-REMEDIATION AIX+3 EVALUATION
(Results in ppm, dry-weight)

Sample ID: Sample Depth(Feet): Date Collected:	K10-16-3-SB-1* 0-1 04/24/01	K10-16-3-SS-5/SB-6* 0-1 04/24/01	K10-16-3-SS-6/SB-5* 0-1 04/24/01	Post Remediation Average	Method 1 Standard**
Semivolatile Organics					
Acenaphthene	0.18	0.18	0.18	0.18	1,000
Acenaphthylene	0.18	0.18	0.18	0.18	100
Anthracene	0.18	0.18	0.18	0.18	1,000
Benzo(a)anthracene	0.18	0.18	0.18	0.18	0.7
Benzo(a)pyrene	0.18	0.18	0.18	0.18	0.7
Benzo(b)fluoranthene	0.18	0.18	0.18	0.18	0.7
Benzo(g,h,i)perylene	0.18	0.18	0.18	0.18	1,000
Benzo(k)fluoranthene	0.18	0.18	0.18	0.18	7
Chrysene	0.18	0.18	0.18	0.18	7
Fluoranthene	0.18	0.18	0.18	0.18	1,000
Fluorene	0.18	0.18	0.18	0.18	1,000
Indeno(1,2,3-cd)pyrene	0.18	0.18	0.18	0.18	0.7
Phenanthrene	0.18	0.18	0.18	0.18	100
Pyrene	0.18	0.18	0.18	0.18	700
Dioxins / Furans					
Total TEQs (MDEP TEFs)	1.00E-06	1.00E-06	1.00E-06	1.00E-06	4.00E-06
Inorganics					
Arsenic	4.39	4.39	4.39	4.39	30
Barium	36.61	36.61	36.61	36.61	1,000
Chromium	6.58	6.58	6.58	6.58	1,000
Copper	10.39	10.39	10.39	10.39	Not Listed***
Lead	6.65	6.65	6.65	6.65	300
Silver	0.44	0.44	0.44	0.44	100
Vanadium	7.91	7.91	7.91	7.91	400
Zinc	38.71	38.71	38.71	38.71	2,500

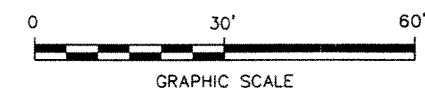
Notes:

- 1) Samples were collected by Blasland, Bouck & Lee, Inc., and were submitted to CT&E Environmental Services, Inc. for analysis of Appendix IX+3 constituents (excluding herbicides and pesticides).
- 2) This table presents only those constituents that were detected in at least one sample at the property and were not screened out through comparison to background data using MDEP's summary statistics approach.
- 3) Total 2,3,7,8-TCDD toxicity equivalents (TEQs) were calculated using the MDEP's Toxicity Equivalency Factors (TEFs) for all PCDD/PCDF congeners, although GE does not accept the validity of these TEFs.
- 4) * = Soil removal is proposed for this sample location. The constituent concentrations displayed for this sample are equal to the arithmetic average of all the backfill samples included in the background data set (as presented in GE's May 14, 1999 letter to the MDEP)
- 5) ** = This column lists the lower of the Category S-1/GW-2 or S-1/GW-3 Method 1 Soil Standards listed in the MCP.
- 6) *** = No MCP Method 1 standard exists for copper, but an MCP Method 2 soil standard (Category S-1/GW-3) has been derived for copper using the procedure in 310 CMR 40.0984, as described in Attachment A of GE's April 11, 2001 *Revised Evaluation of Appendix IX+3 Constituents, Revised Soil Removal Limits, and Proposed Groundwater Investigation for the Following Parcels: 19-9-26, 19-9-27, 19-9-28, 19-9-29*. This derived soil standard is 770 ppm.



LEGEND

- PROPERTY LINE
- PARCEL ID
- FENCE
- SANITARY MANHOLE
- GAS SERVICE
- SANITARY SEWER
- WATER LINE
- OVERHEAD WIRES
- EDGE OF BRUSH
- DECIDUOUS TREE
- WETLAND FLAG
- CATCH BASIN
- UTILITY POLE
- EDGE OF WETLAND
- 100' BUFFER FROM WETLAND
- SB-1 EXISTING SOIL BORING LOCATION
- SS-1 EXISTING SURFACE (0-6") AND NEAR-SURFACE (6-12") SOIL PCB SAMPLING LOCATION. TOTAL PCB CONCENTRATIONS (PPM DRY WT.) SHOWN IN PARENTHESIS (SURFACE/NEAR-SURFACE). ND = NON-DETECT. DUPLICATE RESULTS SHOWN IN BRACKETS.
- 1-FOOT REMOVAL
- APPENDIX IX+3 SOIL SAMPLE LOCATION (0- TO 1-FOOT DEPTH INTERVAL)
- PROPOSED AMBIENT AIR PARTICULATE MONITORING LOCATION (APPROX.)



- ### NOTES:
- THE BASE MAP FEATURES PRESENTED ON THIS FIGURE WERE PHOTOGRAMMETRICALLY MAPPED FROM APRIL 1990 AERIAL PHOTOGRAPHS AND FROM SITE SURVEY BY HILL ENGINEERS, ARCHITECTS AND PLANNERS (2/16/01).
 - DUE TO SNOW COVER AT TIME OF SURVEY ALL PHYSICAL FEATURES MAY NOT BE SHOWN.
 - SAMPLING WAS CONDUCTED BY BBL, INC.,
 - ALL EXISTING SAMPLING LOCATIONS WERE SURVEYED BY BBL, INC.
 - ALL PCB RESULTS ARE PRELIMINARY.
 - UTILITY LOCATIONS ARE APPROXIMATE.

SUMMARY OF SOIL BORING PCB SAMPLE RESULTS

(PPM, DRY WT.) (SAMPLE INCREMENTS IN FEET)

Sample ID	0 - 0.5	0.5 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
K10-16-2-SB-1	0.16	0.44	0.065	0.039J [0.067]	0.084	--	--	--
K10-16-3-SB-1	0.91	23.2	4.4	0.35 [0.29]	ND	ND	ND	ND
K10-16-3-SB-2	--	--	0.072J	1.1	--	--	--	--
K10-16-3-SB-3	--	--	0.71	0.083	0.3	--	--	--
K10-16-3-SB-4	--	--	0.086	ND	ND	--	--	--
K10-16-3-SB-5	--	--	0.192	ND [ND]	ND	--	--	--
K10-16-3-SB-6	--	--	2.02	0.39	ND	--	--	--
K10-16-3-SB-7	--	--	0.54	ND	--	--	--	--
K10-16-3-SB-8	--	--	0.053J [0.071J]	ND	--	--	--	--
K10-16-3-SB-9	--	--	0.023J	ND	--	--	--	--

- Notes:
- Samples were collected by BBL, Inc. and were submitted to CT&E Environmental Services, Inc. for analysis of PCBs.
 - = No sample collected.
 - ND = Not detected.
 - Duplicate results shown in brackets.
 - J = Estimated value less than the practical quantitation limit (PQL).

PRELIMINARY ANALYTICAL RESULTS - SUBJECT TO VERIFICATION

GENERAL ELECTRIC COMPANY
PITTSFIELD MASSACHUSETTS

REMEDIAL ACTION WORK PLAN

**PARCEL K10-16-3
PROPOSED SOIL REMOVAL LIMITS**

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

FIGURE 1

X: NONE
P: 8500B
L: ON=*,OFF=REF*
5/22/01 SYR-54-DMW KMD DMW
20142915/20142605.DWG