



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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COMMISSIONER

November 1, 2000

Mr. Orlando J. Monaco  
Code 1821 LM  
Department of the Navy, Northern Division  
Naval Facilities Engineering Command  
10 Industrial Highway, Mail Stop 82  
Lester, PA 19113-2090

Re: Site 7 Work Plan for Groundwater & Soil Investigation  
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

The Maine Department of Environmental Protection (MEDEP or Department) has reviewed the Draft Letter Work Plan for Ground-Water and Soil Investigation at Site 7, dated October 20, 2000, prepared by EA Engineering, Science and Technology. Based on that review the Department has the following comments and issues.

**General Comment:**

1. The MEDEP is pleased that the Navy is proceeding with further investigation and remediation of Site 7. The cadmium contamination at Site 7 is a perplexing and challenging problem. The Navy is correct to assume that an anthropogenic source occurs in the immediate area, as opposed to a natural soil condition. The former existence of an acid/caustic pit at the site gives the Department reason to believe that the cadmium exceedences in several wells are a result (direct or indirect) of chemical leaching or imbalance, in light of low pH readings.

MEDEP feels strongly that the best way to efficiently understand the local condition is a combination of the Navy's Phase 1 and 2, as detailed below. The Phase 1 activity by itself will not provide MEDEP the necessary data to agree with an excavation plan. Reconsideration of how the phasing is structured is recommended.

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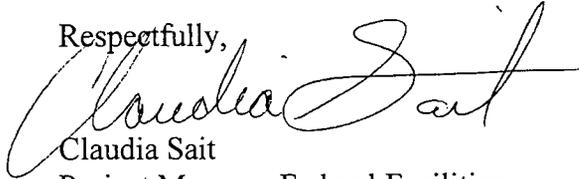
**Specific Comments:**

2. MEDEP is concerned that the groundwater sample collected soon after 90 percent recovery may be groundwater that moved through a small soil source area during the test, and cadmium may not have time to achieve full partitioning into the fresh groundwater. Therefore it may be necessary for the Navy to resample any wells showing cadmium above the MEG.
3. The Department recommends that the temporary sampling points be installed prior to the pumping test at the distances and locations presented in this work plan. Phase 1 and step 1 of Phase 2 should also be combined so that the new sampling points can be monitored during the pumping test for drawdown and water quality identical to that proposed for the pumping well. MEDEP concerns in this regards are that:
  - a. The pumping rate could be so low that drawdown will not reach out to the nearest monitoring wells (75 and 100 feet) in 48 hours, or else it will be difficult to separate out from background trends. If this happens, transmissivity may be very difficult to calculate, and thus, the rate of groundwater migration under the natural non-pumping gradient will be undeterminable. Half of the objectives of the pumping test could be in jeopardy.
  - b. The distribution and changes of cadmium concentration in groundwater cannot be adequately defined by sampling only the pumped well. What effects will depressurizing the aquifer at the well and probably raising the temperature of discharged water by extended pumping at a low rate have on cadmium concentration? At a minimum, the sampling point at 10 feet distance should be installed and monitored during the test.
4. The Department also recommends installing one upgradient sampling point, perhaps as close as 10 feet.
5. Although we did not find it stated in the Work Plan, it is assumed that the mentioned field parameters to be measured at the pumped well will also be measured at each sampling point when those samples are collected. The results for pH in groundwater in the immediate area (including upgradient) might be instructive. Please clarify.

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Thank you for the opportunity to review this report. If you have any questions or comments please call me at (207) 287-7713.

Respectfully,

A handwritten signature in cursive script, appearing to read "Claudia Sait". The signature is written in black ink and is positioned above the printed name.

Claudia Sait  
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