



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
NEW ENGLAND - REGION I  
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BOSTON, MASSACHUSETTS 02114-2023

December 23, 2003

Lonnie Monaco (monacolj@efane.northdiv.navy.mil)  
Engineering Field Activity Northeast, Naval Facilities Engineering Command  
Code 1821/LM  
10 Industrial Highway, Mailstop 82  
Lester, PA 19113-2090

**Re: *Monitoring Event 22 Report for Site 9, Ash Landfill/Dump Area, dated November 2003 for the Naval Air Station Brunswick, Maine***

Dear Mr. Monaco:

Pursuant to § 6 of the Naval Air Station Brunswick, Maine Federal Facility Agreement dated October 19, 1990, as amended (FFA), the Environmental Protection Agency has reviewed the subject documents and comments are below:

**General Comments:**

1. Event 22 sampling and analysis is complete, carefully executed, and documented fully. Results are generally consistent with those from recent past events.
2. It is noted in Table 4 that the Eh data reported from the downhole measurement taken in conjunction with the collection of the diffusion samplers seem somewhat suspect. A direct comparison to independent data is possible only for MW-NASB-069, for which the field parameters were collected both downhole prior to purging and with a flow-through cell during the low-flow purge. For this particular well, the results are not dramatically different (98 mV for the low-flow sample; 43 mV from the downhole measurement). However, the range of ORP reported from the three wells sampled by the low-flow method is -167 mV to +189 mV, while the range among the ten wells sampled downhole is only 20 to 77 mV. The flow-through results appear to be plausible; as they are corroborated by, for example, results for dissolved iron (see, e.g., Table B-3), which show a strong inverse correlation with ORP. It seems unlikely that the larger number of wells sampled only downhole would encounter a much narrower range of redox conditions. Unfortunately, a failure of the DO meter in the downhole instrument means that DO data are not available to corroborate the ORP data.

**Specific Comments:**

3. **p. 2, Sec. 1.2.2:** The water-level contours shown in Figure 3 do not respect the datum at MW-NASB-251. Is this datum considered suspect? If so, what is the rationale behind this conclusion? If the data for

all wells in this vicinity are considered valid, what are the implications for the flow field (e.g., flow to the west?)?

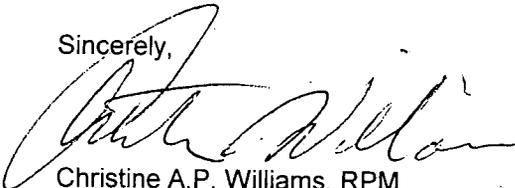
**4. p. 3, Sec. 1.3.1:** The text notes here (and again on p.8, sec. 2.1) that Eh (ORP) data are not required by the LTMP, but that these data are being recorded for "informational purposes." Please note that these data are essential for interpretation of the chemical data, both for organic compounds and inorganic elements, and the program should continue to make every effort to collect ORP data when sampling.

**5. p. 9, Sec. 2.2.2.1:** The report offers discussion of trends in 1,2-DCE and VC, and includes a figure (Figure 4) showing linear regressions on the ratio of VC to total 1,2-DCE. This figure provides a useful visualization. However, it would be more meaningful if it were to show the individual points on which the regressions are based, as well as the fits. This would allow a visual assessment of the scatter of the data about the linear trends, and provide a feel for how meaningful these apparent trends are. The text states, "Higher vinyl chloride/total 1,2-DCE ratios indicate increasing dechlorination," seeming to imply that this is the case for the Site 9 data. However, the plot alone is not entirely convincing. Subsequent discussion in this section notes that 1,2-DCE and VC concentrations are highly correlated, which is apparent in Figure 5. If this is the case, the overall ratio of VC to total 1,2-DCE would appear to be relatively constant. In that event, one might conclude that the degradation rates for DCE and VC are similar, such that VC is neither accumulating nor disappearing from the system relative to DCE.

**6. p. 9, Sec. 2.2.2.1:** Figures in Appendix C for MW-NASB-069 show that the low-flow sampling in Event 22 detected VC at ~50 micrograms per liter, while the deep diffusion sampler detected only ~5 micrograms per liter, following a sharp decline from a high of ~70 micrograms per liter two rounds previously. The low-flow results do not show a similar decline. The report later notes this discrepancy (p. 10, third bullet), and recommends (sec. 3) that mid-depth and shallow diffusion samplers be installed in this well in order to seek evidence for a vertical shift in the VC contamination. This is well motivated, and should be carried out.

If you have any questions with regard to this letter, please contact me at (617) 918-1384.

Sincerely,



Christine A.P. Williams, RPM  
Federal Facilities Superfund Section

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