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09 JAN 1996

Virginia Institute of Marine Science
School of Marine Science
Attn: Mr. Morris H. Roberts, Jr.
Professor of Marine Science and Chair,
Department of Environmental Sciences
PO Box 1346
Gloucester Point, Virginia 23062-1346

Re: Response to Comments on the Draft Proposed Remedial
Action Plan (PRAP) for Site 12, Naval Weapons
Station Yorktown, Yorktown, Virginia

Dear Mr. Roberts:

The Navy is pleased to provide responses to comments for the
subject report.

If you have any questions concerning these responses to your
comments on the Draft PRAP for Site 12, please contact
Mr. Richard Stryker at (804) 322-4778.

Sincerely,

N. M. JOHNSON, P.E.
Head, Installation Restoration
Section (North)
Environmental Programs Branch
Environmental Quality Division
By direction of the Commander

Copy to:

WPNSTA Yorktown (Mr. Jeff Harlow, Code 09E)
EPA Region III (Mr. Robert Thomson, P.E.)
VDEQ (Mr. Stephen Mihalko)
Baker Environmental, Inc. (Mr. Rich Hoff)

Blind copy to:

~~18222~~

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**RESPONSE TO COMMENTS
SUBMITTED BY MR. MORRIS H. ROBERTS JR.
PROFESSOR OF MARINE SCIENCE AND CHAIR, DEPARTMENT OF
ENVIRONMENTAL SCIENCES
VIRGINIA INSTITUTE OF MARINE SCIENCE (VIMS)
LETTER DATED DECEMBER 18, 1995**

Round Two RI data indicate the presence of trichloroethene (TCE) in shallow groundwater at Site 12. Round One RI data did not indicate the extent of groundwater contamination at Site 12 because TCE appears to be coming from the industrial area located just southwest of the site proper and the industrial area was not covered by the Round One RI scope of work. The current extent of TCE contamination in groundwater was discovered during the installation of upgradient HydroPunchs as part of the Round Two RI and appears to be confined to the Cornwallis Cave aquifer. Groundwater samples obtained from the deeper Yorktown aquifer during the Round Two RI indicate that TCE contamination has not breached the underlying Yorktown confining unit.

Since the issuance of the PRAP, Site 12 data and data obtained at Site Screening Area (SSA) 15 (located to the south of Site 12) have been evaluated jointly and there appears to be other potential upgradient sources of TCE to shallow groundwater and Ballard Creek emanating from the industrial area. Additional information will be collected to define potential upgradient sources of groundwater contamination and the Site 12 boundaries will expand to address these issues.

As a result, Remedial Action Alternatives (RAAs) will be re-screened and new Remedial Goal Objectives (RGOs) developed for the Draft Final Feasibility Study. The RAA selected in the Draft Final PRAP for groundwater at expanded Site 12 will likely address the following issues:

- Potential Human health effects associated with the groundwater use (current and future)
- Multiple sources of groundwater contamination
- Potential vertical and horizontal migration of groundwater contamination
- Interaction of groundwater with surface water
- Resultant surface water (Ballard Creek and/or tributaries) contaminant concentrations and potential human health and ecological affects.

If institutional controls/long-term monitoring was selected as the RAA in the Draft Final PRAP, long-term monitoring would likely entail monitoring surface water concentration in Ballard Creek or its tributaries. As part of this RAA, a groundwater goal would have to be established at a down gradient point of compliance that would be protective of a particular receptor and groundwater would be monitored at or near this location. An exceedance of a groundwater goal or surface water goal would result in a review of the selected RAA and possibly the Record of Decision.