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COMMONWEALTH of VIRGINIA
DEPARTMENT OF ENVIRONMENTAL QUALITY

Peter W. Schmidt
Director

P. O. Box 10009
Richmond, Virginia 23240-0009
(804) 762-4000

December 27, 1994

Department of the Navy
Atlantic Division
Naval Facilities Engineering Command
1510 Gilbert Street
Attn: Code 1822, Mr. David Forsythe
Norfolk, VA 23511-2699

RE: **Final Baseline Risk Assessment
Camp Allen Landfill
Norfolk Naval Base**

Dear Mr. Forsythe:

Attached for your review are my comments on the "Final Baseline Risk Assessment, Camp Allen Landfill, Norfolk Naval Base, Norfolk, Virginia" dated November, 1994.

If you have any questions about the comments, please contact me at (804)-762-4186.

Sincerely,

A handwritten signature in cursive script, appearing to read "P. McMurray".

Patricia McMurray
Toxicologist, Office of
Federal Facilities
Restoration and Superfund

Attachments

cc: Rob Thomson, EPA Region III
Sharon Waligora, Norfolk Naval Base
Frank Daniel, Tidewater Regional Office
Erica Dameron

Comments
Norfolk Naval Base
Camp Allen Landfill
Final Baseline Risk Assessment

1. Table A-3: It is not clear why Aroclor-1260 has been retained as a COPC (contaminant of potential concern) since it was detected below the screening level in this area. In addition, page 2-9 Section 2.2.1.2 indicates that it has not been retained.
2. Page 2-4, Section 2.1 indicates that screening levels for non-carcinogens would be obtained by dividing the RBC by a factor of 10. It appears that this has been done inconsistently. For example, on Table A-2, it appears that the RBCs for naphthalene, phenanthrene, fluoranthene, pyrene, butylbenzylphthalate, barium, cobalt, nickel, and zinc have not been divided by 10. Table A-3 appears to be effected as well. All tables should be checked and corrected as necessary. If additional contaminants need to be retained after the tables are corrected they should be added.
3. Page 2-21, Section 2.2.5 states that Virginia Water Quality Standards have not been presented since they are equal to or less conservative than federal criteria. It should be noted that the Virginia standards are not always equal to or less conservative than federal criteria. (See copper and lead for example.)
4. Table 2-2: The proposed MCL for PCBs (polychlorinated biphenyls) should also be included on this table.
5. Table 2-5: A complete citing for the MacDonald, 1992 reference on this table could not be located in the reference section. This should be added to the list of references.
6. Page 3-3, Section 3.3.1 states that volatilization is not as important for evaluating groundwater as it is for surface soil and surface water. It seems that volatilization would be likely when groundwater is used for domestic purposes. In particular, this statement appears to be inconsistent with the evaluation of shower air under a future residential scenario.
7. Page 3-13, Section 3.4.1: It should be noted that the method of determining exposure point concentrations for groundwater in effect eliminates some of the contaminants that had previously been selected as contaminants of potential concern. While it appears that the most highly contaminated wells have been selected for evaluation, there are additional wells that could also contribute significant risks. This issue should be discussed in the risk assessment.

Mr. Forsythe

Camp Allen Landfill Baseline Risk Assessment Comments

Page 2

8. Tables 3-6 through 3-12: Region IV Interim Guidance has been cited for the absorbance factor (ABS) for organics and inorganics for contaminants not listed in Dermal Exposure Assessment: Principles and Applications. It should be noted that Region III has not approved the Region IV default values for ABS. For other contaminants appropriate literature values should be used and the reference included. Suggested sources include:

Wester, R. C., Maibach, H. I., et al. (1993) *In Vivo and in Vitro Percutaneous Absorption and Skin Decontamination of Arsenic from Water and Soil. Fundamental and Applied Toxicology* 20, 336-340.

If appropriate literature values cannot be located, ranges for metals, volatile organic compounds and semivolatile organic compounds may be found in:

Ryan, E. A., Hawkins, E. T., et al. (1987) Assessing Risk from Dermal Exposure at Hazardous Waste Sites in Bennet G. and J. Bennet editors Superfund '87: Proceedings of the 8th National Conference. November 16-18, 1987, Washington, D. C. Hazardous Materials Control Research Institute.

9. Table 3-6: It is not clear why exposure to shallow groundwater has not been included for a 6-15 year old child. It would seem that some of the uses of the non-potable aquifer (watering lawns, washing cars) would more likely be performed by an older child.
10. Page 3-23 and Table 3-7: It is not clear why a commercial/industrial ingestion rate was used for Brig prisoners when they would presumably be in the Brig area at all times. A residential rate of 100 mg/day may be more appropriate.
11. Table 3-11: It appears that the exposure time (ET) for dermal exposure to groundwater has inadvertently been listed under exposure frequency (EF).
12. Appendix C, Lead Page 4: The EPA carcinogen classification for lead has been stated as B2-possible human carcinogen. It should be noted that a B2 classification indicates a probable human carcinogen.
13. Tables A-6, A-7, A-8, A-9: It should be noted that the values listed as Virginia MCLs for zinc and cadmium are actually groundwater standards.