



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION I

J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

November 20, 1992

Deborah Stockdale, RPM
U.S. Department of the Navy
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

RE: Review of Draft Plan of Action - Investigation of Boron
in Groundwater, October 1992

Dear Ms Stockdale:

The purpose of this letter is to transmit EPA's comments on the efforts to characterize the risk posed by boron within the ground water at or near the US Navy Sub Base - New London.

EPA is particularly concerned with the lack of site specific information regarding the historical use, maintenance and disposal of boron from operations at the base. By not including the historical information within this proposed workplan, the sampling efforts to characterize the source(s) of boron within the environment appear to be out of focus and unrelated to the base.

If the US Navy is presently experiencing difficulties in the analysis of the soil and groundwater samples, then alternatives to the current analytical method should be found. Difficulties in sample analysis do not reduce the US Navy's responsibility to clearly define, if appropriate, the source and extent of boron in the environment. More specifically, if the US Navy is experiencing chemical interferences from sodium during the analysis of boron concentrations, then the analytical instrumentation could either be corrected for the sodium concentrations through a calibration solution, the spectral wavelength used during the analysis could be shifted, or some other modification could be taken to eliminate or significantly reduce the interferences from sodium.

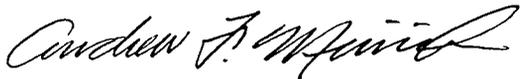
Since the US Navy has claimed that the previous sampling efforts have been inconclusive due to the interferences from sodium, EPA requests that additional sampling of groundwater, soils and residential wells be performed. EPA will also be collecting split samples in order to verify the analytical results. The US Navy should provide EPA with a two week notification prior to any planned sampling event.



Attached you will find EPA's comments on the draft workplan. The US Navy should review these comments and provide EPA with a Response to Comments. Upon successful resolution of any outstanding issues with regard to work to be performed, a draft final workplan should be submitted which incorporates previously generated data and incorporates the proposed investigations.

If you have any questions regarding these comments, you should feel free to call me at (617) 573-9614.

Sincerely,



Andrew F. Miniuks, Geologist
Federal Facilities Superfund Section

Attachments

cc. Carol Keating, EPA
William Mansfield, NSBNL
Dale Weiss, TRC
Paul Jameson, CTDEP

US EPA Comments on the Draft Plan of Action -
Investigation of Boron in Groundwater, October 1992

1. Provide a map of sufficient scale (e.g., 1 inch = 300 feet) which clearly indicates the areas of known or suspected boron storage or disposal. This map should clearly indicate the locations of all existing and proposed monitoring wells and sampling points.
2. Revise the narrative portion of the workplan to include the rationale for the locations of the proposed monitoring wells and sampling points. The revised narrative should describe how the proposed sampling points relate to the known or suspected areas of boron storage and/or disposal, describe how the screened intervals of the monitoring wells will be able to adequately characterize the groundwater quality, and describe how the proposed sampling points consider groundwater flow in the immediate area.
3. Provide site-specific information describing the volumes of waste boron generated at the US Navy Sub Base - New London on an annual basis, the chemical analyses (including isotopic analyses) of the waste and virgin boron. This description should also include the historical and current management of virgin and waste boron at the US Navy Sub Base - New London. For the purposes of this letter, "management" shall mean storage, treatment, disposal and handling.
4. The US Navy has indicated to the EPA that the analytical results from the previous sampling efforts to characterize boron concentrations in groundwater have been compromised due to the presence of sodium. Therefore, the US Navy should either correct the analytical instrumentation for the sodium concentrations through a calibration solution, shift the spectral wavelength used during the analysis, or propose alternative methods to eliminate or significantly reduce the interferences from sodium.
5. EPA believes that additional sampling of groundwater, soils and residential wells is warranted to determine the potential extent and concentration of boron in the environment. EPA plans to collect split samples in order to verify the analytical results. Therefore, please provide EPA with a two week notification prior to the next sampling event.
6. Revise the maps and figures which summarize the analytical results of previous investigations to include contouring of the chemical concentrations and arrows indicating the direction of groundwater flow. The groundwater elevation data should be gathered concurrently with the samples taken to determine the presence and concentration of boron in the groundwater.

7. If the US Navy is proposing to reference samples from the various media in order to set background concentrations of boron at the Sub Base, then the US Navy must demonstrate that the background location(s) will provide samples unaffected by the base operations.

8. Does the US Navy have analytical information describing the pre-operational conditions of the US Navy Sub Base - New London prior to the initiation of the nuclear program? If yes, then list the sampled media and the analytical parameters. This information should be provided to EPA for review.