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February 28, 2001

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Commander
EFA Chesapeake
Mr. Jeff Morris, Code 1810
Washington Navy Yard, Bldg. 212
1314 Harwood St., SE
Washington Navy Yard, DC 20374-5018

Subject: Navy CLEAN II Program
Contract N62470-95-D-6007
Contract Task Order 0066
Final Site-Specific Remedial Investigation Work Plan for Sites 6, 39, and 45
NSWC Indian Head Division, Indian Head, MD

Dear Mr. Morris:

CH2M HILL is pleased to submit two hard copies of the above-referenced document and one CD containing an electronic version of the document in pdf format. Copies of the document and CD have also been distributed as shown below. A table listing the comments on the draft version and the responses to those comments is attached.

If you have any questions regarding this deliverable, please call me or Bob Root at (703) 471-1441.

Sincerely,

CH2M HILL

Anthony Tomlin, P.E.
Project Manager

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c: Lee Ann Rapp/Code 18312/LANTNAVFACENGCOM (cover letter only)
Shawn Jorgensen/IHDIV NSWC (8 hard copies, two CDs)
Curtis DeTore/MDE (one hard copy, one CD)
Dennis Orenshaw/USEPA (two hard copies, one CD)
Noelle Cuti/File/CH2M HILL (cover letter only)
Bob Root/CH2M HILL (one hard copy, one CD)
Tony Tomlin/CH2M HILL (one hard copy, one CD)
Jim Costello/HydroGeoLogic (two hard copies)

**REVIEW OF DRAFT REMEDIAL INVESTIGATION WORK PLAN
FOR SITES 6, 39, AND 45
OF DECEMBER 2000**

Comments from Mr. Shawn Jorgensen, Indian Head Division, NSWC, February 5, 2001

General Comment

Please change "groundwater" to "shallow groundwater" throughout the document, including tables. We need to make clear now, and in the RI report (when it is completed) that we are talking about risk from the shallow groundwater, which is not used for drinking.

Response **All references to "groundwater" have been changed to "shallow groundwater" with the exception of those in Table 1.3 Human Health Screening Values For Groundwater, Soil, and Sediment and Table 1.4 Medium Specific Values for Screening Ecological Risk Assessments.**

Comment 1 *Page ES-2, Table ES.1. The table is misleading. Page ES-1 states that groundwater samples will not be taken unless contamination is found in the soil. Perhaps a note in the table stating this fact would suffice, similar to the one in Table 2.1.*

Response **The note has been added.**

Comment 2 *Page 1-36, Section 1.6. Please change Mr. Rob Sadorra to Mr. Jeff Morris as the Navy RPM. Also, please change the fax number for Mr. Shawn Jorgensen to (301) 744-6749 (our fax machine is currently inoperable and we are not sure when, or if, we will be getting a new one.*

Response **The changes have been made.**

Comment 3 *Page 3-8, Figure 3.2. Wouldn't amphibians/reptiles, birds, and mammals come in direct contact with surface soil? Also, wouldn't invertebrates, plants, amphibians/reptiles, birds, and mammals come in direct contact with surface water (even if it were only seasonal)? Or, was this left out of the preliminary conceptual model because silver does not affect these receptors by direct contact (similar to the way silver doesn't affect humans)? If so, it should be noted someone on the model, otherwise, the model appears to be incomplete.*

Response **The following paragraph has been added to Section 3.4.1.4 Exposure Pathways, to address the issue of direct contact with surface soil, sediment and surface water, “Dermal and inhalation exposures for upper trophic level receptor species are not considered in this ERA because of the general fate properties (e.g., relatively high adsorption to solids) of the chemicals commonly present on these sites and the protection offered by hair or feathers. Relative to ingestion, the contribution from the dermal and inhalation routes to total exposure is generally low. Incidental ingestion of soil/sediment during feeding, preening, or grooming activities is, however, considered in the risk estimates. ”**

Comment 4 *Page 3-16, Table 3.5. Shouldn't the groundwater sample ID numbers contain MMY as stated on page 2-4, Section 2.3.1, similar to what was done in Table 4.4 on page 4-15?*

Response **The change has been made.**

Comment 5 *Page 4-2, Section 4.2, second paragraph, first sentence. Please remove the second "the" in the sentence.*

Response **The change has been made.**

Comment 6 *Page 4-5, Table 4.1. Under Future Child Resident, why is inhalation not included as a potential exposure pathway for groundwater?*

Response **Inhalation has been added to the potential exposure pathway for groundwater for the Future Child Resident on Table 4.1.**

Comment 7 *Page 4-7, third line on page. Please spell out LOAEL (Lowest Observed Adverse Effects Level).*

Response **The change has been made.**

Comment 8 *Page 4-8, Figure 4.2. Aren't amphibians/reptiles, birds, and mammals exposed to surface soil through direct contact as stated on page 4-7? This should be shown on the preliminary conceptual model.*

Response **The following paragraph has been added to Section 4.4.1.4 Exposure Pathways, to address the issue of direct contact with surface soil, sediment and surface water, “Dermal and inhalation exposures for upper trophic level receptor species are not considered in this ERA because of the general fate properties (e.g., relatively high adsorption to solids) of the chemicals commonly present on these sites and the protection offered by hair or feathers. Relative to ingestion, the contribution from the dermal and inhalation routes to total exposure is generally low. Incidental ingestion of soil/sediment during feeding, preening, or grooming activities is, however, considered in the risk estimates. ”**

Comment 9 *Figure 5.1. As stated in my email to Tony Tomlin on 25 January 2001, the location of Site 45 is incorrect in Figure 5.1 and in Figure 5.3. I used the 1999 40 to 1 aerial photo to locate it, based on the fallen tree and the telephone pole. I put the aerial photo (a MrSid file for use in ArcView) on the partnering site for your use.*

Response **The location of Site 45 and the associated sampling locations have been moved in Figures 5.1 and 5.3 based on the aerial photo.**

Comment 10 *Page 5-5, Table 5.2. See comment on page 4-5.*

Response **Inhalation has been added to the potential exposure pathway for groundwater for the Future Child Resident on Table 5.2.**

Comment 11 *Page 5-8, Figure 5.2. Correct me if I'm wrong, but would Aquatic birds and mammals and Terrestrial invertebrates, amphibians/reptiles, birds, and mammals be potential exposed to direct contact with surface water? Also, wouldn't Terrestrial invertebrates, amphibians/reptiles, birds, and mammals be potentially exposed direct contact with sediment. And, wouldn't Terrestrial amphibians/reptiles, birds, and mammals be exposed to direct contact with surface soil? Please let me know if I am way off-base with this. I just don't want to miss anything.*

Response **The following paragraph has been added to Section 5.4.1.4 Exposure Pathways, to address the issue of direct contact with surface soil, sediment and surface water, “Dermal and inhalation exposures for upper trophic level receptor species are not considered in this ERA because of the general fate properties (e.g., relatively high adsorption to solids) of the chemicals commonly present on these sites and the protection offered by hair or feathers. Relative to ingestion, the contribution from the dermal and inhalation routes to total exposure is generally low. Incidental ingestion of soil/sediment during feeding, preening, or grooming activities is, however, considered in the risk estimates. ”**

Comment 12 *Page 5-15, Table 5.5. Please add a note, similar to the one on Table 5.4, page 4-15, that the groundwater samples are part of the Phase 2 investigation if contamination is found in the subsurface soil.*

Response **The change has been made.**

Comments over the phone from Mr. Curtis DeTore, MDE, February 5, 2001

Comment 13 *Page 3-4, Last paragraph, third sentence, a fence does not stop people from getting into the site. Add trespassers to the human health risk scenarios.*

Response The sentence has been changed to read “The trespasser/visitor adult and adolescent are included in the evaluation because access to the site is not restricted.” Adult and adolescent trespassers/visitors have been added to the human health risk scenarios on Table 3.2. The potential exposure pathways for the trespassers/visitors have been added for surface soil via ingestion, dermal, and inhalation.

Comment 14 *Table 3.5, Why are month and day qualifiers added to the sample IDs. In some tables they are and in others they are not. Why?*

Response The month and day qualifiers “*MMYY*” have been added to all groundwater sample IDs in Tables 3.5, 4.4, and 5.5 in order to be consistent with the sample identification system detailed in Section 2.3.1.

Comment 15 *We should put another sample point between the swamp and Site 45. All three media types (surface soil, subsurface soil and groundwater) are to be collected at the new location.*

Response An additional DPT boring sample location has been added between Site 45 and the wetland to the southwest, to determine if contamination is migrating into the surface water. Surface soil, subsurface soil and grab groundwater samples will be collected from the DPT boring sampling location in the same manner as the other proposed borings at Site 45. The DPT boring location has been added to Figure 5.3.