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LETTER AND THE U S EPA REGION III COMMENTS ON THE DRAFT REMEDIAL  
INVESTIGATION SAMPLING AND ANALYSIS PLAN YOUTH POND JUNE 2012  
WILLIAMSBURG FISC VA  
8/1/2012  
U S EPA REGION III



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION III  
1650 Arch Street  
Philadelphia, Pennsylvania 19103-2029**

August 1, 2012

Mr. Scott Park  
NAVFAC MIDLANT, Building N-26, Room 3208  
Attention: Code OPHE3, Mr. Scott Park  
9742 Maryland Avenue  
Norfolk, VA 23511-3095

Subject: Draft Remedial Investigation Sampling and Analysis Plan, Youth Pond, Naval Weapons Station Yorktown Cheatham Annex, Williamsburg, Virginia, June 2012

Mr. Park:

Thank you for the opportunity to review the subject document. EPA would like to provide the following comments at this time.

1. On page 6, the objectives of the RI are listed. The fourth bullet in this paragraph should be clarified to indicate that potential risks associated with fish consumption will be assessed.
2. Groundwater flow has been estimated to be north-northeast towards Upstream Pond. If correct, Youth Pond which is north east of Upstream Pond lies in the direct path of the groundwater flow. It is unclear to the reviewer why ground water sampling is not a part of this SAP. The six proposed ground water monitoring wells, mentioned in the Tier II Sampling and Analysis Plan Site 4 - Remediation Investigation, should be drilled and sampled during this investigation. Groundwater contamination can be a good indicator of buried contamination. Considering the size of the area with its heavily wooded surroundings, groundwater sampling and analysis would be a key component in the complete characterization of the site and would provide a more comprehensive approach to identifying the source of contamination at Youth Pond. It is recommended that ground water be analyzed for the full suite of contaminants during this investigation.
3. If any samples are to be split between laboratories, then it is recommended that the procedure for split sample comparability on page 49 of the Uniform Federal Policy for Quality Assurance Project Plans (UFP) be followed with the exception of having each laboratory use the same method, not equivalent methods.

4. Worksheet #10 on page 38 states that if the data collected to fulfill the objectives of this RI indicate that additional sampling (i.e., York River surface water/sediment samples) is needed, a SAP addendum to collect and evaluate the additional data will be submitted under a separate cover. This document does not adequately address why the York River is not being sampled along with Youth Pond as part of the current investigation. Given the distribution of contaminants throughout the pond based on historical sampling, there is sufficient information available to support that sampling is needed in the York River. At a minimum, sampling should occur in depositional areas of the river where the pipe discharges. Sampling can be deferred to a later investigation, however, the recommendation to sample in the river is unlikely to change based on the existing data.
5. Worksheet #10 on page 38 states that in addition to the collection of sediment and surface water samples, fish tissue will also be collected to support the ecological and human health risk assessments. Because of the shallow nature of the pond, frogs should also be collected from the pond for tissue analysis, as they are likely an important food resource for birds and mammals that feed in the pond and may accumulate higher levels of contaminants than small fish based on their trophic position.
6. Worksheet #10 on page 39 states that twelve surface sediment (0-4 inches), five subsurface sediment (4-8 inches) and five surface water samples will be collected from within Youth Pond. It is unclear why subsurface sediment and surface water samples are not proposed at all locations. The variability among samples can be high and 12 samples would give a better estimate of both the mean and range of contaminant concentrations. Because of the historical nature of the potential release, subsurface sediment may have higher concentrations of contaminants. Therefore, surface and subsurface sediment and surface water should be collected at all twelve sediment locations shown in Figure 4.
7. Worksheet #10 on page 39 states that two of the five co-located surface and subsurface sediment/surface water locations (SD/SW-09 and SD/SW-11) will be collected at the approximate locations of the 2000 Pond Study samples (00-Pond-SD/SW08 and 00-Pond-SD/SW09). These samples will be used to compare current constituent concentrations with historical concentrations at these approximate locations. Given the limited historical data set and the potentially high variability in some medium, it is not clear if comparison of current data with historical data will be meaningful. Given the limited historical data, a specific explanation for this comparison should be provided.
8. Worksheet #10 on page 40 states that following a biological survey, three fish tissue samples, of the most appropriate species for human exposures, will be collected. The human health fish tissue samples will be filleted and analyzed for contaminants. The offal of these fish should also be analyzed so that a whole body concentration of large fish can be estimated and risk to birds (e.g., bald eagle [*Haliaeetus leucocephalus*] and osprey [*Pandion haliaetus*]) that eat larger fish can be evaluated.
9. Worksheet #10 on page 40 states that following a biological survey, three composite fish tissue samples will be collected for evaluation of ecological risk. Depending on the

number of fish species found in the pond, their size range, and life history, it is not clear that three fish tissue samples will be adequate to assess risk to the fish and upper trophic levels in Youth Pond. Justification for this low sample size should be provided.

10. Worksheet #11 on page 43 states that contaminant concentrations in surface soil, sediment, subsurface sediment, and surface water will be compared to literature based ecological screening values. These literature based ecological screening values need to be identified along with their sources and provided to BTAG for review. Obviously Region 3 BTAG screening values need to be used when available, as should the EPA Eco-SSLs. The guidance on screening values on EPA Region 3's website should be followed.
11. Worksheet #11 on page 43 states that fish PALs will also consider literature based tissue effect levels. These literature based tissue effect levels need to be identified along with their sources and provided to BTAG for review.
12. Worksheet #11 on page 43 states that site concentrations for fish tissue will also be compared with concentrations from reference areas (to be collected separately as part of the Site 4 RI). Specific information should be provided on the reference tissue samples including the quantity and locations of reference samples and how they will be used. This information is needed to ensure that these reference tissue samples are applicable to the site.
13. Worksheet #11 on page 46 states that fish tissue will be analyzed for metals and PCBs only. It is unclear why analysis is being limited at this point in the investigation with such limited historical sampling. Any other bioaccumulative chemicals detected in sediment must also be analyzed in fish tissue to assess the potential for ecological risk.
14. Worksheet #11 on page 47 states that if organic constituent concentrations are below method detection limits, it will be assumed that soil and sediment from the sampled locations are not a source of contamination to Youth Pond. The Navy needs to discuss the result if the method detection limits are greater than the screening criteria.
15. Worksheet #11 on page 49 provides the process for evaluating risk to ecological receptors. Because of their limited mobility, maximum contaminant concentrations need to be used to assess risk to plants and invertebrates.
16. Worksheet #14 on page 60 states that a reconnaissance-level biological survey of fish will be conducted in Youth Pond to determine the presence and type of aquatic community that exists within this water body. The results of this survey will be used to characterize the ecological receptors that are present and to guide the collection of fish tissue samples. Specific information on how the results of the aquatic biological survey will be used to determine which fish species will be collected for tissue analysis should be provided. The presence and relative abundance of frogs should also be noted. As

stated previously, if they are present in sufficient numbers to constitute an important food source for birds and mammals, frogs should also be collected for tissue analysis.

17. Worksheet #14 on page 61 states that whole-body fish tissue samples of an appropriate size range for piscivorous wildlife (4 to 12 cm based upon the size range of possible receptors such as great blue heron, belted kingfisher, and mink) will be collected from Youth Pond. Larger and older fish will generally have higher concentrations of contaminants. Fish species from all age/size classes need to be included in tissue sampling to ensure ecological exposure is fully characterized.
18. Worksheet #14 on page 61 discusses the decontamination procedure for equipment. The specific procedure is in Appendix A. For equipment where sampling for metal analysis will be performed, the procedure should include a step to rinse equipment with a nitric acid solution to prevent cross contamination of samples.
19. Worksheet #17 on page 91 states that surface water samples will be collected just below the water surface. Depending on the depth of the pond, it is unlikely that this single sample will be sufficient. Provide support for selecting this sampling depth.
20. Figure 4 shows the proposed and previous sampling locations at Youth Pond. Sample locations SD08 and SD09 are shown as proposed sediment locations (orange circles). However, results for these locations are shown, which seems to indicate that they were previous sample locations and should be shown as red circles. The figure also shows that SD-14 would be collected in the storm water line between the pond and the river. The document should clarify if this is an open ditch or closed pipe, and if an outfall pipe extends all the way to the river. It also appears that SD-13 is not in the water and is on the land between the pond and river. These issues should be clarified.

If you have any questions, please contact me at 215-814-3394.

Sincerely,



Susanne Haug, P.E.  
NPL/BRAC Federal Facilities Branch

cc: Wade Smith, VDEQ