UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107-4431

December 31, 1997

Mr. Thomas Ames
BRAC Environmental Coordinator
NAWCAD
P.O. Box 5152
Warminster, PA 18974-0591

Re: Naval Air Warfare Center, Warminster, PA

Dear Mr. Ames:

This letter follows up on a question raised at our BCT meeting of December 22, 1997, regarding whether any additional RI work was needed to complete a risk assessment for Area A. Our response to this question, which is reflected by comments in our letter of November 25, 1997, was discussed in part at the subject meeting. Please find below further clarification of the RI data gaps which should be addressed to provide for a complete risk assessment for soils/wastes within Area A.

- Investigation of the source of three significant soil gas anomalies appears incomplete. In particular, the following three anomalies should be investigated further to determine if they are associated with soils which present a threat to groundwater quality.

  Carbon tetrachloride was detected at 150 ug/l below 4' in depth at a soil gas station immediately next to a trailer which has since been demobilized. This compound is present at unacceptable levels in groundwater in this area. Soil gas levels immediately under the trailer could not be measured at the time. Soil samples collected from a test pit next to the trailer at the estimated location of the soil gas anomaly detected no carbon tetrachloride. Given the above, the former location of the trailer should be investigated to determine if soils in this area contain unacceptable levels of carbon tetrachloride.

  TCE and PCE were detected at 29 and 34 ug/l, respectively, in soils less than 4' in depth (but not in deeper soils) approximately 50' north of the former trailer. Both compounds appear at unacceptable levels in groundwater in this area. It is unclear which soil boring, if any, investigated this anomaly and generally, the soil boring investigation in this area appears inadequate to confirm these soils do not present a threat to groundwater quality.

  Benzene was detected at 1510 ug/l at a depth of less than 4' at a soil gas station in the vicinity of monitoring wells DG-3 and DG-13 at Site 3. No soil gas samples were collected north or east of this station to help determine the nature and extent of these soil gas levels and soil borings apparently conducted in the vicinity of this anomaly did not

encounter elevated PID readings or soils with elevated VOC levels. As a result, the nature and extent of any contamination associated with the subject soil gas levels remains unknown.

- While the highest levels of lead, benzo(a)pyrene and other PAHs at Site 3 were reported for boring SB-03-08, no borings or investigation was conducted to determine the nature and extent of any soil contamination north of this boring.

- TCE was detected at 73 ug/kg in soil sample TP-04-01-04 from Site 1, exceeding the EPA screening criteria for the protection of groundwater of 60 ug/kg TCE. The subject sample was apparently representative of a waste layer encountered at 11' in depth. Followup work should be performed in this case per EPA Soil Screening Guidance: User Guide (April 1996) and EPA Soil Screening Guidance: Technical Background Document (May 1996).

- PCE was detected at 36 ug/kg in a soil sample collected from boring SB-02-16 which was downgradient of the "tank farm". While this level of PCE approaches the EPA soil screening criteria of 60 ug/kg and PCE appears at unacceptable levels downgradient of this area, it appears that no investigation was conducted south or east of this location to determine whether PCE levels in soil were any higher in these contiguous areas.

- While dump D1 within Site 2 covers over 20,000 square feet (or one-half acre), only two surface soil samples were collected within D1. In addition, unacceptable soil contaminant levels (e.g., lead) were detected immediately northwest of D1. Based on this information, additional samples should be collected to characterize surface soils within D1 (if this soil is not removed to meet other objectives).

- While a PID reading of 1200 ppm was obtained from a layer of gray material at 7' in depth in boring S2-SB-08, the appendices indicate no VOCs were detected in this material and no SVOC analysis was conducted. Per previous comments, the sample from this boring may have erroneously been reported as having been collected from boring S2-SB-07, which contained soils within elevated levels of PAHs. In any case, additional investigation should be performed to identify the nature of the source of the 1200 ppm PID reading.

- While the RI provides no logs to document observations and sample locations for the trench excavated in Site 2 during the pipe installation downgradient of the tank farm, sample SB-02-61, which contains elevated levels of PAHs, may be representative of the stained soil layer with a PID reading of over 100 ppm encountered in this trench. Additional investigation should be performed to determine the extent of the contamination characterized by this sample.

- Logs for certain borings advanced through fill placed in the eight former impoundments indicate soil staining, elevated PID readings, chemical odors, and waste materials (e.g., slag) were encountered in the certain cases. Despite this, no samples were collected. The

fill material should be characterized to confirm that these observations are not indicative of contamination of concern.

- The potential impact of contaminated soils and/or wastes in Area A on surface water and sediment was not considered in the draft Phase III RI report. The potential impacts of concern include erosion of contaminated soil and discharge of contaminated shallow groundwater to surface water. For example, elevated levels of lead and copper were detected in surface water immediately downgradient of locations within Site 2 with elevated levels of these constituents and elevated levels of metals were detected in sediments at groundwater seeps next to the surface water of interest.

Since the results of the additional investigation work necessary to address these data gaps may not affect the risk assessment work for Area A soil/waste currently in progress, we recommend this task continue and the risk assessment be refined if necessary based on the results of the additional investigations.

I suggest we discuss these comments during our next BCT meeting. Please let me know if you have any questions or comments before then.

Sincerely,

Darius Ostrauskas

Remedial Project Manager

cc: David Kennedy, PADEP