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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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BOSTON, MASSACHUSETTS 02114-2023

January 10, 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: Responses to EPA's Comments on the Work Plan and Sampling and Analysis Plan for the Base wide Groundwater Operable Unit Remedial Investigation at the Naval Submarine Base - New London, Groton, Connecticut

Dear Mr. Evans:

EPA reviewed the document entitled "Responses to USEPA's July 28, 1999 Comment Letter Regarding the June 1999 Work Plan and Sampling and Analysis Plan for the Base wide Groundwater Operable Unit Remedial Investigation Naval Submarine Base - New London, Groton, Connecticut." The Response to Comments (RTC) is dated December 14, 1999. The RTC states the Navy's positions with regard to both general concerns and specific requests enumerated in USEPA's original Comments on the Work Plan from June 1999.

The numbering of Comments and Responses as given in the RTC is retained in the following for ease of cross-referencing. For brevity, an evaluation of a response is provided below only when further comment is necessary.

GC3. Navy agrees to the USEPA recommendation to add reduced manganese and ethene to the analyte list for sites for which natural attenuation (NA) may be evaluated. This response is welcome. Navy does not agree with an additional suggestion to analyze for dissolved hydrogen, maintaining that the analysis is not necessary to answer the question of whether or not NA is occurring. It is agreed that the hydrogen analysis is not critical at this early stage of the investigation; however, the data could prove to be useful in the future if monitored natural attenuation were selected as a remedy. The analysis is complementary to the sulfate and methane analyses that *are* included in the NA analyte list. Comparisons of sulfate and methane concentrations in a plume core to background levels can indicate the presence of sulfate-reducing and/or methanogenic bacteria, which, in turn, indicate a strongly reducing environment favorable to degradation of PCE and TCE. Higher concentrations of H_2 tend to be confirmatory of the strongly reducing conditions associated with sulfate reduction and methanogenesis. Should Navy argue at some point that NA is its preferred remedy for one or more sites, hydrogen analyses might prove to

support the case for NA. The additional evidence for conditions favoring reductive dechlorination has been particularly important in cases where daughter products (e.g., DCE and VC) are not present as unequivocal indicators of degradation. Hydrogen analyses should be reconsidered in the future, should monitored NA be put forward as a viable remedy for any sites at NSBNL. USEPA guidance for monitored NA indicates that a very strong case must be made if monitored NA is to be approved as the preferred remedy for contaminated groundwater.

SC3. The proposed modifications to the text are adequate to clarify issues with regard to the mobility of inorganics.

SC 20. Please refer to the evaluation of the Response to General Comment 3 for further discussion of NA analytes.

SC 26. The loss of 15MW4S leaves a gap in the monitoring network immediately downgradient of the SASDA. However, as noted in the original Comment, previous sampling at this location revealed no indications of significant contamination. Navy notes in the Response that there are monitoring wells downgradient (within the Tank Farm site) that may detect contamination emanating from the SASDA area, if such is present. This position is reasonable, in view of the lack of exceedances in earlier sampling at the location of 15MW4S.

SC 27. The original Comment noted that a single well downgradient of the Solvent Storage Area (Building 33) is rather sparse coverage for a large area that has been subject to no previous characterization. Navy agrees with the USEPA recommendation to install a monitoring well (temporary) at the location of boring 18TB4; this expanded coverage is welcome. Navy disagrees with the recommendation to install a third downgradient well south of 18TW2, but suggests that 18TB2/18TW2 be moved to the south-southeast. While this appears to be reasonable, it does not address the hit-or-miss nature of a few discrete borings in attempting to characterize a large site. An alternative, offered here for discussion purposes only, that might be cost-effective, yet offer broader coverage of the site, would be to perform fairly intensive shallow soil sampling around Building 33 and/or to perform a soil gas survey. These methods may indicate residuals from historic spills, and suggest a need for additional groundwater monitoring. Negative results would provide greater assurance that the current, sparse monitoring well coverage is adequate.

SC 29. Please refer to the evaluation of the Response to General Comment 3 for further discussion of NA analytes.

SC 32. Adequate response. However, it would be appropriate to use Region 3 RBC values in the COC selection process when Region 9 PRG values are not available. Therefore, it is recommended that the Region 3 RBC values be used in the COC selection process when

Region 9 PRG values are not available. This procedure should be described in the text where appropriate.

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

Sincerely,

Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

cc: Mark Lewis, CTDEP, Hartford, CT
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