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REGION III
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Date: July 11, 1995

Ms. Brenda Norton, P.E.
Naval Facilities Engineering Command, Atlantic Division
Code: 1822
Building N 26, Room 54
1510 Gilbert Street
Norfolk, VA 23511-2699

Re: Naval Weapons Station, Yorktown, Va.
Areas of Concern

Dear Ms. Norton:

The Environmental Protection Agency (EPA) has reviewed the information contained in the Navy's June 6, 1995 and June 27, 1995 letters to Region III concerning the evaluation of 21 identified "Areas of Concern" (AOCs) located at the Naval Weapons Station-Yorktown (WPNSTA) NPL facility. Based upon that review, EPA offers the following recommendations and comments concerning the status of the AOCs:

Preliminary EPA WPNSTA AOC Determination/Evaluation

<u>AOC #</u>	<u>Pre. Status</u>	<u>Comments/Supporting Documentation</u>
1	Pending	Table 1 for AOC 1 lists 3 surface soil samples analyzed for PCBs. The samples listed are AOC1SS01, AOC1SS02, and AOC1SS02. EPA believes that a transcription error occurred causing AOC1SS02 to be listed twice, instead of including AOC1SS03. EPA is requesting that the Navy verify this error in Table 1.
2	NFA	Based upon WPNSTA site inspection memorandum dated 5/8/95.
3	NFA	Please note that the use of RBC values in Table 2 is incorrect, and the COC screening table values must be utilized instead. The correct COC screening values are as follows:

<u>Inorganic</u>	<u>COC Residential Soil (mg/kg)</u>
Aluminum	7,800.
Antimony	3.1

<u>Inorganic</u>	<u>COC Residential Soil (mg/kg)</u>
Arsenic	2.3
Barium	550.0
Beryllium	0.15
Cadmium	3.90
Chromium	39.0
Cobalt	470.0
Copper	290.0
Lead	400.0
Manganese	39.0
Mercury	2.3
Nickel	160.0
Selenium	39.0
Silver	39.0
Thallium	0.63
Vanadium	55.0
Zinc	2,300.
Cyanide	39.0

The COCs determined for surface soil at AOC 3 are - **Aluminum** (11,000 mg/kg), **Arsenic** (3.8 mg/kg) and **Manganese** (44 mg/kg). Background soil values reported in *Summary of Background Constituents Concentrations and Characterization of the Biotic Community from the York River Basin (NWS-Yorktown)* indicate that the Aluminum, Arsenic and Manganese concentrations detected at AOC 3 may fall within naturally occurring inorganic concentration ranges found at the WPNSTA. It is apparent from review of the data for AOC 3 that the arsenic concentrations in surface soil remain within the same order of magnitude. Manganese concentrations in surface soil, however, did not remain within the same order of magnitude. The detected Manganese concentrations in surface soil at AOC 3 fall below the BTAG Soil Screening level of 330 mg/kg. EPA

recommends that AOC 3 proceed to a NFA category based upon the above.

4 SSA/Removal

Please note that the comments pertaining to Table 2 for AOC 3 also apply to AOC 4. COCs determined for surface soil at AOC 4 are **Antimony** (22 mg/kg), **Arsenic** (41 mg/kg), **Beryllium** (0.45 mg/kg), **Cadmium** (120 mg/kg), **Chromium** (1,600 mg/kg), **Lead** (3,100 mg/kg), **Manganese** (1,500 mg/kg), **Nickel** (180 mg/kg), and **Zinc** (7,700 mg/kg).

Please delineate sample locations (i.e. label as AOC4SS01, etc) on Attachment # 4 diagram. Please note that according to the Attachment # 4 diagram, the area of inorganic surface soil contamination is not limited to the grit disposal area (cadmium and chromium contamination).

Based upon the above, EPA recommends that the site boundaries of AOC 4 be expanded and that AOC 4 be investigated as a SSA under Section 9.3 D and Section 9.3A of the FFA. EPA concurs with the Navy's proposal to conduct a non-time critical removal action at AOC 4 to removal the existing grit pile, and EPA requests that a schedule for the removal of the AOC 4 grit pile be included in the final SMP for FY 1996-1997. A post-removal soil confirmation sampling work plan is also requested, and could be modified to cover the work required under the auspices of a SSA.

5 Pending

Waiting for finalization of SSA 15 report (10/6/95).

6 Pending

Waiting for finalization of SSA 15 report (10/6/95).

7 Pending

Waiting for finalization of SSA 15 report (10/6/95).

8 NFA

Based upon WPNSTA site inspection memorandum dated 5/22/95.

9 NFA

Based upon WPNSTA site inspection memorandum dated 4/19/94.

10 NFA

Based upon site reconnaissance of March, 1995.

11 NFA

Based upon WPNSTA site inspection memorandum dated 4/21/94.

12 NFA

Based upon WPNSTA letter of 6/6/95.

13 NFA

Based upon WPNSTA letter of 6/6/95.

14 NFA

Based upon WPNSTA letter of 6/6/95.

15 Pending

Please note that the use of RBC values in Table 3 is incorrect, and the COC screening table values must be

utilized instead. The correct COC screening values are as follows:

<u>Explosive</u>	COC	
	<u>Residential Soil ($\mu\text{g}/\text{kg}$)</u>	<u>RCRA HBN ($\mu\text{g}/\text{kg}$)</u>
HMX		400,000 (n)
RDX		5,800 (c)
1,3,5-TNB	390 (n)	
1,3-DNB	780 (n)	
Nitrobenzene	3,900 (n)	
Tetryl		80,000 (n)
2,4,6-TNT	3,900 (n)	
2,4-DNT	16,000 (n)	1,000 (c)
2,6-DNT	7,800 (n)	1,000 (c)
2-Nitrotoluene	78,000 (n)	
4-Nitrotoluene	78,000 (n)	
3-Nitrotoluene	78,000 (n)	

Please note that the units reported on Table 3 are listed as $\mu\text{g}/\text{kg}$. Is this correct for the analytical method utilized?

16 NFA

Based upon EPA's review letter of 4/11/95.

17 Pending

Please note that the comments pertaining to Tables 2 and 3 for AOCs 3 and 4 also apply to Table 2 for AOC 17. COCs determined for surface soil at AOC 17 are **Aluminum** (15,000 mg/kg), **Arsenic** (12 mg/kg), **Beryllium** (1.1 mg/kg), and **Manganese** (450 mg/kg). Inorganic surface soil COC concentrations appear to be elevated slightly above the "background" concentrations reported in the *Summary of Background Constituents Concentrations and Characterization of the Biotic Community from the York River Basin (NWS-Yorktown)*. Additionally, the detected arsenic concentration in surface soil at AOC 17 is above the BTAG Soil Screening level of 5 mg/kg. The detected manganese concentration in surface soil at AOC 17 is above the BTAG Soil Screening level of 330 mg/kg.

Please note that both the methodology utilized in calculating an ICR for AOC 17, and the reliance on sampling data that is not inclusive of volatiles, semi-volatiles, PCBS, and explosives, makes the comparison of such a derived ICR to target risk ranges inappropriate.

Furthermore, it is not the intent of the AOC screening process to conduct such risk calculations. It is, first and foremost, to determine whether or not COCs are present at the AOC, and if so, the site should proceed into the SSA process. Please note that the documents submitted by the Navy did not identify all of the COCs that should have given the existing data. EPA suggests that, in the future, more effort be placed on identifying all of the COCs present at a site, and less emphasis on discussion of background concentrations.

The COCs identified for surface water at AOC 17 include **Aluminum** (720 µg/l), **Iron** (10,000 µg/l), and **Manganese** (900 µg/l). Please note that the surface water COC concentrations for AOC 17 appear to be slightly elevated above the "background" concentrations reported in the *Summary of Background Constituents Concentrations and Characterization of the Biotic Community from the York River Basin (NWS-Yorktown)* Tables 5-14, 5-15, and 5-16.

Based upon the correlation between surface soil COCs and surface water COCs identified for AOC 17, EPA is recommending a consultation with the BTAG before a final decision is made for AOC 17.

18 NFA

Based upon WPNSTA letter of 6/6/95.

19 SSA

Sampling results forwarded to EPA in the WPNSTA's 6/6/95 letter indicate that some of the wastes handled at the Code 17 Storage Compound were classified as hazardous waste, i.e. failed TCLP. RCRA concerns outlined in the RCRA SWMU Investigation indicate that at least one drum was leaking during the VSI and that discolored pavement was present along the drainage path from the unit. Based upon the fact that at least some of the wastes managed at the AOC were RCRA hazardous wastes, and that a leaking drum(s) was noted in the RCRA VSI, EPA recommends that a limited sampling SSA be performed on the drainageway at AOC 19 under Sections 9.3D and 9.3A of the FFA.

20 Pending

Concerning Table 3, are the units correct given the analytical method utilized for explosives?

21 Partial SSA

Please note that the previous comments pertaining to Table 2 for AOC 3 and 4 also apply to AOC 21. The COCs identified in surface soil at AOC 21 are as follows:

Bldg 370

Aluminum (8,800 ppm)
Arsenic (2.6 ppm)

Bldg 708

Arsenic (160 ppm)
Beryllium (1.2 ppm)
Manganese (43 ppm)
Vanadium (210 ppm)

West Road

Arsenic (6.2 ppm)
Manganese (160 ppm)

Background soil values reported in *Summary of Background Constituents Concentrations and Characterization of the Biotic Community from the York River Basin (NWS-Yorktown)* indicate that, for the Coal Storage areas at Building 370 and along West Road, the detected surface soil concentrations of Aluminum, Arsenic, and Manganese may fall within naturally occurring inorganic concentration ranges found at the WPNSTA. The Manganese concentration detected in surface soil at the West Road Coal Storage Area falls below the BTAG Screening level of 330 ppm. EPA recommends that the Building 370 and West Road Coal Storage Area AOCs proceed to a NFA category based upon the above.

Background soil values reported in *Summary of Background Constituents Concentrations and Characterization of the Biotic Community from the York River Basin (NWS-Yorktown)* indicate that, for the Coal Storage area located at Building 708, the detected surface soil concentrations of Arsenic and Vanadium exceed reported background concentrations. Additionally, the detected arsenic concentration in surface soil at the Building 708 Coal Storage Area AOC is above the BTAG Soil Screening Level of 5 mg/kg. The detected Vanadium concentration in surface soil at the Building 708 Coal Storage Area AOC is above the BTAG Soil Screening Level of 58 mg/kg.

Please note that the "limited" risk screening performed for AOC 21 is inappropriate, given: (1) the reliance on sampling data that is not inclusive of volatiles, semi-volatiles, PCBS, and explosives; (2) the use of soil samples that represent 3 different site locations. Please note that it is not the intent of the AOC screening process to perform risk calculations. It is, first and foremost, to determine whether or not COCs are present at the AOC. Please note that the documents submitted by the Navy did not identify all of the COCs that should have been given the existing data for this AOC.

It is apparent from Attachment 8 (page 2) that the source of surface soil contamination (AOC21SS04) from the Building 708 Coal Pile Storage Area may not actually be the Coal Storage Area. In accordance with Sections 9.3D and 9.3A of the FFA, EPA recommends that a limited sampling SSA be performed around the Building 708 Coal Storage Area, concentrating in the general area of the AOC21SS04 sampling location to verify the extent of arsenic and vanadium contamination, as well as to perform a limited full TCL analysis of the surrounding soil.

This completes EPA's preliminary revised determination/"desk-top" evaluation of the WPNSTA AOCs. However, in accordance with the FFA for the WPNSTA, the Commonwealth must also be given the opportunity to fully review the information submitted by the Navy, and make its own recommendation concerning the evaluation of the WPNSTA AOCs. EPA, therefore, awaits the recommendations of the Virginia Department of Environmental Quality with regard to the evaluation of AOC documentation for the WPNSTA.

In light of the above, please note that the Navy submitted AOC documentation to the Parties for review on **June 27, 1995**. Pursuant to Section 9.3D of the Federal Facilities Agreement, in order to give the Parties adequate time (30 days) to review the AOC sampling data and information supplied by the Navy, the "desk-top" evaluation submittal deadline is currently set for **July 27, 1995**.

Please note that if a joint determination cannot be made by **July 27, 1995**, then those AOCs which are not agreed upon by the Parties to be closed out, or have not been granted determination deadline extensions jointly by the Parties, will become SSAs.

If you have any questions or concerns regarding the above, please feel free to contact me at (215) 597-1110,

Sincerely,



Robert Thomson, PE
VA/WV Superfund Federal Facilities (3HW71)

cc: Steve Mihalko (VDEQ, Richmond)
Jeff Harlow (WPNSTA, Code 09E)
Bernie Setterholm (WPNSTA, Code 09E)
Glenn Markwith (WPNSTA, Code 09E)