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DEPARTMENT OF THE NAVY

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07 JAN 1997

From: Commanding Officer, Navy Environmental Health Center  
To: Commander, Atlantic Division, Naval Facilities Engineering  
Command, Attn: Randy Jackson, 1510 Gilbert Street,  
Norfolk, VA 23511-2699

Subj: REVIEW OF INSTALLATION RESTORATION PROGRAM DOCUMENTS FOR  
ST JULIENS CREEK ANNEX, CHESAPEAKE, VIRGINIA

Ref: (a) CH2M Hill transmittal ltr of 2 Dec 96

Encl: (1) Medical Review of "Work Plan and Sampling and Analysis  
Plan for the Remedial Investigation and Feasibility  
Study, Landfill B (Site 2) and Burning Grounds  
(Site 5), St. Juliens Creek Annex, Chesapeake,  
Virginia"  
(2) Medical/Health Comments Survey

1. Per reference (a), we have completed a medical review of the  
"Work Plan and Sampling and Analysis Plan for the Remedial  
Investigation and Feasibility Study, Landfill B (Site 2) and  
Burning Grounds (Site 5), St. Juliens Creek Annex, Chesapeake,  
Virginia" and are forwarding it to you as enclosure (1).

2. Please complete and return enclosure (2). Your comments are  
needed to continually improve our services to you.

3. We are available to discuss the enclosed information by  
telephone with you and, if necessary, with you and your  
contractor. If you require additional assistance, please call  
Mr. David McConaughy at (757) 363-5557 or Ms. Katharine Kurtz at  
(757) 363-5553. The DSN prefix is 864.

*Andrea Lunsford*  
A. E. LUNSFORD  
By direction

**MEDICAL REVIEW OF DRAFT WORK PLAN AND  
SAMPLING AND ANALYSIS PLAN FOR THE  
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY,  
LANDFILL B (SITE 2) AND BURNING GROUNDS (Site 5),  
ST. JULIENS CREEK ANNEX, CHESAPEAKE, VIRGINIA**

- Ref: (a) Risk Assessment Guidance for Superfund, Volume I, Part A: Human Health Evaluation Manual, December 1989 (EPA 540/1-89/002)  
(b) Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans, 1983 (EPA 600/4-83/004)

**General Comments:**

1. The draft document entitled "Work Plan and Sampling and Analysis Plan for the Remedial Investigation and Feasibility Study, Landfill B (Site 2) and Burning Grounds (Site 5), St. Juliens Creek Annex, Chesapeake, Virginia," was provided to the Navy Environmental Health Center (NAENVIRHLTHCEN) for review on 5 December 1996. The report was prepared for Atlantic Division, Naval Facilities Engineering Command by CH2M Hill.

2. The Work Plan and the Sampling and Analysis Plan are well written and well organized. We appreciate the opportunity to review the draft documents. Our primary concern with the plans is the lack of information or details in certain sections. Particularly, information concerning the selection of sample locations, background sampling, and data usability need to be written in more detail. Specific comments are listed below.

**Review Comments and Recommendations:**

**Work Plan**

1. Page 4-5, "Groundwater Sampling"  
Page 4-9, "Soil Sampling"

Comment: Background samples are not mentioned for any medium of concern at Site 2 or Site 5. It is not clear whether background samples were collected that are representative of Site 2 or Site 5. Per reference (a), background samples for each medium of concern should be collected to adequately compare them to site-specific samples.

Recommendation: Provide information concerning where the background samples were taken. Provide background sample location(s) on the Site 2 and Site 5 maps, if applicable, or provide justification for not taking background samples. Discuss how the background concentrations will be used in the baseline risk assessment. If background samples have already been collected, the work plan should indicate that the proposed field sampling methods and

analytical methods will be the same. If they are different, the work plan should discuss how the uncertainties associated with the data will be addressed in the health risk assessment.

2. Page 4-5, "Groundwater Sampling Techniques"

Comment: The text does not say whether groundwater samples taken will be filtered, unfiltered, or both. We strongly recommend the collection of both filtered and unfiltered groundwater samples. EPA guidance, such as reference (a), states that "unfiltered groundwater data should be used to estimate exposure concentrations."

Recommendation: We recommend collecting both unfiltered and filtered groundwater samples. State whether filtered and/or unfiltered groundwater samples will be taken and specifically how the groundwater sampling results, filtered or unfiltered, will be used in the risk assessment.

3. Figure 4-1, "Proposed Monitoring Well and Soil Sample Locations, Site 2, Landfill B"  
Figure 4-2, "Proposed Monitoring Well and Soil Sample Locations, Site 5, Burning Grounds"

Comments:

a. Figure 4-2 does not propose conducting soil sampling adjacent to the railroad tracks. Because it appears that ordnance and munitions were transported by railcar, spills may have occurred along the railroad tracks. Therefore, soil sampling along the railroad tracks, particularly at loading and unloading locations, may be justifiable.

b. Figures 4-1 and 4-2 show the locations of proposed composite soil samples. The work plan does not state why the composite samples are being collected or if they will be used in the health risk assessment. Page 1-1 of "The Field Sampling Plan" states that the composite samples will be collected from each of the sites at locations "representative of background conditions." We do not agree with the composite sample locations depicted on Figures 4-1 and 4-2 if, in fact, these are the selected background soil sample locations. The composite sample locations appear to be up-gradient, down-gradient, and in the center of each site.

c. We agree that composite samples are useful to assess the presence or absence of contamination. If composite samples are to be used to determine background concentrations, the samples should be separated into specific media such as surface and subsurface samples. Composite samples from 0 to 3 feet may not be representative of actual site conditions.

Recommendations:

a. Consider including surface soil sampling along the railroad tracks in the sampling and analysis plan.

b. The sampling plan should justify the use of composite soil samples for determining surface and subsurface soil background concentrations. If the composite sample locations shown on the figures are being used to determine the background soil concentrations, either justify the sites selected, or select new sample locations.

4. Figure 4-3, "Proposed Surface Water and Sediment Sampling Locations, Site 2, Landfill B"

Comments:

a. The figure shows the locations of the proposed sediment and surface water samples. Neither the text nor the figure gives a rationale for the selected locations, such as a ditch, stream, ponded water, or surface water flow direction. Background sampling locations are not shown on any of the figures. This information should be included in the sampling and analysis plan.

b. The figure does not indicate that sediment samples will be collected along St. Juliens Creek. Also, in circumstances such as these, where proposed sediment sample locations do not include existing surface water locations (St. Juliens Creek), reasons for not sampling should be included in the text.

Recommendations:

a. Provide rationales for the proposed sampling locations. Show the location(s) of the background samples.

b. Clearly state the reason(s) why sample locations are selected.

5. Figure 4-4, "Proposed Surface Water and Sediment Sampling Locations, Site 5, Burning Grounds"

Comment: Surface water and sediment sampling locations have only been selected for the southeast and northeast corners outside of the marked off area for Site 5. Background sampling locations are not included on the figure.

Recommendation: Include reasons for not sampling the western areas located adjacent to Site 5. Show the locations where background samples will be, or have been collected.

6. Page 4-18 and 4-20, "Baseline Human Health Risk Assessment"

Comments:

a. The second paragraph discusses the procedures for selecting chemicals of potential concern. The last sentence states, "Data collected during previous investigations that has been validated will be evaluated for use in the risk assessment." The text does not state whether the data from the remedial investigation will be compared to the data collected from previous investigations.

b. The text states that the 95 percent upper confidence limit (95 % UCL) of the mean will be used as the exposure concentration. We support the use of the average as well as the 95 % UCL for comparative purposes.

c. The text on page 4-20 states that the risk assessment will be used to determine whether remediation is necessary. The decision criteria are not included.

Recommendations:

a. Perform a comparison between previous and current data in the risk assessment report. This will allow the risk managers to see whether any change has occurred in the contaminant concentrations in site specific media.

b. For comparative purposes, calculate exposure concentrations using both the 95 % UCL and the average.

c. Discuss the decision criteria to be used in determining whether or not remediation will be required.

**Quality Assurance Project Plan**

**General Comments:**

1. Overall, the Quality Assurance Plan (QAP) is well written and easy to follow; however, we feel that some areas of the plan lack sufficient detail. Our general comments on how the plan could be improved are discussed below. These comments primarily follow the guidelines given in reference (b).

2. The QAP should name the primary laboratory responsible for analysis and identify the referee Quality Assurance (QA) laboratory in the event of a dispute. In addition, the QAP also should identify the data validator and discuss the data validation procedures to be used in greater detail. For example, data qualifiers should be identified and an explanation provided concerning how and by whom the data are flagged.

3. The QAP should provide more details concerning the corrective action procedures in place to ensure that appropriate accuracy and precision are maintained and that discrepancies in data are resolved. It would be helpful to include information concerning laboratory procedures in place to retain hard copy evidence, such as gas chromatographic charts. Also, the QAP should include information concerning the use of laboratory control charts, calibration procedures by instrument type, frequency, etc.; and length of time the laboratory will retain samples after analysis prior to disposal.

4. Because the QAP states that various laboratories will be involved in the analysis of site-related samples, we feel that the QAP should discuss the review and acceptance of the individual laboratories' QA plans to ensure uniformity of data treatment and conformance with applicable Installation Restoration Program (IRP) guidance documents. Information concerning the experience and training of laboratory staff also should be included. In addition, a complete list of references and the points of contact (e.g., name, business affiliation, position title, phone number) should be provided in case additional follow up is needed.

5. Additional information is needed concerning site-specific sampling and analysis procedures. According to the QAP, composite samples will be taken. It would be beneficial to present additional information to support the use of composite samples for volatile analysis. Laboratory procedures used to prevent volatile loss should be described in greater detail.

FROM: \_\_\_\_\_  
 (YOUR NAME/COMMAND)  
 TO: NAVENVIRHLTHCEN, ENVIRONMENTAL PROGRAMS  
 FAX: COM: (757) 444-7261/DSN: 564-7261

**MEDICAL/HEALTH COMMENTS - YOUR VIEW**

Please help us improve our review process by indicating the extent to which you agree or disagree with the comments we provided your activity.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. "Value added" to IR/BRAC process?	1	2	3	4	5
2. Received in a timely manner?	1	2	3	4	5
3. High level of technical expertise?	1	2	3	4	5
4. Very useful to the RPM?	1	2	3	4	5
5. Contractor incorporated comments?	1	2	3	4	5
6. Easily readable/useful format?	1	2	3	4	5
7. Overall review was of high quality?	1	2	3	4	5
8. NAVENVIRHLTHCEN was easily accessible?	1	2	3	4	5
9. NAVENVIRHLTHCEN input during scoping or workplan development would be "value added"?	1	2	3	4	5
10. Added involvement in IR/BRAC document needed?	1	2	3	4	5

*Please return by fax using the box provided at the top of this page. If you have any other comments, please list them below or call Mr. David McConaughy, Head, Health/Risk Assessment Department, at (757) 363-5557, DSN 864 at any time to discuss your viewpoint. As our customer, your comments and suggestions of how we can improve our services to you are important!*