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NAWC WARMINSTER  
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# MEMORANDUM

**TO:** Mr. Orlando Monaco  
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**From:** W. David Fennimore, P.G., Earth Data Incorporated *WDF*  
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**Date:** October 9, 1996

**Subject:** NAWC Warminster - Comments on Site 6 Removal Action Report

We have reviewed the Site 6 Removal Evaluation Report and offer the following comments:

1.) NAWC Warminster was placed on the National Priorities List (NPL) in October 1989. Site 6 is one of the eight original disposal sites identified under the NPL listing. Reportedly, Site 6 received wastes over a 20 year period from 1960-1980. To date, seven years after the NPL listing, the Navy claims to have identified 13 disposal trenches in Area 6 while acknowledging that the total number of disposal trenches in Area 6 is still unknown.

Review of the Site 6 Removal Evaluation Report clearly confirms that Site 6 was operated as an unpermitted landfill which received a variety of hazardous wastes (including drummed wastes). In that there still may be additional undiscovered buried waste the full nature and extent of contamination attributable to Site 6 has not been determined. As a result, conclusions regarding the risks associated with Site 6 are based on an incomplete database and are therefore technically unsupportable.

2.) The Removal Evaluation Report attempts to minimize the results of the soil sampling which was performed despite the fact that TCE was detected in half of the surface soil samples and that the concentration of TCE detailed in three subsurface samples exceeded the PADEP's medium specific concentrations for soil to groundwater. Additionally, the concentration of selected metals including chromium (which exceeded PADEP, EPA and RBC for residential areas) were reported to be several orders of magnitude above background.

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3.) The fact that significant concentrations of VOC's were detected in samples collected from material available from crushed drums leads to the reasonable assumption that other drums of VOC-containing waste may still be buried in the other unidentified disposal areas.

4.) The nature of the construction debris may have compromised the results of the surface geophysical methods used to locate buried metal objects. The construction debris' thickness (6'-11'), irregular slopes, and inbedded rebar would interfere with the delineation of geophysical anomalies.

5.) In that the full nature and extent of contamination has not been defined, it is questionable whether the proposed limited Removal Action will accomplish much. Additional investigation to locate all source areas and a comprehensive sampling of suspected source areas are necessary.

The community and EPA were lead to believe that the Navy's intention was to remove all waste materials deposited by the Navy in all of the pits and trenches. Given the nature of the wastes which have been encountered, the removal action should remove the entire contents of all of the disposal trenches rather than focusing on the few isolated hot spots which were identified.

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