



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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March 9, 2000

Mark Evans, Remedial Project Manager
U.S. Department of the Navy
Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

Re: Work Plan and Sampling and Analysis Plan for the Basewide Groundwater Operable Unit Remedial Investigation

Dear Mr. Evans:

EPA reviewed the *Work Plan and Sampling and Analysis Plan for Basewide Groundwater Operable Unit Remedial Investigation, Naval Submarine Base, New London, Groton, Connecticut*, dated February 2000 (revision of the draft dated June 1999). The Work Plan and Sampling and Analysis Plan (WP/SAP) details a program of well installation, soil boring, sampling, and analysis, designed to characterize the nature and extent of groundwater and soil contamination, establish background conditions, assess human health risks, and acquire data to support fate and transport assessments and future evaluation of remedial alternatives. Detailed comments are provided in Attachment A.

EPA is pleased that the revised Work Plan and Sampling and Analysis Plan is faithful to the agreements reached in the course of the Comment and Response process for the previous draft. Most major requests made in the original review are incorporated in the newer version. Principal issues raised originally include the following:

- ▶ Expansion of the natural attenuation (NA) parameter analyte list: the list has been expanded according to the original request, and now includes reduced manganese, ethene, and hydrogen (*see* p. 1-30, §1.4.1.2). These additions increase the value of the program, and will provide additional data that will improve the quality of a NA evaluation, should one be conducted in the future.
- ▶ Mobility assessment for inorganics: The proposed work now includes explicitly an evaluation of possible impacts of site activities on redox conditions in groundwater, and consequent impact on the mobility of inorganic contaminants (*see* p. 1-35, §1.4.1.3.2). Again, this follows recommendations made by EPA in previous reviews.

- ▶ Deep (bedrock) monitoring coverage near the OBDA pond dike: The suggested well has been added to the proposed work (see Fig. 2-2, original draft; well 3MW13D). This will place important constraints on groundwater that may be discharging upward from the deeper to the shallower portions of the system, carrying potential contaminants originating upgradient.
- ▶ Ammonium perchlorate: Analysis for ammonium perchlorate has been included in the proposed work for the Torpedo Shops area (Site 7), as requested (see p. 2-5, §2.3.1.3) (see also EPA method 314.0 dated November 1999).

EPA recommends that the RI allows for collection of data necessary to evaluate monitored natural attenuation (MNA) as a remedial alternative in a feasibility study, should one be necessary. In particular, the data collection efforts should enable us to generate a three-dimensional image of the nature and extent of any groundwater contamination. Additionally, parameters to determine whether MNA is occurring should also be investigated (e.g., dissolved oxygen, methane, daughter compounds, etc.). (See OSWER Directive 9200.4-17 dated September 13, 1997 and EPA/600/F-98/128 dated September 1998).

Lastly, EPA would like to discuss your detailed plans for installing any wells deeper than ten feet. EPA is interested in ensuring that vertical flow of contaminated groundwater in the well bore does not occur. We look forward to discussing specific plans to minimize this, including temporary packers and other possible devices to minimize flow. Additionally, EPA would like to discuss the method you have used to decide where the well screens should be installed.

I look forward to working with you and the Connecticut Department of Environmental Protection to protect the groundwater of the Naval Submarine Base. Please do not hesitate to contact me at (617) 918-1385 should you have any questions or wish to arrange a meeting.

Sincerely,



Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Mark Lewis, CTDEP, Hartford, CT
Darlene Ward, NSBNL, Groton, CT
Richard Willey, USEPA, Boston, MA
Jennifer Stump, Gannett Fleming, Harrisburg, PA
David Cercone, Tetra Tech-NUS, Pittsburgh, PA

ATTACHMENT A

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Comment

p. 2-10, §2.3.3.3

A significant request in the review of the previous draft was for additional monitoring well coverage in the neighborhood of the Solvent Storage Area (Building 33). The Navy has added a second temporary monitoring well (18TW4) on the downgradient side of the building. This represents an improvement in the likelihood of detecting groundwater impacts from historic releases in the vicinity of the building. Soil sampling in the neighborhood of the building remains rather sparse, given the known presence and handling of solvents. Even low-level detections of chlorinated solvents in site soils and/or groundwater may warrant more extensive investigation.