barrier between remaining contaminants (including PCBs) and potential aquatic and benthic receptors, thus creating an incomplete exposure pathway to aquatic and semi-aquatic organisms. The sediment cleanup level was established as 20 µg of PCBs per gram of carbon (µg/gC). This risk-based target level was developed based on potential risk to aquatic organisms and wildlife receptors. The cleanup level was estimated in the risk assessment using sediment partitioning and the ambient water quality criteria based on the protection of wildlife consuming aquatic organisms. PCB tissue concentrations estimated from direct exposure to PCB-contaminated sediments were also used in developing the risk-based target level of 20 µg/gC. Based on larger risk-based data sets from other sites in New England with aquatic habitats, this level of PCBs in sediments is expected to be protective of aquatic and semi-aquatic receptors.

Because contaminated sediment and soil has been removed or isolated, and the disposal area capped, the exposure pathway to surface water has also been eliminated for most of the area of OU1. The remaining area for potential aquatic or semi-aquatic receptors in OU1 is within the Unnamed Stream and the sedimentation basin north of Hathaway Road. During the sediment monitoring conducted between 2003 and 2008, total PCBs in OU1 were measured in sediments at a maximum concentration of approximately 3.5 mg/kg. As discussed in the previous five year review, monitored sediment PCB concentrations showed minor exceedances of the risk-based ecological target levels. To determine the ongoing risk to aquatic organisms and wildlife receptors an assessment of contaminant concentrations in sediment within OU1 using samples collected between 2009 and 2011 has been performed and is documented in the following paragraphs.

In 2009, five sediment samples were collected in OU1. The mean PCB concentration of 25.6 µg/gC, was just above the target of 20 µg/gC. The maximum detected concentration was 50.5 µg/gC. This sample at SD-1, and the sample at SD-3, both exceeded the target clean-up level of 20 µg/gC. Since both of these samples were associated with low TOC concentrations, these locations were resampled in 2010 to further evaluate the PCB/g carbon ratios at SD-1 and SD-3 in the unnamed stream. Ten samples were collected in the vicinity of each of these locations and analyzed for TOC, while one of the samples was also analyzed for PCBs. In addition both TOC and PCBs were analyzed on composites of 6 samples at SD-1 and SD-3. The mean TOC values were 13.1% and 15.5% for SD-1 and SD-3, respectively. These measurements indicate that although the TOC in the two samples from 2009 with exceedances of target PCBs were low, these measurements were within the expected range of TOC at these locations. However, the composite samples collected in 2010 had adjusted PCB values less than the target value of 20 µg/gC. In 2011, five sediment samples were collected as part of the routine monitoring program and the PCB concentrations at all locations were below the target level of 20 µg/gC. Similar to data from the previous five-year review, the monitored sediment PCB concentrations in 2009 showed minor exceedances of the risk-based ecological target levels. The monitored sediment PCB concentrations in 2010 and 2011 showed no exceedances of the risk-based ecological target levels. Therefore, the selected remedy is considered generally protective with regard to sediment; however, continued monitoring data should be evaluated to check compliance with the PCB clean-up goal. Since the average site-wide concentrations of PCBs in sediments are below the target level, the remedy continues to be protective of benthic organisms as well as aquatic and semi-aquatic organisms.

In surface water, the standard identified in the risk assessment and ROD was 0.014 µg/L total PCBs, based on the ambient water quality criteria for the protection of aquatic life. This

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