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11 TECHNOLOGY DRIVE
NORTH CHELMSFORD, MA 01863-2431

MEMORANDUM

DATE: October 8, 2004

SUBJ: Correction to January 8, 2004 Review of the Phase I Environmental Site Assessment and the Limited Investigation Report for the Berkeley Commons/River Run Development, Cumberland, Rhode Island

FROM: Bart Hoskins, OEME, ECA

TO: David Newton, Remedial Project Manager
cc: Peterson Puritan Project File

General Comments

This memorandum presents corrections to a memorandum from Bart Hoskins to David Newton dated January 8, 2004 the subject of which was a review of the above-referenced documents from the standpoint of potential ecological risk on the Berkeley Commons/River Run Development property (Berkeley Commons). The review encompassed the Phase I report performed by EA Engineering, Science, and Technology Inc. (EA, Inc.), as well as the Limited Investigation Report for Berkeley Commons, also prepared by EA Inc. Data from the two surface water and sediment samples were compared with ecological risk benchmarks to determine whether any chemicals found in these samples would present a potential ecological risk. In the original memorandum, the units for sediment were presented as $\mu\text{g}/\text{Kg}$, which was a typographical error. For purposes of this evaluation all sediment results and benchmarks are in mg/Kg . The conclusions of the evaluation were not affected.

Surface water data were compared with the Federal Ambient Water Quality Criteria (AWQC) with appropriate adjustment for site-specific water hardness (calculated using calcium and magnesium concentrations in site water). Calculations and criteria followed EPA AWQC documentation (EPA, 1999). No chemicals exceeded the AWQC chronic values, which are designed to be broadly protective of aquatic life.

Sediment concentration were evaluated using the Consensus-Based Threshold Effect Concentrations (TECs) from MacDonald et al., 2000. Chemicals below their respective TECs generally would not necessarily be expected to pose a risk to sediment-dwelling organisms, but may warrant further evaluation. Of the detected chemicals, only lead exceeded the TEC value in one sample. Sample WT-02 had a lead concentration of 43.9 mg/Kg . The TEC for lead is 35.8 mg/Kg . It should be noted that lead at this location is well below the Probable Effect

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Concentration of 128 mg/Kg, which is the concentration above which adverse effects would be considered likely.

The Phase I report did not suggest the presence of any source area that would explain the moderately elevated lead concentration in sediment. Location WT-02 is located at the end of Monastery Brook, which may receive storm water from Mendon Road. Based on the Phase I report and the presence of potential road run-off upstream of the sediment sampling location, it appears likely that the lead detection represents an presence of lead at WT-02 is associated with storm run-off from Mendon Road. On the basis of a single detection of lead slightly above the TEC, and no exceedence of water quality criteria, there does not appear to be a need for further evaluation of potential source areas on the Berkeley Property.

References

MacDonald, D.D., C.G. Ingersoll, and T.A. Berger. 2000. *Development and Evaluation of Consensus-Based Sediment Quality Guidelines for Freshwater Ecosystems*. Archives of Environmental Contamination and Toxicology, 39, 20-31. Springer-Verlag, New York Inc.

U.S. Environmental Protection Agency. 1999. National Recommended Water Quality Criteria - Correction. Office of Water 4304, EPA 822-Z-99-001. April, 1999.