Below is a summary of progress since the previous Five-Year Review for each OU.

5.2.1 OU #1 Progress

Institutional controls have been established; however, these controls have yet to be formally placed on the affected property deeds. OU #1 O&M activities were temporarily suspended between 1999 and 2002 to allow OU #3 RA constructions activities to be completed. OU #1 and OU #3 O&M activities resumed in 2003 after the OU #3 RA was completed and the O&M Plan was updated.

5.2.2 OU #2 Progress

Groundwater monitoring continues on a semi-annual basis. Results of the Fall 2002 sampling event are presented in Section 6.4.1. Data from the Spring 2003 and Fall 2003 sampling events were also reviewed, but due to similar results, are not summarized herein. In addition, between 1999 and 2003 several studies were conducted to evaluate potential ecological risks posed by the groundwater plume discharging into the Sudbury River. Initial laboratory studies indicated that samples of groundwater collected two feet below the bottom of the river were toxic to aquatic life. The subsequent study was designed to 1) evaluate whether the groundwater is toxic where it directly discharges to the river (rather than two feet below the bottom of the river), 2) determine whether the sediment itself is toxic, and 3) determine whether the aquatic life in the river is being negatively impacted by the discharging toxic groundwater. In order to assess more accurate Site conditions, this subsequent toxicity study was conducted within the river as opposed to in the laboratory. Results indicated that aquatic life was impacted in one of the three areas studied, but that the impact could not definitively be tied to the groundwater plume or other existing natural habitat conditions such as storm water runoff, low dissolved oxygen levels, stagnant water, and high amounts of detritus (leaf litter). Additional monitoring was recommended because this impacted area is directly upstream of the Lower Raceway, where mercury-contaminated sediments were excavated during OU #3. A summary of the results of this evaluation is discussed in section 6.4.2 of this report.

5.2.3 OU #3 Progress

USEPA, in coordination with MADEP, requested USACE to oversee the completion of all RA activities required to implement the OU #3 remedy at the Site. USACE contracted Stone & Webster as the RA contractor to perform the OU #3 RA under their direction. Beginning in March 1999, personnel, equipment, and materials were mobilized to the Site.

During the OU #3 RA, mercury-contaminated sediments from the Continuing Source Areas (Eastern Wetland, Trolley Brook, and Outfall Creek/Lower Raceway) were excavated, dewatered, and placed in the on-site landfill. Sections of clean fill in the existing landfill constructed under OU #1 were initially identified as the locations for the deposition of the OU #3 mercury-contaminated sediments. Essentially all of the clean fill removed from the landfill was reused on-site for constructing access roads and restoring remediated areas, eliminating off-site disposal costs.

As Continuing Source Areas were drained and excavated, clean fill from landfill cells was simultaneously removed. All mercury-contaminated sediments were dewatered, placed in one-foot lifts in the landfill, and compacted. Upon meeting the cleanup goal, each remediated area was backfilled, and restored/replanted to replicate original conditions. The landfill cap was reconstructed to tie-in with existing OU #1 cap components which include a gas collection layer, a geosynthetic clay liner, a high-density polyethylene geomembrane, a sand drainage layer, common fill, topsoil, and turf. The cap was restored to original contours and conditions.

Although not specified in the OU #3 ROD, as a cost savings measure due to on-site landfill and staff availability, and due to the potential for Site contaminants entering an antiquated waterline, an agreement

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FOR
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