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U S NAVY RESPONSES TO COMMENTS ROUND 2 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

4/9/2013

NAVFAC MID ATLANTIC

Round 2 Response to Comments
Remedial Investigation
Sampling and Analysis Plan
AOC 8 – Area South of Site 7
Naval Weapons Station Yorktown Cheatham Annex
Williamsburg, VA
April 9, 2013

Comments received by email on February 6, 2013 from Susanne Haug, Environmental Protection Agency, Region 3. Subsequently, the USEPA, the VDEQ, the Navy, and CH2M HILL (and their associated technical support) discussed and agreed on how to address each comment during a conference call on March 28, 2013.

EPA Comment #1: Comment 5 stated that 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, analyses of the proposed samples need to include the original list of contaminants used in the former site investigation process. The RTC states that spatial coverage is adequate to determine contaminants of potential concern (COPCs), thus no additional analytes are needed. While the area of AOC 8 is not large (approximately 210 feet by 350 feet), there were only 5 soil sample locations and 4 groundwater/soil sample locations sampled. However, approximately 50% of the surface area of AOC 8 did not have soil or groundwater/soil sample locations. Therefore, the limited number of samples and the limited area sampled along with the variability of concentrations that can be found in soil samples suggests that identifying COPCs at the site investigation stage at AOC 8 is premature.

Navy Response: Since COPCs have not formally been identified, all references to COPCs will be removed from the UFP-SAP in favor of "site-related contaminants."

During the March 28, 2013 conference call, the CAX Partnering Team, with the concurrence of technical support, agreed that in order to address the EPA's concern that there are a limited number of soil samples within the area of surface debris, three 5-point composite surface soil (0-6" bgs) and three 5-point composite subsurface soil (6-24") samples will be collected from the area of observed surficial debris (attached Figure 1). The surface and subsurface sample components making up the 5-point composites will be co-located, and will be collected from each of 3 roughly equal-sized areas comprising the surface debris area as shown in Figure 1. In substitution for the additional three 5-point composite samples within the surface debris area, the originally proposed discrete surface and subsurface soil sample to be collected at the groundwater sampling location within this area will not be collected. The 5-point composite samples will be analyzed for PAHs, pesticides, PCBs, and metals. (Note: An additional 5-point composite sample to be collected from the vicinity of the visible debris within the berm is discussed in the response to EPA Comment #3 below.)

In addition, during this conference call, the USEPA's technical support expressed some concerns about the absence of soil samples within the low-lying area located east of where buried debris was encountered. To address this concern, the CAX Partnering Team, with the concurrence of technical support, agreed that the co-located surface and subsurface soil samples, originally to be co-located with the southeastern-most monitoring well, would be moved to within the low-lying area (approximate location shown on attached Figure 1; actual location will be determined in the field). The co-located

surface and subsurface soil samples at this location will be analyzed for PAHs, pesticides, PCBs, and metals.

With the addition of the three co-located surface/subsurface soil 5-point composite samples in the surface debris area in substitution for one discrete sample location, the movement of one co-located surface/subsurface soil sample location to within the low-lying area of the site, and the fact that all the existing SI soil data (which included full suite analysis) will be further evaluated in the RI and incorporated into the human health and ecological risk assessments, the CAX Partnering Team agreed that the numbers and locations of the samples to be evaluated in the RI are sufficient to achieve the objectives of the RI. The UFP-SAP was updated to include the sampling and analysis of the soil samples outlined above.

EPA Comment #2: Comment 6 stated that the location of the debris outcrops should be identified to ensure the previous and proposed sampling locations include this area as a potential source of contamination. The RTC states that the debris outcrop is inside the berm of AOC 8. Due to the fact that this AOC is located less than 70 feet from the cliff that is adjacent to the York River opens up the concern of whether contamination from this site has entered the York River or habitats adjacent to the York River via groundwater migration or surface water flow (before the berm was installed). Two soil samples should be collected on the east side of the site between the berm and the edge of the cliff.

Navy Response: Based on field observations, it appears as though the so-called berm was not "installed" as a berm following debris disposal activities at AOC 8, but is rather a remnant feature created as a result of borrow material excavation activities at the site prior to waste disposal. This is evident by the fact that the topographic elevations of the areas surrounding the site are consistent with the elevations of the top of the berm (see attached photographs). Based on the evidence that the so-called berm is a remnant from pre-waste disposal excavation activities, there would have been no contamination from the site that migrated via surface water flow or entered the York River via groundwater migration or surface water flow before the berm was present.

As shown in the attached photographs, the eastern extent of the so-called berm forms the edge of the cliff that drops down 20 feet to the York River. Therefore, the team agreed during the March 28, 2013 conference call, no soil sampling east of the berm in this area was necessary. However, as part of the RI, two groundwater samples are being collected from as close to the York River as site conditions allow.

As previously stated in the Round 1 RTCs, the RI data will be evaluated to determine whether or not data gaps exist. If this evaluation indicates additional RI data are needed (such as searching for groundwater seeps or evaluating potential groundwater discharge areas) to adequately fulfill the objectives of the RI, an addendum to the UFP-SAP will be prepared for Partnering Team review, prior to the completion of the RI Report. No additional changes were made to the SAP.

EPA Comment #3: Also pertaining to the RTC for Comment 6, the RTC states that the 2008 site investigation soil sample locations have adequately characterized this area as a potential source of contamination. This debris area is identified in Figure 1 (attached to the RTC). According to this attached figure, there are no historical or proposed soil samples in the vicinity of this debris area.

Navy Response: While several soil samples have been collected in the area downslope of the visible debris along the inside of the berm, no samples have been collected in the immediate vicinity of this debris. Therefore, during the March 28, 2013 conference call the CAX Partnering Team, with the concurrence of technical support, agreed that one 5-point composite surface (0-6" bgs) and one 5-point composite subsurface (6-24" bgs) soil sample will be collected from the immediate area of the visible debris (see the area along the northern edge of the site boundary in the attached Figure 1). This soil

sample will be analyzed for PAHs, pesticides, PCBs, and metals. The UFP-SAP was updated to include the collection of this soil sample.

EPA Comment #4: Comment 7 stated that food chain modeling should be performed for receptors with small home ranges (e.g., short-tailed shrew [Blarina brevicauda] shrew and American robin [Turdus migratorius]). The RTC states that while the total site area may be 1.5 acres, only about 0.25 acres of the site has surface debris and 0.7 acres has buried debris. The RTC states that these areas are too small for significant exposure to occur for upper-trophic level receptors. BTAG still does not support this position. Even if area use is not 100% because of the small size of the site, food chain modeling should be performed on receptors with small home ranges to assess this exposure pathway.

Navy Response: Food web modeling will be added to the risk assessment. However, appropriate Area Use Factors may be applied to account for the small size of the potentially impacted areas. The Ecological Decision Logic (Section 2.3.2) in the SAP was revised to include Food web modeling.

EPA Comment #5: Comment 9 stated that the initial and final COPCs for plants and invertebrates need to be based on maximum concentrations, not mean values. The RTC states that final COPCs (Step 3A) will consider mean and 95% UCL soil concentrations, per Navy ERA guidance. While comparison to means and 95% UCL soil concentrations can be used to establish a risk range, chemicals should not be deleted as COPCs based on a comparison to means alone. This issue should be clarified.

Navy Response: In Step 3A, central tendency exposure point concentrations (mean and 95% UCL) will be a primary consideration in determining if a chemical should be identified as a COPC, as will comparisons to background concentrations. However, other factors, such as the magnitude of the maximum HQ and the spatial pattern of screening value exceedances, will also be considered when making this determination. This information was added to Section 2.3.2 of the SAP.

EPA Comment #6: Comment 13 stated that it is unlikely that buried debris exists below the groundwater table, which is estimated to be less than 30 feet bgs. The comment stated that information should be provided to support this statement, otherwise it should be removed. The RTC states that while it is not irrefutable, the depth to groundwater data can infer the likely maximum depth of debris at the site. Based on data from other Superfund Sites pertaining to buried debris and the depth to water, the stated inference (e.g., depth to groundwater is the likely maximum depth of debris) may not be correct, particularly since the groundwater table can fluctuate seasonally and annually.

Navy Response: As discussed during the March 28, 2013 conference call, the original response/resolution to Comment #13 ("….. this text was deleted from the UFP-SAP……") is acceptable. No additional changes were made to the SAP.

EPA Comment #7: Comment 16 stated that additional information needed to be provided to support the use of the 50 microgram per kilogram (µg/kg) as the threshold for routine basewide pesticide application. The RTC states that this threshold was based on a discussion with BTAG, and that BTAG stated that the background from routine spraying tends to be less than 50 µg/kg. While background from routine spraying would be less than 50 µg/kg, it is likely much lower than this level. BTAG recommends that a site-specific threshold be developed with data collected from sites on the base where pesticides were not handled or disposed and thus only received routine aerial pesticide application.

Navy Response: The results of the SI, as presented in the UFP-SAP, show that the source of contamination at AOC 8 is the buried debris (wood, concrete, glass, plexiglass, various metal debris, and construction debris). There is no evidence that pesticides were ever handled or disposed of at AOC 8. Therefore, any pesticide detections in soil at AOC 8 are likely the result of routine, aerial pesticide

applications. However, during the March 28, 2013 conference call, the CAX Partnering Team agreed to no longer use a pesticide threshold value to determine whether or not site pesticide detections are a result of routine pesticide applications. As a result, all detections of pesticides will be evaluated in the RI and human health and ecological risk assessments. All references to the 50 µg/kg basewide pesticide threshold value were removed from the SAP.