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LETTER REGARDING U S EPA REGION III COMMENTS ON DRAFT TIER II SAMPLING AND ANALYSIS PLAN FOR AREA OF CONCERN 8 (AOC 8) AREA SOUTH OF SITE 7 REMEDIAL INVESTIGATION FISC WILLIAMSBURG VA
10/10/2012
U S EPA REGION III

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

October 10, 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 Tier II Sampling and Analysis Plan, AOC 8 – Area South of Site 7 Remedial Investigation, Naval Weapons Station Yorktown Cheatham Annex, Williamsburg, Virginia, July 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. Please make similar changes to the report regarding comparison of on-site concentrations to maximum background concentrations (when the 95th percent UTL is exceeded) as was agreed to for recent SAPs such as Site 4.

2. PAGE 22 - The third bullet should be clarified to indicate that *95th percent UCL* groundwater concentrations from wells located in the most contaminated portion of the groundwater plume will be used to estimate potential risks.

3. The laboratory performing the analyses should be required to report Tentatively Identified Compounds (TICs). TIC reporting will allow for a more complete and comprehensive characterization of contamination at AOC8.

4. The submitted laboratory accreditation expired on March 31, 2012.

5. Because the data collected from the proposed soil and groundwater samples will be used in the remedial investigation and the variability that can occur between samples of these media, limiting the analyses to PAHs, PCBs, and inorganics in soil and VOCs and metals in groundwater is not supported. The analyses of the proposed samples need to include the original list of contaminants used in the former SI process.

6. The text indicates there is "…a slope where debris outcrops…." The text and figures need to identify the location of this slope and the debris outcrop. This will assist in determining if surface sediment, subsurface sediment, pore water, and/or surface water samples from the York River are needed for this remedial investigation (RI). This will also assist in identifying this as a potential migration pathway (Section 2.2.5) or quantifying the assumption (Section 2.3.3) that there is no buried debris outside the berm. The location of the debris outcrops can also be used to ensure the previous and proposed sampling locations include this area as a potential source of contamination.

7. Section 2.2.6 on page 20 states that potential ecological receptors exposed to surface soil at AOC 8 include lower trophic level terrestrial receptors (plants and soil invertebrates). The section further states that due to the small area of the site that contains debris (source areas), exposures to upper trophic level receptors (such as birds and mammals) are not considered significant. This approach is not acceptable to BTAG. Section 2.2.1 on page 18 states that the site is 1.5 acres, which is within the home range for small mammals and some birds. Therefore, food chain risk should be evaluated for receptors with small home ranges (e.g., short-tailed shrew [*Blarina brevicauda*] shrew and American robin [*Turdus migratorius*]) to more fully assess this exposure pathway.

8. Section 2.3.1 on page 21 states that while AOC 8 is located adjacent to the York River, no surface water or sediment sampling is recommended because the location and the height of the berm prevents the transport of site-related contaminants into the York River. In addition, the only potential risk identified in the groundwater sample collected closest to the York River, during the Site Inspection, was arsenic, which may not be representative of current arsenic concentrations because the groundwater samples were not collected from permanent monitoring wells. Because permanent monitoring wells are proposed for this investigation, the decision on whether to collect surface water and sediment from the York River should be based on the results of samples from these wells. As part of the RI, the discharge areas for groundwater should be identified so any future sampling could be properly located.

9. In the Ecological Decision Logic portion of Section 2.3.2, bullet one, the phrase "…(HQ) exceeds 1…" needs to change to "…(HQ) equals or exceeds 1…." Also, the initial and final COPCs for plants and invertebrates need to be based on maximum concentrations, not mean values.

10. Section 2.3.2 on page 21 states that if analytes are undetected or if any detected analytes are below the Project Action Limits (PALs), then it will be assumed that the nature and concentrations of these constituents do not pose an unacceptable risk, and no further action will be necessary. If analytes are detected above the project-specific PALs then a quantitative human health and ecological risk assessment will be conducted. Section 2.3.4 on page 26 states that the PALs are residential soil levels for human health and ecological screening levels for plants and soil invertebrates. All detected chemicals must be evaluated in the ERA to assess impacts to ecological receptors. The comparison to PALs does not consider the potential for food chain risk.

11. Section 2.3.2 on page 23 states that mean groundwater concentrations will be compared with surface water screening values. For the initial evaluation, maximum concentrations must be compared with surface water screening values (representing future potential risk). The contaminant concentrations in the wells closest to the groundwater discharge point should also be evaluated to assess the potential for risk and the need to further evaluate the groundwater / surface water pathway.

12. The first bullet on page 23 indicates that if COPC concentrations exceed the background 95 percent UTL, further evaluation will be needed. In the screening level ecological risk assessment, comparing site data to the background 95 percent UCL is appropriate, not the UTL or maximum base background concentrations. (It warrants reiterating that in the risk assessment, the potential for risk cannot be eliminated due to background concentrations.)

13. Section 2.3.3 states that it is unlikely that buried debris exists below the groundwater table, which is estimated to be less than 30 feet bgs. Information should be provided to support this statement, otherwise it should be removed.

14. Section 2.3.3 on page 24 states that 10 surface soil samples (0 to 6 inches) will be collected from AOC 8 (Figure 7) and analyzed for polycyclic aromatic hydrocarbons, polychlorinated biphenyls (PCBs), and inorganic constituents to supplement the existing surface soil data. Subsurface soil samples will be collected in the same locations. Information should be provided to justify the locations of proposed soil samples (fill spatial data gaps, migration pathways). The information provided in Table 2-6 is not specific enough to determine why some samples are being collected. It is unclear why three soil samples will be collected north of the study area.

15. Section 2.3.3 on page 24 states that the analytical results collected as part of the 2008 Site Inspection indicated that there were no semi-volatile organic chemicals, pesticides, or PCBs detected in groundwater; therefore, no additional sampling is required for these contaminant groups. Because this data is nearly five years old, it is unclear that this conclusion is supported. In addition, this same section states that these results may not be representative of current groundwater concentrations because they were collected using direct push technology rather than permanent monitoring wells. For these reasons, groundwater should be analyzed for the full suite of contaminants.

16. On page 25 the text indicates that the partnering team established a surface and subsurface soil pesticide threshold (50 µg/kg) for routine basewide pesticide application. Information should be provided to support the selection of this as a threshold value. Currently, insufficient information is provided to support this value.
17. On page 26, the text indicates that no additional sampling to that proposed in this document is needed to adequately assess the potential risk to ecological receptors. Insufficient information is available to determine if sampling will be needed in the York

River. Furthermore, the results of this sampling may indicate the need for additional sampling.

18. On page 26, in Section 2.3.4, item 3 indicates that groundwater concentrations will be compared to marine surface water screening values and BTAG marine screening values. The text needs to clarify the salinity range in the York River to ensure the appropriate screening values are being used.

19. Page 26, Section 2.3.5: The text needs to clarify how the test pits will address the debris outcrops identified in Section 2.2.1.

20. Page 33, Section 2.5: The text states "…the Team discussed and agreed to the proposed sampling locations for AOC 8." As stated above, the text needs to provide the supporting rationale for the proposed sample locations shown on Figure 7.

21. Page 36, Section 3.1.2: Under Soil Sampling, the text indicates that one surface soil sample will be analyzed for hexavalent chromium and one additional soil sample will be analyzed for total and hexavalent chromium. Because of the variability of contaminant concentrations in soil, these single samples are not likely adequate. Additional information is needed to support this approach or the approach must be revised.

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