

**RESPONSE TO COMMENTS FROM
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA)
DATED DECEMBER 11, 2006**

**Draft Completion Report for Soil Excavation at the Torpedo Shops, Operable Unit 8 –
Site 7
Naval Submarine Base - New London in Groton, CT**

GENERAL COMMENTS:

Comment #1:

From USEPA comment cover letter to Mr. Valdis Jurka:

Volatile organic compounds for which there are no remedial goals were detected in five of the confirmation samples. Specifically, 1,1,1-trichloroethane was detected in samples collected near building 325 in concentrations ranging from 1,910 to 6,350 ug/kg. The remedial goals specified in the ROD did not include many of the VOCs detected. The completion report identifies these additional constituents but does not compare them with any criteria. It is understood that the completion report scope is currently limited to the soil excavation specified in the approved work plan. However, EPA believes that additional evaluation of these constituents may be warranted at a later date. For example, these soil data will need to be part of any future vapor intrusion analysis performed for this site.

Response #1:

By converting the units from ug/kg to mg/kg, the range of concentrations of 1,1,1-trichloroethane detected in the soil near Building 325 are 1.91 to 6.35 mg/kg. The maximum concentration detected in the soil (6.35 mg/kg) is below all of the CTDEP RSRs for soil including the Residential Direct Exposure (500 mg/kg), Industrial Direct Exposure (1,000 mg/kg), and GB Pollutant Mobility (40 mg/kg). Neither the EPA's or CTDEP's vapor intrusion guidance provides criteria that are directly comparable to soil concentrations (i.e., criteria are comparable to groundwater concentrations and soil vapor concentrations). However, based on the fact that the maximum concentration does not exceed any of the CTDEP RSRs, it is unlikely that the 1,1,1-trichloroethane detected in the soil represents a vapor intrusion concern. Therefore, further evaluation of the constituent does not appear to be warranted in the future.

It should be noted that during excavation efforts that a photo-ionization detector was utilized to insure vapor levels were low enough to be protective of workers (vapors were below PID detection levels). Now that the excavation efforts are complete, the vaporization potential has been greatly reduced. In addition, when the groundwater was tested prior to discharge to the sewer system, volatile organic compounds were below detection levels.

Comment #2:

The USEPA has requested from the Navy the value of the project to date.

Response #2:

To date, \$408,180.64 has been spent on the investigation, excavation, and reporting portions of this project. An additional cost (not exceeding \$15,000) will be spent to revise and re-issue the Final Completion Report.

SPECIFIC COMMENTS:

Comment #1:

p. 3, §2.3, ¶2

The last sentence states: “Structures such as the lightning rod and bollards, the lightning rod support-cable dead man, and the sewer manhole were sloped 1:1 and left undisturbed.” We understand that it was the surface of the soil excavation that was sloped. Please clarify to state that the soil was sloped around the structures. Also, specify whether samples were collected from the soil that was not excavated because of its proximity to utilities.

Response #1:

The text in the Final Completion Report will be revised to indicate that the soil was sloped around these structures and utilities to protect them from failure. TtEC’s approved Final Work Plan discussed a plan to excavate a total of 1,840 tons of soil between both excavation areas. However, that amount of soil was not actually there, primarily due to shallow bedrock being encountered during excavation at the excavation south of Building 325 where the soil was only 2.5’ deep instead of the planned 4’ as discussed in the Final Work Plan. In spite of shallow bedrock and required structural protection of utilities 1,151 tons of soil was “removable”. This volume discussion will be included in the text of the document.

Comment #2:

p. 3, §2.3

The report should explain the sample nomenclature before identifying sample numbers. For example, specify that ‘CS’ identifies a confirmation sample and explain that ‘SW’ identifies a sidewall sample and is followed by a direction indicator, SWW, SWE, SWN, SWS. Specify that ‘bot’ identifies the base of the excavation. Describe how samples were numbered when a confirmation sample was found to be above remedial goals and another sample was collected. Identify any instances where the final confirmatory sample may not be the highest sequential number.

Response #2:

The nomenclature of soil sample identification numbers will be clarified in

the Final Completion Report along with a description of how samples were numbered when a confirmation sample was found to be above remedial goals and another sample was collected. TtEC will identify instances where the final confirmatory sample may not be the highest sequential number. A paragraph will be added in Section 3.1 Sampling Procedures stating:

The following nomenclature was utilized to identify samples:

- CS – Confirmatory Sample
- SW – Side wall sample location
- SWE – Side wall sample located on the eastern wall of the excavation
- SWW – Side wall sample located on the western wall of the excavation
- SWN - Side wall sample located on the northern wall of the excavation
- SWS – Side wall sample located on the southern wall of the excavation
- SL - Indicates a soil sample
- Bot – Sample collected from the base of the excavation

Comment #3:

p. 3, §2.3, ¶3

Sample CS-SL-SWW-01 is referenced in this paragraph. The text following this reference specifies samples collected from north and east sidewalls. Also the follow-up confirmation samples that met remedial goals are “SWN” and “SWE.” The sample nomenclature “SWW” indicates this sample was collected from a west side wall. Please check this sample identifier and revise the text as needed.

Response #3:

The sample identification number will be checked and the text revised as to indicate the sample was collected from the north and west walls.

Comment #4:

p. 4, §2.4

Explain that the naming system used for the samples collected from the excavation south of building 325 is the same as previously described in section 2.3 except that EXS is in sample ID nomenclature to identify the samples collected from the excavation south of building 325 as the sequential numbers are the same for both excavation areas.

It does not appear as if confirmation soil samples from the base of the excavation were collected. There are no ‘bot’ samples presented. The Work Plan specified collection of samples from the base of the excavation. Please

identify these samples or explain this deviation from the Work Plan.

Response #4:

Although some of the sample numbers are identical in both excavation areas, the samples with EXS in the sample ID were all collected from the excavation south of Building 325. No bottom samples were collected from the excavation south of Building 325 because all the soil was excavated above the bedrock encountered at depths of 2 to 3 feet bgs. Large boulders, as well as areas of solid bedrock were encountered; no soil was removed beyond this depth of excavation.

Comment #5:

p. 5, §2.5

The sample identifiers presented on Figure 8 are truncated. This is confusing and leads the reader to assume that these samples are the same samples presented on Figures 2 and 4 and in Tables 2 and 3. To avoid an incorrect assumption that these are additional samples, please clarify the text in section 2.5. Additional text should specify that the sample identifiers are truncated and would provide examples such as SW 11 on Figure 8 is the same sample as SWS-11 on Figure 4 which is the same sample as NSB-NLON-Site7-CS-SL-EXS-SWS-11 in Table 2 and on the chain-of-custody and analytical results in the appendix.

Response #5:

Soil sample identification numbers were truncated so as to not clutter the small report figures. These sample identification numbers will be indicated in full on the applicable figures. Full sample identification numbers will also be provided in the data tables.

Comment #6:

p. 6, §3.2

The statement is made that final confirmatory soil samples revealed that concentrations of all VOCs and PAHs were below the remedial goals. This needs to be more clearly documented in the report. Tables 2 and 3 do not accomplish this goal because they do not compare the concentrations detected in the confirmation samples to the remedial goals (Conversion of the units from ug/kg to mg/kg and comparison to the remedial goal is required). The concentrations detected in the confirmation samples should be presented in the same units as the remedial goals and compared to the remedial goals in the same table (*see* comment below for Tables 2 & 3). Sample EXS-SWN-CS-SL-10A contains PAHs above remedial goals suggesting that soil under the concrete ramp was left above remedial goals. Sample CS-SL-EXS-SWN-09 contains benzene above the remedial goal. Therefore; all final confirmation samples are not below remedial goals.

Response #6:

Tables 2 and 3 will be revised to include the remedial goals for comparison to soil sampling results. In addition, the soil sampling result units will be converted from ug/kg to mg/kg for easier comparison to remedial goals which were expressed as mg/kg. While sample EXS-SWN-CS-SL-10A contained 3 PAHs above the 7 remedial goals, additional soil could not be removed from the excavation due to the existing concrete ramp and awning associated with Building 325. It is estimated that the soil that could not be removed amounted to no more than 5-10 cubic yards. The 3 PAH remedial goals not reached were 1 mg/kg for benzo(a)anthracene [1.89 mg/kg was reached], 1 mg/kg benzo(a)pyrene [1.82 mg/kg was reached, and 1 mg/kg for benzo(b)flouranthene [1.55 mg/kg was reached]. All other remedial goals for all confirmatory samples were fully reached. Sample CS-SL-EXS-SWN-09 contained benzene above the remedial goal and the excavation was extended to remove this area of soil. Sample CS-SL-EXS-SWN-09A was then collected and this confirmatory sample contained no detections of the COCs.

Comment #7:

Table 2 Chlorobenzene and 1,4- dichlorobenzene are not presented in the table. Please include the analytical results for these two contaminants of concern.

Response #7:

The results for chlorobenzene and 1,4- dichlorobenzene were not included in Tables 2 and 3 due to the fact that all samples collected were non-detect for these two compounds. The tables will be revised to include these two compounds.

Comment #8:

Table 3 The sample numbers for the third sample (SW??) and the second sample (SWW-14?) on the first page of this table are cut off and not fully displayed in the column title. Revise this table to clearly identify all samples.

Response #8:

A complete copy of Table 3 will be provided in the Final Completion Report.

Comment #9:

Tables 2 & 3 Sample EXS-SWN-CS-SL-10A is listed as part of the septic system samples

but the sample nomenclature identifies this sample as being from the excavation south of building 325. Please revise as appropriate.

Instead of highlighting positive detections, it would be more beneficial to highlight contaminants of concern.

The concentrations detected in the confirmation samples should be presented in the same units as the remedial goals and compared to the remedial goals in the same table. This could be accomplished by revising Tables 2 and 3.

Response #9:

Tables 2 and 3 will be revised so that sample EXS-SWN-CS-SL-10A is listed in the correct excavation area. The highlights will be removed from positive detections and contaminants of concerns will be highlighted. As stated in Response #6, the remedial goals will be included in the tables for comparison to results and the soil sample results will be converted from ug/kg to mg/kg for easier comparison to the remedial goals.