



STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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NAS BRUNSWICK
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March 13, 2002

Mr. Orlando Monaco
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Engineering Field Activity-Northeast
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EA ENGINEERING,
SCIENCE & TECHNOLOGY

MAR 18 2002

RECEIVED

Re: Site 7, Groundwater Sampling Results
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

The Maine Department of Environmental Protection (MEDEP) has reviewed the report entitled Site 7-Ground-Water Sampling Results, dated 4 March 2002, prepared by EA Engineering, Science and Technology. Based on that review the Department has the following comments and issues.

General Comments:

1. The Department notes with interest and curiosity that the cadmium concentration at monitoring well MW-NASB-099 has apparently not changed since the end of the pumping test in August 2001. However, as before, the other wells did not show cadmium contamination.
2. MEDEP concurs with EA recommendation that well MW-NASB-099 be resampled during the spring of 2002. MEDEP also recommends that a full set of groundwater levels be obtained from the site monitoring wells.

Specific Comments:

3. Table 2, Summary of Analytical results from Ground-Water Samples:

The concentration of cadmium for MW-NASB-091 is given as 0.0007 mg/L, and sample quantification limits (SQL) are shown as 0.0005U mg/L. Are these significant figures correct? Table 2 of the "Summary Report of the Ground-Water and Soil Investigation at Site 7" (October 2001) gave the SQL as 0.005U mg/L. Also, in Section 1 (Metals Sample Data) of the March 2002 report the ESS Laboratory reported the method reporting limit (MRL) as 0.0005 mg/L for all analyses, except for Sample ID BN-S7-MW099, which is given as 0.005 mg/L. Finally, on the ESS report page for BN-S7-MW091, a value of 0.0007 mg/L is given in bold, suggesting that an extra zero exists as the MCL for cadmium is 0.005 mg/L. Please correct, or if appropriate, clarify.

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4. Figure 2 (Site Plan) and Table 1 (Monitoring Well Gauging Summary):

Using the figure and table cited above, water-table contours were developed for the Site 7 area by MEDEP. Assuming that all water-level measurements correctly represent levels in the monitoring wells, the resulting contour pattern is noticeably different from previous contour maps for this site, including May 21, 2001 (after the 51 hour pumping test, but before test pit excavation and backfilling). The contours drawn by MEDEP suggest a rather narrow, "tongue" of slightly higher groundwater encompassing the test pits 1, 3, and 4, and extending southeast to MW-NASB-099. A shallow clay lens was discovered at test pits 1 and 4, which the Navy suggested could be causing "perched surface drainage conditions".

Our contour map for the November 2001 might be explained if the shallow soils in the elevated water-table tongue are less water conductive (permeable), however, it is difficult to say that the 0.2 foot difference in water-level elevations in this locality is actually perching of groundwater. The on-going drought conditions are likely amplifying small variations in local geology. However, the change may reflect to some degree altered subsurface conditions from site work done in 2001.

In future reports for Site 7, the MEDEP requests a water-table contour map be included when new water-level measurements have been acquired.

5. Attachment A, Field Record of Well Gauging, Purging and Sampling Forms:

The recorded values of conductivity and dissolved oxygen during purging of the monitoring wells show a large diversity in range for shallow soils within a relatively small area. For example, two wells have water conductivities of 32 and 34 $\mu\text{mhos/cm}$ (very low), while MW-NASB-099 has the highest conductivity of 196 $\mu\text{mhos/cm}$. Study of field parameter values provide clues as to groundwater quality differences at Site 7 that may aid in understanding the distribution of cadmium.

Rather than have the reader shift through all the data to glean this information MEDEP requests that a report table, similar to those generated for monitoring event reports for other BNAS sites, which includes the field parameter values at the end of purging.

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

Respectfully,



Claudia Sait
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