

**RESPONSES TO EPA's AUGUST 4, 2008, COMMENTS
ON THE DRAFT JULY 2008 YEAR 1 MONITORING REPORT
FOR SITE 23 – UNDERDRAIN METERING PIT
NAVAL SUBMARINE BASE – NEW LONDON, GROTON, CONNECTICUT**

SEPTEMBER 4, 2008

GENERAL COMMENTS

General Comment No. 1:

The presentation/summary of the human health risk evaluation lacks clarity. The evaluations in Appendix D and E are not limited to Site 23 but include data and evaluations for several other sites at NSBNL, making the document somewhat unwieldy. The text, particularly in Section 3.0, should indicate that the Appendices include data from different sites and should refer to the appendices for further explanation of which tables and attachments in the appendices support the text. This would lend transparency to the summaries of the risk evaluations.

Response:

Disagree with clarification. Appendix D is a memorandum that is specific to Site 23. No changes to Section 3.5 are required.

Agree with clarification. Appendix E includes vapor intrusion risk evaluations for numerous sites at New London. The first paragraph of Section 3.6 will be revised as follows:

“Groundwater data from Site 23, which is within operable unit (OU) 9, was evaluated to determine if there were unacceptable risks associated with vapor intrusion into buildings. The complete memorandum for OU9 is provided in Appendix E. Data from a total of eight sites (i.e., 2, 3, 7, 14, 15, 18, 20, and 23) were evaluated in the memorandum, but only the risk results for Site 23, which are called out in separate sections of the memorandum, are applicable to this report.”

The remaining portion of the paragraph will be made into the second paragraph of the section.

General Comment No. 2:

The exposure point concentrations used for the risk estimates for the construction worker and the future resident exposed to groundwater were based on an average of sample concentrations with duplicate concentrations. EPA recommends use of the maximum concentrations and not averages using the duplicate results. This latter method was used for the vapor intrusion evaluation in Appendix E and is more protective approach, especially for a small data set. The risk conclusions for the construction worker would still be acceptable even if maximum concentrations were used, so revising the risk evaluation is not necessary. For future risk evaluations, however, please use the maximum values to evaluate risk.

Response:

Agree. Maximum concentrations will be used in future risk evaluations.

SPECIFIC COMMENTS

Specific Comment No. 1: p. 3-9, §3.3

The text states: "Round 4 results suggest the sampling technique and or floc in the sample may have caused the anomalous results during Round 3." There is some suggestion that the floc influences analytical results; previous results showing a reduction in metals in filtered samples suggest that the floc/turbidity causes elevation of inorganics that tend to sorb to particulates. The same may well be true for the organics (especially PAHs), and the decision to have unfiltered and filtered samples analyzed for PAHs and ETPH in Round 4 was well conceived. However, the results were not conclusive. The text says that no PAHs were detected in the unfiltered sample, while there were detections in the filtered sample. This is the reverse of what one might expect, so it is inconclusive with regard to ascribing elevated heavy organics to turbidity.

Response:

Agree with clarification. The subject paragraph will be changed to the following:

"Both filtered and unfiltered samples were collected for PAH and ETPH analysis during Round 4 to verify Round 3 results suspected to be related to suspended sediment particles. Fewer PAHs were detected during Round 4 than Round 3 and four of five PAH concentrations detected during Round 4 were less than Round 3 concentrations. Unlike Round 3 when seven PAHs were detected above established CTDEP criteria, the PAH concentrations detected during Round 4 did not exceed any established CTDEP criteria. ETPH was not detected in either the unfiltered or filtered sample during Round 4 compared to a detection of 1,600 µg/L during Round 3. The Round 4 PAH and ETPH results were also similar to the data collected during Rounds 1 and 2, which supports the theory that the Round 3 results were anomalous. However, it should be noted that during Round 4, no PAHs were detected in the unfiltered sample, but five PAHs were detected in the filtered sample. This data suggests that a factor (e.g., filter, bottleware, or laboratory equipment) other than suspended sediment particles contributed to the PAHs detected during Round 4. A similar factor may have caused the anomalous Round 3 results. Therefore, the Round 4 results suggest that a factor other than suspended sediments in the sample may have caused the anomalous results during Round 3."

Specific Comment No. 2: p. 4-2, §4.0

The first sentence in the first bulleted item refers to "direct exposure volatilization." Please clarify whether this refers to inhalation of VOC in a construction excavation or the vapor intrusion pathway.

Response:

Agree. The sentence will be changed to the following:

"Based on the Human Health Risk Assessment, under current and expected land use, Site 23 groundwater does not pose a significant threat to human health from direct exposure by construction workers or vapor intrusion into buildings."