



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Admin.
National Ocean Service
Office of Ocean Resource Conservation and Assessment
Hazardous Materials Response and Assessment Division
c/o EPA Waste Management Division (HEE-6)
J.F. Kennedy Federal Building
Boston, MA 02203
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Ms. Christine Williams
U.S. EPA Waste Management Division
J.F. Kennedy Federal Building
Boston, MA 02203

Mr. Phil Otis/Mr. Simeon Hahn
U.S. Department of the Navy
Northern Division - NAVFAC
10 Industrial Highway
Code 1811/PO - Mail Stop 82
Lester, PA 19113-2090

Dear Christine/Phil/Simeon:

Today I received the revised Conceptual Pre-Design Site 09 Sampling Plan from EA Engineering. From my review of the sampling plan and previous discussions with EPA (Christine) and the Navy (Simeon) it appears that the Navy and EPA/RIDEM are close to reaching an agreement on the scope and objectives of this sampling round. I present these comments/recommendations for your examination.

During our meeting of 6 May 1996, the Navy agreed to propose a RCRA C cap for the landfill and further analyze if a slurry wall barrier is necessary. One way to learn if the wall is necessary is to check the Navy's proposed ground water model - this initially showed no accumulation of contaminants in the intertidal/harbor sediment - by collecting data under different seasons/flow regimes. It appears the Navy will do so as discussed in their Early Fall 1996 and Spring 1997 initial phase sampling. The Spring 1997 sampling plan includes analyses of both ground water and subsurface sediment below the intertidal environment. The subsurface sediment primarily will be collected as a check on the ground water model. However, EPA suggested two subsurface sediment sampling events to learn if the subsurface sediment is in equilibrium. I originally concurred with this plan but presently believe that the contaminants sorbed on to the subsurface sediment will not differ from one season to the next. Hence, one sampling round of the subsurface sediment below the intertidal environment should suffice.

The second phase sampling will be implemented if consensus cannot be reached concerning the recalibrated ground water model; further sampling will result if questions remain whether the ground water migration is a substantial contributor to offsite contaminants of concern. Such sampling will include the ground water and subtidal sediment. Questions concerning toxicity testing remain:

1. If the subtidal sediment show a potential risk based on the chemical concentrations then a sediment toxicity test should follow to determine risk and potential injury. As discussed under General Comments, acceptable background samples will need to be collected.
2. Aqueous toxicity testing of ground-water samples from the undisturbed geological layers within the intertidal zone is not a good substitute for surface leachate samples. It is not clear why the

ground water samples will reflect the interstitial water that marine organisms, well above these samples, might be exposed to following the remedial action. Clearly, the chemical concentrations in these ground water samples will change as they move toward their discharge point; the ground water model shows this retardation. I suggest using surface leachate samples that are direct conduits from the landfill. Such leachate sampling should also be a part of the long term monitoring program. As part of long term monitoring, sediment in contact with the seeps should also be analyzed for the site contaminants of concern; I would recommend using the Effects Range - Median (ERM) as the concentration above which further action to eliminate the ground water pathway (i.e., construction of an upgradient slurry wall) may be considered. I suggest using the ERM as a means to initiate biological testing followed by remedial action if both the ERM and biological test (e.g., toxicity test) show evidence of potential risk. Given the small area that the seeps cover, the ER-M is appropriate.

A second issue concerns the cleanup standards for the intertidal sediment proposed for removal. Toxicity tests completed as part of the Pilot Study and Remedial Investigation indicated some potential injury to benthic organisms residing in the intertidal environment. Although the ER-L and ER-M are not intended as clean-up levels, they have been used as such at other hazardous waste sites when all parties have agreed that the expense to complete biological testing to determine actual risk or injury was not worth the time and expense involved. Because the sediment removed will be covered (i.e., capped) by a proposed wetland, the remaining concentrations can be greater than that at the surface. I recommend using the ER-M unless the Navy insists on a series of toxicity tests that can provide a site-specific clean-up concentration.

Please let me know if you have any questions.

Sincerely,

Kenneth Finkelstein, Ph.D

cc: Tim Prior (USF&WS)