

February 11, 1993

engineers
geologists
scientists

Mr. Paul Jameson
Transfer Program
Waste Management Bureau
Connecticut Department of
Environmental Protection
165 Capitol Avenue
Hartford, CT 06106

RE: Phase II RI Work Plan
Naval Submarine Base - New London
Groton, Connecticut
Atlantic Project No: 1256-18

Dear Mr. Jameson:

This letter was prepared on behalf of the Navy in response to your comments of January 13, 1993 regarding the Draft Phase II Remedial Investigation dated November 1992 and reflects our discussions during our phone conference on February 2, 1993.

Concurrent with your review, the Navy Environmental Health Center (NEHC) has commented on the draft work plan. Based upon the review by NEHC, several areas of the report will be clarified and or justified, and a new exposure pathway will be added to the risk assessment. The new exposure pathway will address consumption of shellfish and/or fish from the Thames River.

Our responses to your comments are attached and are numbered to correspond to your comments.

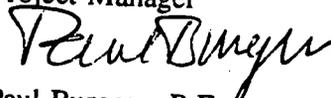
Should you have any specific questions please feel free to contact me or Deborah Stockdale.

Sincerely,

ATLANTIC ENVIRONMENTAL
SERVICES, INC.



Barry L. Giroux
Project Manager



Paul Burgess, P.E.
Principal

BLG/PB:js

cc: Deborah Stockdale - NORDIV
William Mansfield - NSBNLON

**NAVY RESPONSES TO CTDEP COMMENTS (JANUARY 13, 1993)
DRAFT PHASE II REMEDIAL INVESTIGATION
WORK PLAN (NOVEMBER 1992)**

1. Evaluation at the Pistol Range under CERCLA is currently under negotiation as part of the FAA between EPA, CTDEP, and the Navy. The Navy will comply with the final FAA.
2. We appreciate your checking on this point and your response is noted.
3. We agree that these sections are somewhat repetitive, however, as we discussed, this is necessary if EPA guidance is to be followed.
4. Additional documentation (calculations) will be provided on the derivation of the preliminary target remediation levels.

This section will also be revised to show the values of chemical-specific ARARs and TBCs.
5. The shell fisheries will be more clearly shown in the figure provided.
6. Concentrations of chemicals of concern will be plotted or contoured on site maps after implementation of the Phase II work plan field work.
7. A task will be added to the work plan to produce a basewide ground water elevation map.
8. The work plan will be revised to indicate that Phase I RI boron data is probably erroneous due to sulfur interference.
9. The investigation work plans for these two sites are presently being prepared. It is our intention to include these in the final work plan. The draft work plan for these sites will be submitted for review when completed. They were not included in this version of the work plan as a contract modification could not be completed in time to allow their inclusion.
10. This paragraph will be revised as noted.
11. This information will be provided. The saturated thickness was estimated to be 50 feet and the perpendicular cross-sectional area was estimated to be 50 feet x 230 feet for a total of 11,500 square feet.
12. Due to the scale of Figure 2-12, Building 524 cannot be shown in this figure. It will be added to Plate 1 and the text will be revised accordingly.

13. The paragraph will be revised as indicated.
14. As we discussed, CTDEP written policy pertains only to VOCs and metals. However, based on our discussion and your explanation that unwritten CTDEP policy applies whenever an action level has been adopted, this section will be revised as suggested in your comment.
15. We agree and will make this revision.
16. We agree with your comment and will revise this paragraph as suggested.
17. The duplicate reference will be eliminated.
18. The 2 ppm does not appear to be appropriate to these sites which are closed industrial landfills. We realize, however, that this issue can not be resolved at this time and will include the 2 ppm level as a preliminary remediation target level. At some future date when the extent of contamination has been better defined, we would like to further discuss the appropriateness of this standard in light of the feasibility of remediation to this level.
19. This sentence will be revised per your comment.
20. This change will be made.
21. This rate is estimated while drilling by observations of the flow of drilling fluids based on the experience of the driller and Atlantic geologist and confirmed prior to completion of the well by pumping.
22. This paragraph will be revised to indicate that a visual inspection of the rubble fill will be conducted.
23. We agree and the well locations will be depicted in the locations indicated.
24. TPH will be added to the list of parameters in samples collected to characterize the Otto fuel area at locations 7MW5S, 7MW5D, 7TB11, 7TB12, 7TB13, and any necessary supplemental borings.
25. As we discussed, the 9.5 ppm of methane is neither indicative of a significant source of methane or near levels of concern regarding toxicity or flammability. In addition, there is no indication that organic wastes have been disposed at this location. For these reasons, we do not propose to analyze for methane during the soil gas survey at this site.
26. It is shown, however, it is shown as an existing sample location and its symbol should be changed to indicate it is a proposed sample location.
27. The work plan will be revised to provide for methane monitoring in soil gas around the

building and during the installation of 8MW6S and 8MW6D.

28. See Comment 18. The plan will also be revised to obtain and analyze core samples from the concrete pad for PCB. Four samples will either be collected from oil stained areas of the pad or randomly if no such areas are evident.
29. Both EPA and CTDEP commented on the bedrock well design. EPA suggested to drill the bedrock wells to the depth at which they are capable of providing a yield greater than 1 gpm and stated that the objective of simulating water withdrawal is not appropriate. CTDEP suggested that continuous packer tests be performed in one or two wells and that well screens be set in the highest water yielding zone. CTDEP also stated that the zones of highest yields will be representative of the primary source of water to residential wells. During our phone conference, EPA felt after discussion, that the CTDEP packer testing approach was preferable. Packer testing would be capable of defining the highest yield zone in a well, however, whether or not this is the most appropriate zone to sample bears some discussion. The highest yielding zone may not be the most contaminated zone or contaminated at all. Sampling every zone is not feasible and will not substantially add to our understanding of the site. We disagree with EPA that the objective of simulating well water withdrawal does not appear to be appropriate. Remediation standard for this area will be based on MCLs which are measured at the tap, no *in situ*. We feel the objectives of these wells should be to simulate residential wells and detect contamination. Packer testing and screening at the highest yielding zone may not detect contamination in low yielding zones. Drilling to the first water bearing zone could result in the non-detection of contaminants in deeper zones. The effects of dilution of any particular water bearing zone in a deep well must be evaluated regarding contaminant detection. In a hypothetical 100-foot deep bedrock well containing ten different zones, one yielding 1.0 gpm and the others yielding 0.1 gpm, dilution factors are 1.9 to 1 for contaminants in the high yield zone and 19 to 1 for each of the low yielding zones. With this in mind and after consideration of EPA and CTDEP comments, the design in the work plan seems preferable to either alternative as it will detect any significant contamination and it accurately simulates a residential well for comparison to MCLs.
30. As we discussed, we are limiting the collection of water level measurements to twice due to the difficulty in obtaining these measurements. Quarterly water samples will be taken at the same time water levels are measured.
31. Additional detail regarding the pump test, including observation well location and screening, will be added to the work plan.
32. The figure reference will be changed to Figure 4-7.
33. It will be determined as described in our above response to Comment 21.
34. We agree and in our response to EPA comments have proposed to change the frequency of water level measurements to quarterly.

35. We will revise the report to provide for a limited soil gas survey in this area. As the depth to bedrock is around four feet in this area, the soil gas survey should be capable of finding any contaminant source areas. If any areas of contamination are detected by the soil gas survey, a soil sample will be collected from any such area and analyzed for VOC.
36. During the Phase I investigation, we did not want to place any wells in the area near 6MW6S and 6MW6D as they probably would be destroyed during the construction activities proposed for this area at that time. There are presently no construction activities proposed for this area and this location is directly upgradient rather than farther upgradient. For these reasons, well 6MW5S and 6MW5D have been replaced by 6MW6S and 6MW6D.

Regarding location 6TB24, a shallow well will be added at this location and sampled for VOC to better define this area.