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COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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July 10, 1996

Mr. Scott R. Park
Department of the Navy
Atlantic Division, Code 1822
Naval Facilities Engineering Command
1510 Gilbert Street
Norfolk, Virginia 23511-2699

Dear Mr. Park:

Thank you for providing the Department of Environmental Quality, Waste Division, the opportunity to review the *Draft Final Supplemental Ecological Assessment, Naval Amphibious Base Little Creek, Norfolk, Virginia.*

Attached are our comments and questions regarding the report. If you have any questions concerning the comments, please contact me at (804) 698-4227.

Sincerely,

Robert J. Weld
Remedial Project Officer
Federal Facilities Restoration

cc: Durwood Willis - VDEQ
Kelly Greaser - NABLC
Bob Stroud - U.S. EPA

VDEQ Comments and Questions on
Draft Final Supplemental Ecological Assessment
Naval Amphibious Base Little Creek, Norfolk, Virginia

General Comments

1. Following compilation of the available information from Little Creek Harbor, it is apparent that data gaps exist. For this reason, appropriate conclusions cannot be drawn with regard to potential risk to the ecological receptors from the IR and non-IR sources. Additional tier(s) of risk assessment are recommended for Little Creek Harbor to fill the existing data gaps.

2. Mercury contamination appears that it could be a potential ecological threat. This assumption is based on data from Ewing et al. where mercury was found in the sediment at a concentration of 9.99 mg/kg. The tissue data presented in Table 30 indicates that mercury is bioavailable. Because the source of the mercury and the sampling point location were not evident within the report, further investigation may be warranted to determine the source and extent of contamination.

3. The available benthic data does not seem adequate from which appropriate conclusions can be derived. The basis for this comment arises from the use of a single benthic station. In addition, on page 4-11 the benthic assemblages have "been described as depauperate, limited to the most tolerant species." Please list the source of this conclusion.

4. Even though mentioned in Section **4.7 Uncertainty Analysis**, there is concern that the method detection levels exceeded BTAG's screening levels. This point has been raised since method detection levels is one area of uncertainty that can be eliminated by employing the proper methodologies.

Specific Comments

5. **1.1 Objective of Study** - This study did not accomplish the intended objective which "was to assess the impact of the IR and non-IR sites on the aquatic ecology of Little Creek Harbor." The study (or compilation of information) focused on IR sites 7 and 12. There are too many data gaps for a reasonable qualitative study from which appropriate conclusions can be drawn.

6. 2.1.2 **Virginia Department of Environmental Quality** - The VDEQ Little Creek Harbor data from the 305(b) Report and from STORET were apparently not included in this report.

   It should be noted within this SEA report that the Virginia Water Quality Assessment for 1992 305(b) Report indicates that the shellfish beds within Little Creek have been condemned. The 305 (b) Report further states that the "beds are considered as non-productive due to pollution associated with the Naval Base." The

report concludes "the Clean Water Act fishable and swimmable goals ... are nonsupported for the entire waterbody." No changes to the surface water quality of Little Creek Harbor had occurred and thus were reported identically in the 1994 305(b) report.

7. **2.2.2 IR-Related Data**
Round One Verification Step (CH2M Hill, 1986) - SVOCs, pesticides and PCBs were detected near site 7. The detection of these contaminants supports the contention that SVOCs should be characterized. The RI data from Site 7 also shows numerous SVOC hits in the surface soil.

8. **3.2 Regional Geology/Hydrology** - Since tidal influences on groundwater were/are unknown at this base, it is mentioned in the text that tidal surveys were to be conducted during the RI. Results from the tidal survey and potential influences on contaminant migration should be discussed in this report.

9. **4.2.3.1 Habitat and Aquatic Biota** - On page 4-11, the benthic assemblages are described as depauperate and limited to the most tolerant species. This contradicts section 6.0.

10. **4.2.5.2 Groundwater Exposure Transport Pathway** - Groundwater data from sites 7 and 12 have not been taken into account in this ERA. Furthermore, the groundwater pathway which is described as being accounted for in the surface water and sediment exposure pathways, may be confounded based on the dynamic nature of Little Creek Harbor. Therefore, to get a more conservative estimation of risk to surface water and sediments, QIs should be calculated using the groundwater contaminant concentrations and the water quality criteria/standards.

11. **4.5.1 Surface Water & 4.5.2 Sediment** - Because this is a screening level ERA, it is questioned why average concentrations of ECOCs were used for the calculation of the total QIs. EPA Region III guidance advises that the 95% Upper Confidence Level (UCL) be used. If the UCL cannot be calculated then the default is the maximum concentration value. By employing EPA Region III's approach, a more conservative estimation of risk would be attained which is appropriate for this level of risk assessment. (Refer to Tables 9, 11, 13, and 15).

    Another issue concerning the calculation of the total QIs is the exclusion of SVOC and other contaminants (PCBs, pesticides). The potential additive effects from these contaminants have been ignored in this ERA.

12. **4.6.1.2 Site 12** - Wetlands are considered sensitive areas when considering ecological risk. Part of the discussion in this section centers on the wetland located between the canal and the harbor and the potential effectiveness of the treatment the wetland may provide the surface water before entering the harbor. Based on the information provided on Figure 3 (i.e., sampling locations from previous studies), it appears that the wetland

described above has never been screened for potential risk. This should be considered a data gap at site 12.

13. **5.5 Perspective Conclusion** - The conclusion drawn from the macroinvertebrate study performed by Ewing et al. 1988 should be disregarded when discussing Sites 7 and 12. A single benthic station located approximately 1,000 yds away in the middle of the channel probably does not reflect the potential impacts from these two sites.