STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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October 3, 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: Sites 1, 3 & Eastern Plume, Monitoring Event 16,
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco

The Maine Department of Environmental Protection (MEDEP or Department) has reviewed the report entitled Monitoring Event 16-April 2000, Sites 1 & 3 and the Eastern Plume, dated June 2000, prepared by EA Engineering, Science and Technology. Based on that review the Department has the following comments and issues.

Each of our comments is followed with a code that indicates whether a response is required (RR), no response is required (NR), editorial correction needed (ED); or meeting discussion requested (MTG). No response is required for editorial corrections unless the Navy disagrees with the correction.

**General Comments**:

1. Notable results are given for field monitoring parameters for all media, as needed, but not for laboratory analytical results. Our review found some interesting and noteworthy chemical concentrations in groundwater and seep samples. As we recall, EPA and MEDEP agreed to shorten the monitoring event reports by requiring that discussions of chemical findings only need to be incorporated into the Annual Reports for each site at BNAS. However, the Navy needs to include noteworthy analytical results in the monitoring reports also. (ED)

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**Specific comments**:

2. Field Activities, Section 1.2.1, p. 2, last sentence:

   It is noted that 2 inches of precipitation was received during the week before and through the water level gauging period.

   In the future, please qualify during winter months if the precipitation was rain or snow, or mixed; and if the ground surface was frozen. (ED)

3. Results, Section 1.2.2, p. 3, 1st sentence:

   The Department notes that the total Eastern Plume extraction rate at the end of April is now down to 56 gpm, as summed in Table 5. The continual decrease in extraction rate is not good for plume capture, as even at the earlier year higher rates, the likelihood of complete capture was doubtful. MEDEP encourages the Navy to try to maintain the highest pumping rate possible, recognizing that new extraction wells are to be discussed in technical meetings this fall/winter. (MTG)

4. Results, Section 1.2.2, p. 3, last para:

   MEDEP is pleased to see that repairs on three important wells were completed prior to this monitoring event. (NR)

5. Water Quality Indicator parameter Measurements, Section 1.3.2, p. 5, 2nd para:

   "Monitoring well MW-217B had no water quality parameters which did not stabilize to within 10 percent on 3 successive readings."

   This sentence construction makes for difficult reading. In the future, please phrase in the positive, rather than the negative. (ED)

6. Sites 1 and 3, Section 1.3.3.1, last bullet:

   "These data are not consistent with previous data."

   In MEDEP's view, this adds to the existing evidence that points towards a continuing escape of landfill leachate southward towards Mere Brook. The Department will have more to say on this situation when reviewing the annual report, and at upcoming technical meetings. (MTG)

7. Interpreted Shallow Ground-Water Potentiometric Surface Contour Map, Figure 5:

   As stated in MEDEP's comments several times in the past and at meetings, the Department does not agree with the Navy's drawing of contours (24, 27, and 30) between Sites 1 and 3, and Mere Brook. MEDEP believes that shallow groundwater is flowing toward and discharging into Mere Brook or its wetlands, not parallel to Mere Brook.

   To resolve this issue, which has much importance to plume migration, the Department recommends that two shallow piezometers be installed in this area. (RR)

8. Water Quality Indicator parameter Measurement, Section 1.4.2, p. 8, bullets:

   Table 9 gives the water temperature at SEEP-09 as 15.8° C. This is highly suspect. As Monitoring Event 16 was apparently the initial sampling at this location there are no historic data to compare the above temperature to. However, the next highest measured seep temperature in April 2000 was 11.9° C at SEEP-05. SEEP-05 is significantly closer to the landfill than SEEP-09, and therefore, it is possible that its temperature might accurately reflect warming from landfill decay processes. However, unless there is something going on in the vicinity of SEEP-09, a temperature of 15.8° C is not reasonable.

   Another bullet should be added to this section to point out the anomalous SEEP-09 temperature, and provide an explanation, if one is known. (ED)

9. Analytical Data Quality Review, Section 1.7, p. 10, last sentence:

   This sentence directs the reader to notable findings presented Table 12 of the report.

   Table 12 lists many April 2000 laboratory analysis for which certain results are qualified as false-positives. Most instances involve acetone and methylene chloride. However, detections of benzene in sampled groundwater at 6 wells in the Eastern Plume are also called false-positive detections (in other words, the compound does not really exist in these samples). These wells are MW-105A, MW-205, MW-229A, MW-311, MW-331, and MW-NASB-212. Most of the disqualifications are diffusion samples, which involve sealed bags of clean water lowered into wells opposite their screens. The highest benzene detection was 8 µg/L, and 3 others were at least 4 µg/L. Appendix page C-14 gives a field blank value of 4 µg/L for benzene.

   The Department views these disqualifications as suspect. Benzene and toluene have been historically measured at these low concentrations in many Eastern Plume wells in the past. The fire-training pit (Site 11) is a recognized historic source of BTEX compounds to the Eastern Plume. Except for MW-311, the highest laboratory concentrations were for the top of the well screen diffusion samplers. At MW-311,

benzene concentrations in low-flow samples have been documented as declining from about 10 µg/L to about 1 µg/L. Direct-push groundwater sampling in October 1998 detected low concentrations of benzene inthe MW-311 area.

During field transport of groundwater samples from the well to the sample staging area, why would the above-named samples become contaminated with benzene and other wells sample not be contaminated? We believe that the benzene is present in-situ, and at locations where it logically should be anticipated as present. Please provide a full explanation for the Navy's discrediting of benzene. In of itself, the presence of benzene is relatively unimportant. The DEP's concern is a real or perceived tendency to assign laboratory detections as false-positives without a full discussion, considering historical information. (RR)

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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