STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ANGUS S KING, JR.
GOVERNOR

MARTHA KIRKPATRICK
COMMISSIONER

July 25, 2002

Mr. Orlando Monaco
Department of Navy
Engineering Field Activity-Northeast
Code 1823/OM
10 Industrial Highway, Mailstop 82
Lester, PA 19113-2090

Re: Site 9, Monitoring Event 19
Naval Air Station, Brunswick, Maine

Dear Mr. Monaco:

The Maine Department of Environmental Protection (MEDEP or Department) has reviewed the report entitled Monitoring Event 19-October/November 2001, Site 9, dated May 2002, prepared by EA Engineering, Science and Technology. Based on that review the Department has the following comments and issues.

General Comments:

1. MEDEP notes that the concentrations of vinyl chloride and total 1,2-DCE continue to rise to new site highs. Vinyl chloride was detected at only one other well (MW-NASB-076 at 2 µg/L). The State continues to be uneasy about the downgradient fate of vinyl chloride that exceeds the MEG by over two orders of magnitude when only one downgradient well is showing any vinyl chloride. It is our understanding that the Navy is contemplating installing additional monitoring wells in the near future. (RR)

Specific Comments:

2. Section 1.1, Introduction, p. 1, 2nd para:

   The first sentence should also say that the remedial action being implemented at Site 9 is "natural attenuation with monitoring" (not "monitored natural attenuation" as stated in Section 1.7 on page 6.) (ED)

3. Section 1.3.1, Sampling Activities, p. 3, first para:

   "Wells were purged at the lowest flow rate obtainable with the submersible pump (0.1 L/minute)."

AUGUSTA
17 STATE HOUSE STATION
AUGUSTA, MAINE 04333-0017
(207) 287-7688
RAY BLDG., HOSPITAL ST.

BANGOR
106 HOGAN ROAD
BANGOR, MAINE 04401
(207) 941-4570 FAX: (207) 941-4584

PORTLAND
312 CANCO ROAD
PORTLAND, MAINE 04103
(207) 822-6300 FAX: (207) 822-6303

PRESQUE ISLE
1235 CENTRAL DRIVE, SKYWAY PARK
PRESQUE ISLE, MAINE 04769-2094
(207) 764-0477 FAX: (207) 764-1507

web site: www.state.me.us/dep

The field monitoring and sampling forms in Appendix B documents that rates this low were achieved, as had been done occasionally during past sampling events. Why was it decided to lower the purging rate from the more common historical rate of 0.2 L/minute? Were not drawdowns already very small? MEDEP recommends that consistency in rate at each well be maintained through time. The technical review committee should discuss this at the next technical meeting. (MTG)

4. Section 1.3.1, Sampling Activities, p. 3:

(a) In Section 1.4.1, bullets are presented that provide "notable observations of water quality indicator parameter measurements for surface water and the leachate seep sample". Notable observations are not provided for groundwater laboratory analytical parameters; however, the first paragraph on page 3 does describe a few field parameter comparisons. The bulleted format has been quite useful in past reports, and the Navy is encouraged to return to the bullet format for all notable results presented. (ED)

(b) Bottom of page 3: "Conductivity results were similar between the diffusion sampler data and the low-flow data."

MEDEP does not agree. For 5 of 9 wells sampled, conductivities differed by over 100 μmhos/cm (refer to Table 4). In one case (MW-NASB-071) the diffusion value was 380 μmhos/cm greater than the low-flow sample, or +282%. At the other extreme (MW-NASB-069) the diffusion value was 138 μmhos/cm less than the low-flow value, or -59%. The low-flow values are more tightly grouped, and seem more reasonable. The poor replication between the two methods of collection is discouraging. The Navy needs to propose improvements to obtain better agreement in the future. The above report statement should be retracted. (RR)

Also it would be advantageous for the technical review committee to discuss whether is this a significant obstacle to switching to diffusion samplers at this site. (MTG)

5. Section 1.8, Analytical Data Quality Review, 6th bullet:

"Total-1,2-dichloroethene and trichloroethene concentrations in sample SED-010 should be considered as estimated values due to the exceedances of field precision criteria."

Appendix C.7 (duplicate field samples, p. C-17) contains a similar statement, and nothing more is said. The reader is left wondering if the values given in Table A-6 are lower or higher than true values. Because SED-010 is the only active sediment station, and has had hits of contaminants in the past, it is very important to collect and analyze concentrations without encumbering the data with nebulous qualifiers. Please provide more clarity to the above statement. (RR)

6. Figure 3, Interpreted Potentiometric Surface Elevations:

The contouring satisfactorily represents the general movement of groundwater from the upgradient NEX area to within 100 feet or so of the impoundment ponds. The 41- and 43-foot contours close to the water bodies do not appear realistic. One problem is that these contours surely bend parallel to the shorelines of the upper pond, rather than approach the pond perpendicularly. Secondly, the north side of the 41-foot contour is too close to the shoreline. It is highly unlikely that the water table drops 5 feet to the pond over a 10-foot horizontal span. While figure note 4 is probably justified, a better portrayal of the elevation

data can be shown. The contour map in the Event 18 report looks much more realistic near the ponds. More attention needs to be paid to groundwater-surface-water relationships when drawing these contours in the future. Please correct this for the Annual Report. (ED)

7. Table A-1, Summary of Ground-Water Sample VOC Results:

Under MW-NASB-076, the total VOC concentrations are shown, and are the same concentration as vinyl chloride concentrations. Total VOC concentrations should not be shown for this well, as only vinyl chloride was run in the laboratory. (ED)

8. Table A-3, Summary of Ground-Water Sample TAL Elements Results:

(a) The duplicate sample for MW-NASB-069 produced much lower concentrations for aluminum, chromium, and iron than did the primary sample. Table 4 reports a turbidity of 7 NTUs for this well, and thus, turbidity cannot be the cause of the discrepancies. An explanation is needed. (RR)

(b) Per the data tables given in Appendix A, the following noteworthy findings should be reported in the annual report:

- At MW-NASB-069 the primary diffusion samples indicate contaminate stratification, with the highest concentrations of both vinyl chloride and total 1,2-dichloroethene found at the top of the screen interval - opposite to the Event 18 relationship. Interestingly, the low-flow sample concentrations, taken mid-screen, agree more closely with the deep diffusion sample.

- For the fifth sequential sampling event, the concentration of vinyl chloride in MW-NASB-069 reached an all-time high (78 µg/L) at Site 9. A new record high was also set this event for total 1,2-dichloroethene (60 µg/L) in MW-NASB-069.

- At MW-NASB-227, trace to low levels of PCE and TCE in the low-flow sample were not replicated by diffusion samples at any depth.

(ED)

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
Project Manager-Federal Facilities
Bureau of Remediation & Waste Management

Cf: File
Larry Dearborn-DEP
Anthony Williams-BNAS
Michael Barry-EPA
Carolyn Lepage-Lepage Environmental
Al Easterday-EA
Ed Benedikt