
During the 1998 USEPA sampling effort, GE collected 56 sediment split samples for PCB analysis and 13 split samples for Appendix IX + 3 analysis. The PCB data for the split samples are provided on Figures 4-1 through 4-4 of this Work Plan, while the Appendix IX+3 split sample data are presented in Table 4-1. A comparative analysis of the USEPA's data and GE's split sample data was performed, the results of which are contained in Appendix B. In general, the two data sets are similar, with some outliers noted. For purposes of this Work Plan, the GE/USEPA split data were averaged for use in representing concentrations at split sample locations and calculating spatial averages for PCBs and arithmetic averages for other Appendix IX+3 constituents. The USEPA results for dieldrin, DDT and ketone has reportedly been rejected, and were not used to determine averages.

Sediment sampling was performed in February 1999 as part of source control activities at East Street Area 2. In total, 13 sediment samples were collected from nine locations. Samples were collected in the top foot at all locations, and in 1-foot intervals to a depth of 4 feet at one location. Results from this sampling indicate the presence of PCBs ranging from non-detect to 165 ppm. The PCB results are depicted on Figure 4-1.

4.2.2 Designation of Sediment Removal Areas to Address PCBs

In general, the approximate removal and replacement limits for sediment were developed in conjunction with USEPA and MDEP, based on a detailed review of the relative concentration of PCBs present in both the River sediments and adjacent bank soils.

The initial step in designating sediment removal areas involved generating Thiessen polygons for all locations from which sediment samples were collected in the ½-Mile Reach. Thiessen polygon mapping involves the use of computer software to draw perpendicular bisector lines between adjacent sample locations to create two-dimensional, sample-specific polygon areas. Polygons for the river sediments are provided in Figures 4-1 through 4-4.

To determine the extent and depth of sediment proposed for removal, the analytical data were plotted on a map to better understand the distribution of PCBs in the sediment. During several meetings with USEPA, MDEP and GE representatives, the sediment removal extent and depth were agreed upon for each polygon, based on an evaluation of spatial and vertical trends in PCB concentration. The sediment removal areas and depths proposed to reduce PCB concentrations in the ½-Mile Reach are depicted on Figures 4-1 through 4-4.

As part of the sediment removal determination process, spatial averaging was performed to determine the overall effectiveness of the removal scenario in reducing the concentration of surficial (0-1 foot) PCBs in the ½-Mile Reach. The spatial averaging approach used by GE supports an averaging technique that is area weighted. The basis for the spatial averaging approach is the initial characterization of a given area using Thiessen polygons. This approach has been used by GE to identify removal areas at other PCB sites in Pittsfield requiring response actions, and has been approved by the USEPA and MDEP for use at those sites.

The current calculated spatial average for the surficial river sediments (0- to 1-foot) in the ½-Mile Reach of the Housatonic River is 54.8 ppm (excluding data collected as part of the Source Control activities at East Street Area 2). The surficial sediment PCB concentrations were then assessed following implementation of the sediment removal and replacement activities to determine the post-removal spatial average PCB concentration in the surficial sediments of the ½-Mile Reach. This post-removal surficial spatial average PCB concentration was calculated as less than 1 ppm. Refer to Appendix C for spatial average calculations and assumptions.

United States et al. v. General Electric Company (D. Mass.)

Appendix F to Consent Decree

*Removal Action Work Plan
for Upper 1/2 Mile Reach of
Housatonic River, dated
August 1999, and EPA
approval letter dated
August 5, 1999*

Pittsfield/Housatonic River Site
General Electric Company
Pittsfield, Massachusetts

October 1999

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