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FISC WILLIAMSBURG
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LETTER AND U S EPA REGION III COMMENTS TO DRAFT SITE INSPECTION REPORT
SITES 4 AND 9 AREA OF CONCERN 3 (AOC3) NWS YORKTOWN CHEATHAM ANNEX
WILLIAMSBURG VA
9/21/2011
U S EPA REGION III



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

September 21, 2011

Ms. Krista Parra
NAVFAC MIDLANT, Building N-26
Hampton Roads Restoration Product Line, Code OPHREV4
9742 Maryland Avenue
Norfolk, VA 23511-3095

Subject: Response to Comments, Draft Site Inspection Report, Site 4, Site 9, and Area of Concern 3; Naval Weapons Station Yorktown Cheatham Annex, Williamsburg, Virginia; June 2011

Ms. Parra:

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

BTAG Comment 1: The Navy states in their August 15, 2011 letter to EPA that "...the maximum chemical concentrations were considered during the refined analysis." It is not clear from the main part of this document that other than to identify how many COPCs they were using maximum concentrations, that these maximum concentrations were used in any other way to refine the number of contaminants. For the two Sites and one AOC, there is text identifying which chemicals were retained as COPCs using maximum concentrations. This is followed by text indicating which chemicals were retained as COPCs using the mean concentrations (refined). It is presumed that once the recommended next steps (RIs or expanded SI) are initiated, the refined COPCs will be used. The Navy needs to clearly indicate that maximum contaminant concentrations will be used to assess ecological risk to plants and invertebrates in the ecological risk assessments that are based on the next recommended steps. It must be noted that all new data obtained during the RI must be screened to ensure that no additional / new COPCs are present.

BTAG Comment 2: Related to the above, the ecological risk evaluation portion of Section 3.2.4 (Site 4) contains the number of chemicals using maximum concentrations and mean concentrations depicted in the table below. The SI for Site 4 recommended an RI be completed for this site with soil, groundwater, surface water, and sediment to quantify risk associated with all media. The need for an RI is supported. However, it is not clear how these data in the table will be used in the RI; when they appear inappropriately used in the SI (e.g., the SI does not use the maximum concentrations of contaminants to assess risk to some ecological receptors (e.g., plants, invertebrates) for soil, sediment, and surface water). The ecological risk evaluation portion of the text does contain the statement "The initial COPCs were then evaluated using more realistic

assumptions to select refined COPCs...” which supports the inappropriate use statement made above.

| Site 4 media | COPCs (maximum concentrations) | Refined Analysis – COPCs (mean concentrations) |
|---------------------|--------------------------------|--|
| Surface Soil | 15 | 6 |
| Subsurface Soil | 12 | 4 |
| Surface Water | 4 | 2 |
| Surface Sediment | 31 | 0 |
| Subsurface Sediment | 25 | 1 (summary text says zero) |

BTAG Comment 3: Site 9: The conclusion for this site is to produce an expanded SI and interim removal action to further characterize and mitigate copper in surface soil, and PAHs, Aroclor 1260, arsenic, chromium, mercury, and selenium in sediment. While the expanded SI and interim removal action may be appropriate, it is not clear why an RI is not recommended for this site. The text of Section 4, starting on page 4-11 (ecological risk evaluation), indicates the following number of COPCs using maximum and mean concentrations.

| Site 9: media | COPCs (maximum concentrations) | Refined Analysis – COPCs (mean concentrations) |
|---------------------|--------------------------------|--|
| Surface Soil | 7 | 2 |
| Subsurface Soil | 3 | 0 |
| Surface Sediment | 10 | 9 |
| Subsurface Sediment | 5 | 2 |

The text does not adequately address ecological risk to all receptors (e.g., plants and invertebrates) because ecological risk based on maximum concentrations is not factored into the refinement of ecological risk. In particular, the use of maximum contaminant concentrations needs to be used specifically for plants and invertebrates in soil, sediment, and surface water in the refined ecological risk assessment.

BTAG Comment 4: AOC 3: The conclusion for this area is to complete a RI. This does appear appropriate. Again, it is not clear how these data from the SI will be used in the RI. The following table shows the number of COPCs based on maximum concentrations, mean concentrations (refined), and the portion of the text labeled Ecological Risk Evaluation. The same issue regarding the need to use maximum concentrations to assess ecological risk to plants and invertebrates that was addressed at the previous two sites applies at AOC 3.

| AOC 3: Media | COPCs (maximum concentrations) | Refined Analysis – COPCs (mean concentrations) |
|---------------------|--------------------------------|--|
| Surface Soil | 23 | 10 |
| Subsurface Soil | 9 | 1 |
| Surface Water | 4 | 3 |
| Surface Sediment | 57 | 38 |
| Subsurface Sediment | 53 | 15 |

BTAG Comment 5: On page 3-14, the first bullet refers to using LC₅₀ and EC₅₀ values which exceed the maximum concentrations of carbazole at Site 4. The LC₅₀ and EC₅₀ values are not appropriate to use as they represent the concentration which adversely affected 50 percent of the test organisms (survival, growth, and/or reproduction). While these may be the only comparative criteria available, ecological risk to receptors is likely present at concentrations less than either of these values.

EPA BTAG Comment 6: It is not clear why the recommendation for Site 9 is an expanded SI instead of an RI.

EPA BTAG Comment 7: Regarding surface water, the COPCs that are important to ecological receptors need to include those with maximum concentrations that equal or exceed appropriate ecological criteria in unfiltered samples, as well as filtered samples. Maximum concentrations also need to be used in the refined list of COPCs as it will apply to both plants and invertebrates.

EPA BTAG Comment 8: The Navy's response to EPA comments 11 and 16 states "Since the processes used to conduct the semi-quantitative risk evaluation were described in Appendices...B (Ecological Risk Screening), they were not included in the June 16, 2011 RTC letter." A re-review of Appendix B did not identify the term "semi-quantitative risk evaluation." In light of the additional comments noted above, it is not clear that this "semi-quantitative risk evaluation" was correctly conducted.

If you have any questions, please contact me at 215-814-3378.

Sincerely,

A handwritten signature in black ink, appearing to read "John Burchette". The signature is stylized with a large, sweeping initial "J" and a long, horizontal stroke extending to the right.

John Burchette
Remedial Project Manager

cc: Wade Smith, VDEQ