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Date: October 15, 1998

Mr. Tim Reisch
Atlantic Division, Naval Facilities Engineering Command
Environmental Quality Division
Code: 1822
Building N 26, Room 54
1510 Gilbert Street
Norfolk, Va 23511-2699

Re: USN St. Julien Creek Annex, Va.
Landfill C and Landfill D
Review of the Navy's draft *RI/FS Work Plan Addendum*

Dear Mr. Reisch:

The U.S. Environmental Protection Agency (EPA) has preliminarily reviewed the Navy's draft *Remedial Investigation Work Plan Addendum* for Landfill C and Landfill D, located at the St. Julien Creek Annex (SJCA), and we offer the following comments:

1.0 **GENERAL COMMENTS**

1. The document does not include a list of acronyms used throughout the document. This reference should be included at the beginning of the document, typically after the Table of Contents page.
2. Several sections of the document refer to previous documents for information concerning analytical methods, frequency and types of QA/QC samples, sample collection procedures (including holding times, preservation and sample containers), well construction methods and decontamination procedures. Referenced documents include the previous remedial investigation (CDM Federal 1997) and the RI Work Plan (CDM Federal 1997). It is suggested that the information for the items listed above be provided in the appropriate sections of this document in order to allow this document to stand alone.

3. Phosphorus was detected in surface water at Landfill D during preliminary investigations. However, phosphorus is not included in the analyte list for the supplemental activities. Phosphorus should be included in the supplemental activities in the media were it was previously detected in order to maintain consistency with previous investigations.
4. Neither nitroamines or explosives were included in the analyte groups for either the preliminary or the supplemental field activities. Nitroamines and explosives were included in the analyte groups for Landfill B and the Burning Grounds areas of the study. Since the historical site use was not provided in this document, it cannot be determined whether nitroamines or explosives are appropriate analyte groups for these sites. Inclusion or exclusion of these two analyte groups should be clarified for Landfills C and D.
5. The BTAG provided comments on work in progress on ecological risk assessments (ERA) for Landfills C and D in July of 1998. The subject documents state that during the preparation of the ERA as well as during discussions with team members, it became apparent that additional data were necessary to fully define the extent of contamination. It does not appear that proposed sampling addresses the previous comments.
6. Although a conceptual model or exposure pathway analysis were not presented in the previous work in progress document or the subject documents, the BTAG continues to assert that site characteristics indicate contaminant migration from the above sites to aquatic areas is probable. Therefore, the BTAG reiterates a request to sample the central area of the tidal wetland and St. Juliens Creek in association with Site 2 and Blows Creek, the estuarine emergent marsh, and the confluence of Blows Creek and the Elizabeth River in association with Sites 3, 4, and 5. We note that background (i.e. upgradient) samples are proposed for St. Juliens Creek and Blows Creek. Once these samples are collected a quick screening level risk assessment should be performed following the 1997 EPA Guidance for Conducting Ecological Risk Assessments For Superfund.
7. The draft Work Plan indicates that composite samples from 0-2 feet will be collected to evaluate the potential exposures to burrowing organisms as suggested by NOAA. Although this seems like a reasonable approach, NOAA suggests coordination with the BTAG on this issue. Surface soil samples are proposed to be collected from 0-3 inches. Normally, BTAG requests a 0-6 " interval for surface soil collection, and 0-3 " for sediment. A six inch to two foot interval may also be necessary, since sub-surface soil data will be needed for the completion of the ERA.
8. Please report on Tentatively Identified Compounds (TICs) in the analysis of samples obtained from the St. Julien Creek Annex.

2.0 SPECIFIC COMMENTS

1. **Table 3-1 and Table 3-2.** The sampling and analysis rationale for Landfill C provided in Table 3-2 were compared with the data gaps identified for Landfill C in Table 3-1 for each media and activity. The numbers and locations of the additional samples appear sufficient to achieve desired objectives with two exceptions. The first exception is determination of background levels of metals concentrations at the site. However, since the determination of background levels of metals concentrations at the site will be addressed in another document, no corrective action is necessary. The second exception is the number and location of surface soil samples. Table 3-1 indicates that the extent of contamination has not been defined to the south, east and west of the site. Figure 3-1 and Section 3.3.3 present additional surface soil sampling locations primarily to the west and south of the site, but not to the east/northeast. It is not clear that the additional sampling locations are adequate to define the extent of contamination to the east/northeast of the site. It is recommended that additional surface soil samples be collected in to the east/northeast of the site to define the extent of contamination in this area of the site.
2. **Table 3-2, Surface Soils (Landfill C).** TPH analysis has been added to the analyte group for surface soil supplemental sampling and analysis at Landfill C. However, the methodology for the TPH analysis has not been provided. The methodology for TPH analysis of surface soils should be included in Table 3-2 and in the corresponding sections of text.
3. **Table 3-2, Subsurface Soils (Landfill C).** TOC analysis has been added to the analyte group for subsurface soil supplemental sampling and analysis at Landfill C. However, since TOC analysis is typically performed only on sediment samples from the site, it is not clear why TOC analysis has been added to this media. Addition of TOC analysis for subsurface soils should be clarified in the corresponding section of the text.
4. **Table 3-2, Surface Waters (Landfill C).** Neither TOC nor Total Phosphorus analysis is included in the analyte group for surface water supplemental sampling and analysis at Landfill C. These two parameters are included for surface waters at Landfill D, the other site in this study. Inclusion of these two parameters in the analyte group for surface waters at Landfill C should be considered in order to maintain data consistency in the study area.
5. **Table 3-2, Sediment (Landfill C).** Neither TOC nor Total Phosphorus analysis is included in the analyte group for sediment supplemental sampling and analysis at Landfill C. These two parameters are included in the preliminary study of sediments. Inclusion of these two parameters in the analyte group for sediments

is recommended in order to maintain data consistency with previous sampling rounds and data.

6. **Table 3-3 and Table 3-4.** The sampling and analysis rationale for Landfill D provided in Table 3-4 were compared with the data gaps identified for Landfill D in Table 3-3 for each media and activity. The numbers and locations of the additional samples seem sufficient to achieve desired objectives with two exceptions. The first exception is the determination of background levels of metals concentrations at the site. However, since the determination of background levels of metals concentrations at the site will be addressed in another document, no corrective action is necessary. The second exception is the number and location of surface soil samples. Table 3-3 indicates that the extent of contamination has not been defined to the north, south, east and west of the site. Figure 3-2 and Section 3.4.2 present additional surface soil sampling locations primarily to the north, west and south of the site, but not to the east. It is not clear that the additional sampling locations are adequate to define the extent of contamination to the east of the site. Table 3-4 indicates that a road runs along the eastern boundary of Landfill D and Blows Creek borders to the south, apparently making collection of east and southeast samples difficult. It is recommended that additional surface soil samples be collected to the east of the site, across the bordering road if necessary, in order to define the extent of contamination east of the site.
7. **Figure 3-2.** Section 3.4.2 indicates that four additional surface soil samples will be collected in the area between Landfill C and Landfill D. However, these samples are not presented on Figure 3-2. The relative locations of the two landfills are also not presented in Figure 3-2. Therefore, the four sampling locations described in the Section 3.4.2 cannot be determined. The locations of the four sampling locations and relative locations of the two landfills should be presented in Figure 3-2 in order to demonstrate the appropriateness of these sampling locations.
8. **Section 3.4.** This section does not include a discussion of the supplemental sampling of groundwater at Landfill D. Table 3-4 does indicate that all existing locations will be sampled in the supplemental activities, but that no additional monitoring wells will be constructed. A summary of these supplemental activities should be included a separate subsection of Section 3.4.
9. **Table 3-4, Surface Water (Landfill D).** Neither TOC nor Total Phosphorus analysis is included in the analyte group for surface water supplemental sampling and analysis at Landfill D. These two parameters are included for surface waters in the preliminary study. Inclusion of these two parameters in the analyte group for sediments is recommended in order to maintain data consistency with previous sampling rounds and data.

10. **Table 3-4, Sediment (Landfill D).** Neither TOC nor Total Phosphorus analysis is included in the analyte group for sediment supplemental sampling and analysis at Landfill D. These two parameters are included in the preliminary study of sediments. Inclusion of these two parameters in the analyte group for sediments is recommended in order to maintain data consistency with previous sampling rounds and data.
11. **Table 3-2 and Table 3-4.** These tables indicate the analyte group for each media to sampled. However, neither these tables, nor the associated text indicate whether low level VOC analysis will be performed for groundwater and surface water samples. Low level VOC analysis is recommended and should be clarified in the analyte group section of these tables.

This concludes EPA's review of the Navy's draft *Remedial Investigation Work Plan Addendum* for Landfill C and Landfill D, located at the SJCA. If you have any questions regarding the above, please feel free to call me at (215) 814-3357,

Sincerely,



Robert Thomson, P.E, AEP
Federal Facilities (3HS50)

cc: Sharon Wilcox (VDEQ, Richmond)
Barbara Okorn (USEPA, 3HS41)