## 1.0 Overview:

During January 2002, General Electric Company (GE) and its contractor Maxymillian Technologies Incorporated (MTI) continued work on the Upper ½ Mile Reach Removal Action. The primary work included performing response activities to address the presence of dense non-aqueous-phase liquid (DNAPL) in Cell J1. In addition, work tasks associated with the Lyman Street Source Control activities were continued this month. Although the Lyman Street Source Control activities are not part of the Upper ½ Mile Reach Removal Action as described in the Work Plan, they were undertaken to facilitate work in the Upper ½ Mile Reach in the vicinity of the Lyman Street Bridge.

Weekly status meetings were held on January 2, 10, 17, 22, and 30, 2002.

## 2.0 Chronological description of the tasks performed:

Refer to the figure (Exhibit A) referenced in Section 4.0 and attached to this report for an orientation of the sheetpile cells and their respective locations. Cell J1 is divided into upstream and downstream areas separated by the sewer siphon pipeline crossing at mid-cell.

Response activities to address the presence of DNAPL in Cell J1 were continued during the month of January. Based on information obtained from the Cell J1 DNAPL investigation activities, the excavation plan to remove DNAPL-impacted sediment was initiated. That excavation plan had been submitted to the U.S. Environmental Protection Agency (EPA) in GE's *Cell J1 DNAPL Investigation and Proposal to Address the Presence of DNAPL in Cell J1* letter report (dated November 28, 2001).

During the first week of January, excavation in Cell J1 began in the downstream area. Prior to initiating removal activities, steel cross braces were welded between the tops of the sewer pipeline steel sheetpiles to provide stabilization of the sewer crossing. In addition, the sewer crossing sheetpiles were welded to the centerline sheetpile wall for structural stability and to allow additional deeper excavation near this area. Excavation was performed in the Cell J1 downstream riverbed to remove DNAPL-impacted sediment down to the gray fine sand layer (an apparent confining layer) and/or 963' above mean sea level (AMSL). DNAPL-impacted material removed from Cell J1 was transferred by truck to the Building 65 stockpile. After sediment was excavated at the downstream sewer crossing, the area was backfilled with stone to provide water control and provide structural stability for the sewer crossing sheetpiles. Following sediment removal activities in the downstream area, numerous boils were observed over the bottom of the excavation. Geofabric and stone were placed over the bottom of excavation to address the boils at the downstream DNAPL removal area.

Cell J1 upstream DNAPL removal activities (in accordance with the Cell J1 DNAPL Proposal) were initiated during the second week of January. Sediment excavation activities at the upstream Cell J1 area were completed to the proposed DNAPL removal limits (i.e., gray fine sand layer and/or 963'). Similar to the downstream area, stone was placed over the bottom of the excavation to address boils present at the upstream DNAPL removal area. In addition, stone and sand were placed near the upstream sewer crossing and the centerline cutoff sheetpile wall to address water control concerns. Following completion of the removal activities to the proposed removal limits, residual DNAPL remained at the limits of the excavation (lower removal elevation near the existing piles). Therefore, additional sediment removal to deeper elevations was proposed to address the residual DNAPL remaining near the existing piles. Additional DNAPL sediment removal (2' – 3' deeper than proposal limits) was completed in the upstream Cell J1 DNAPL removal area (near existing piles) to successfully remove the DNAPL. In addition, during excavation activities in this area, the wooden piles were trimmed to approximately 961' AMSL and removed. Following completion of DNAPL sediment removal activities, numerous boils were observed over the bottom of the excavation, and geofabric and stone were placed over the bottom of the excavation to address the boils. To complete activities for the second week, the Cell J1 main sump pump berm (located near the downstream cutoff wall) was reinforced by placing additional sand and enlarging the berm.

Following completion of DNAPL sediment removal activities at the upstream Cell J1 area, EPA requested an observation/collection well be installed near the pile area. A 12-inch diameter steel outer casing was installed in this area and welded to the Waterloo source control sheetpile wall. In addition, the upstream sump pump was lowered and a 24-inch diameter outer sleeve was installed for water control and to facilitate restoration activities. An additional sump pump was installed at the downstream Cell J1 to facilitate backfill and restoration activities. In the upstream portion of Cell J1, backfill sand was placed to elevation 967' against the Waterloo source control sheetpile wall at the toe of bank to facilitate flushing and grouting operations. At the request of EPA, the area between the Waterloo sheetpile wall and the sewer pipeline was filled with grout to seal the connection between the two structures. Also, the top 1-foot of material in the void spaces between sewer pipeline wood sheetpiles and steel sheetpiles was removed and the void was filled with grout. To end the third week of January, additional rip rap was placed at the Cell F3 bank area to address settlement of the restored bank.

During the fourth week of January, work on the Cell J1 Waterloo source control barrier wall continued. To prepare for grouting activities, the joints of the Cell J1 Waterloo source control sheetpile wall were completely flushed to remove obstructions. Following flushing activities, the joints of Cell J1 Waterloo source control sheetpile wall were grouted to reduce infiltration through the wall. Also, excavation of sediment around the Cell J1 main sump pump was performed to complete the downstream DNAPL sediment removal activities. Excavated material was transferred to the Building 65 stockpile. Restoration activities were initiated for Cell J1 by placing and compacting isolation layer sand over geotextile fabric

over the bottom of the downstream and upstream riverbed excavation. These restoration activities (placing and compacting isolation layer sand over geotextile fabric) were continued and substantially completed during the last week of January.

Sampling/monitoring activities completed during the month of January included in-situ isolation layer sand sampling, sampling of the isolation layer backfill at the source, waste characterization sampling, air monitoring, and water column monitoring. Isolation layer sand samples were collected from monitoring locations within the Upper ½ Mile Reach and submitted for analysis of total organic carbon (TOC) and PCBs. In addition, isolation layer backfill samples were collected from the source location and submitted for TOC analysis. Waste characterization samples were collected from drums removed from Cell J1 excavation activities and submitted for analysis of PCBs, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. Air monitoring for particulate matter was conducted on a daily basis. The monthly PCB air monitoring event was conducted on January 4 and 5, 2002. Water column [PCB and total suspended solids (TSS)] monitoring was also continued during removal activities in the month of January.

During the month of January, GE Buildings 33X and 33-north were used as temporary storage facilities for Toxic Substances Control Act (TSCA) material and non-TSCA material, respectively, prior to final disposition at the appropriate On-Plant Consolidation Area (OPCA). In addition, Building 65 and a storage area near Building 68 were used as temporary storage areas for DNAPL-impacted material removed from Cell J1.

**Lyman Street Source Control Activities**

Work efforts for the Lyman Street source control barrier wall installation were continued during January. Activities included completing the trimming and removal of the tops of sheetpiles to design elevation (977'/978'/grade) for the Lyman Street barrier wall.

## 3.0 Sampling/test results received:

Table 1 presents isolation layer backfill TOC sample results sampled at source.

Table 2 presents Cell J1 post-excavation sediment results from isolation layer monitoring location.

Table 3 presents Cell J1 drum disposal characterization sample results for VOCs, SVOCs, and inorganics.

Table 4 presents Cell J1 drum disposal characterization TCLP sample results.

Table 5 presents the results of the January air monitoring for particulate matter.

Table 6 presents ambient air monitoring results for PCBs for monitoring event conducted on January 4 and 5, 2002.

Tables 7A and 7B present the daily water column monitoring results for turbidity and the results of the water column samples collected for TSS and PCB analysis.

## 4.0 Diagrams associated with the tasks performed:

A figure presented as Exhibit A shows the location and the progress of work for Cells H, I, and J along the Upper ½ Mile Reach and is attached to this report for reference.

A summary chart (Exhibit B) has been developed to assist in tracking the analytical and physical testing requirements of the various sources of backfill (e.g., isolation material, soil back fill, riprap rock, etc.). Exhibit B includes the volume of backfill materials used, the analytical and physical testing frequencies required by the Work Plan, and the testing that has been performed to date.

## 5.0 Identification of reports received and prepared:

During the month of January, meeting summaries from the weekly project status meetings were submitted. Also, for work completed in December 2001, the monthly reports required by the Consent Decree and the Upper ½-Mile Reach Removal Action Work Plan were both submitted. In addition, during January, GE submitted the following documents:

- Analytical sample results for isolation layer sand (Submittal #27).
- Revised cell location figure showing Upper ½ Mile Reach removal cells and sheetpile locations in relation to locations of habitat enhancements installed in the river (submitted to Massachusetts Executive Office of Environmental Affairs (EOEA));
- Memo regarding TOC sampling summary and results; and
- Spectrum Standard Operating Procedure (SOP) for performing TOC analysis.

## 6.0 Photo documentation of activities performed:

- See attached Figure 1.

## 7.0 Brief description of work to be performed in February 2002:

For the next reporting period, the following activities are anticipated to be performed:

- Complete response actions to address DNAPL encountered in Cell J1, including installation of monitoring wells;
- Complete restoration activities in Cell J1, including placement of vortex rock weir;
- Possibly continue removal activities at Cell J2;
- Maintain temporary stockpiles of material in Buildings 33-north, 33X, and 65 (non-TSCA, TSCA, and DNAPL-impacted material, respectively); and
- Continue to conduct air monitoring and water column monitoring associated with response activities for the Upper ½-Mile Reach.

## 8.0 Attachments to this report:

Table 1 – Isolation layer backfill TOC sample results sampled at source.
Table 2 – Cell J1 post-excavation sediment sample results from isolation layer monitoring location.
Table 3 – Cell J1 drum disposal characterization sample results for VOCs, SVOCs, and inorganics.
Table 4 – Cell J1 drum disposal characterization TCLP sample results.
Table 5 – Results of the January ambient air monitoring for particulate matter.
Table 6A – Daily water column monitoring results.
Table 6B – Water column samples for TSS and PCB analyses.
Table 7 – Ambient air monitoring results for PCBs for event conducted in January.
Exhibit A – Figure showing the progress of work within the Upper ½-Mile Reach
Exhibit B – Backfill quantity and sample summary chart.
Figure 1 - Photo documentation