

**RESPONSE TO COMMENTS FROM THE
U.S. ENVIRONMENTAL PROTECTION AGENCY REGION I
ON THE DRAFT SUMMARY REPORT OF
GROUND-WATER AND SOIL INVESTIGATIONS AT SITE 7,
NAVAL AIR STATION, BRUNSWICK, MAINE**

COMMENTOR: Michael S. Barry

DATED: 13 November 2001

GENERAL COMMENTS

1. The overall results of the removal were described by EA at the Technical Meeting on October 23-24. Per the ensuing discussion, EPA strongly supports the decision to pursue a monitoring/land use control remedy as the quickest and probably cheapest way to reach a Record of Decision and ultimately permanently resolve Site 7.

Response—The Navy concurs with EPA's comment. The Navy is proceeding with developing a PRAP and ROD during the Spring and Summer of 2002. A final PRAP is scheduled for 29 March 2002, and a Final ROD is scheduled for 14 June 2002.

2. The report reads as very good news to EPA in that it appears a significant source of cadmium was removed from test pit 1. Depending on the precise ground-water flow, this area could be upgradient of both MW-NASB-94 & 99 and was likely upgradient of MW-NASB-94 during the pump test in December 2000.

Response—The Navy agrees with this comment.

3. We look forward to future ground water results now that this source has been removed, though ground water cleanup may be slow due to the peat layer and it's possible other sources may remain. Thus, EPA cannot concur at this time to absolutely "clear" ground water if cadmium isn't detected above the MCL for two rounds. However, sampling periodicity and continuation should be evaluated in the context of the results and trends obtained (i.e., nearly constant results would indicate sampling could be infrequent and a steep and/or steady concentration decline would impart a high confidence to quickly discontinue sampling whilst a highly scattered, hazy trend would not).

Response—During the last week of November 2001, the Navy conducted another round of ground-water sampling at the Site 7 ground-water monitoring wells. The results of the November 2001 sample round will be presented in a brief letter report to be issued in early February 2002. These data, along with the previously collected ground-water data, will be used to devise a monitoring schedule with input and concurrence from EPA and MEDEP regarding the monitoring frequency of future ground-water sampling at Site 7.

4. Though the natural occurring peat layer in the vicinity of MW-NASB-94 may act as a source of cadmium, the report findings lead EPA to believe that the original source of the cadmium that bonded into the peat was the activity at Site 7. Reported findings that lead EPA to this conclusion are:
 - a. Two discrete sources containing cadmium, the blue and white powder were found in trench 1. Also found in trench 1 were corrugated metal and the rust colored leech bed.
 - b. The cadmium sources were found very close to the wells with cadmium above the MCL, whereas elsewhere cadmium is below the MCL.
 - c. Site 7 is an old acid-caustic pit, where one would expect such disposal activities to have occurred.

Response—The Navy believes that the hypothesis included in this report (that the naturally occurring ground-water geochemical conditions at Site 7, and in particular near MW-NASB-094, may be contributing to the reported cadmium concentrations in ground water) is valid based on site data and the scientific literature. Please note that this report states in Section 3.1 that a combination of naturally occurring sources of cadmium and anthropomorphic sources may have resulted in ground-water impacts. We agree that potential anthropomorphic sources were encountered and that these potential sources were removed during test pit activities. The small volume of these items, and their position above the water table, make a direct correlation to site ground-water data difficult to establish conclusively. It is possible that the combination of these items, in conjunction with the significant peat layer near this well, may have resulted in elevated cadmium concentrations in the ground water.

Since this site was being investigated for ground-water impacts, a direct correlation of soil cadmium concentrations and ground-water concentrations is very difficult to demonstrate conclusively. In order to more clearly note that a combination of natural conditions and anthropomorphic sources is being considered as a possible reason for ground-water impacts, the text of Section 3.1 will be changed as noted below:

3.1 EVALUATION OF RESULTS

The data collected during the 51-hour pumping test, the temporary sampling point ground-water sampling, soil screening using the XRF detector, and visual observations suggest that the source of cadmium at Site 7 appears to be primarily anthropogenic conditions as a result of leaching of metal debris found to have been buried at the site. Although the possibility of a partially naturally-occurring source was considered, as cadmium tends to bond to organic carbon under all pH conditions encountered in normal waters, the analytical sampling of the organic-rich soil layer encountered during the trench excavation activities were not conclusive in determining the presence of a naturally occurring source material. Similarly, the soil sampling completed in conjunction with indentifying the potential anthropomorphic sources (i.e., corrugated

metal, a corroded pipe), did not clearly establish these materials as being a sufficient source to conclusively explain the impacted ground water reported at MW-NASB-094 and the replacement well, MW-NASB-099.

Based on the findings of the investigations at Site 7, the abundance of metal debris encountered upgradient from monitoring well MW-NASB-094 is the suspected source of cadmium in the ground water at Site 7. Additionally, the prominent metal leach zone at Trench No. 1, underlain by an isolated dense clay lens, also suggests the occurrence of perched surface drainage conditions upgradient from MW-NASB-094. The absence of a shallow clay lens at MW-NASB-094 may have allowed infiltration of dissolved metal-containing leachate downgradient and directly toward this monitoring well. These subsurface conditions, in conjunction with the abundance of the metal debris uncovered at the site are expected to have contributed to the detected concentrations of cadmium reported at MW-NASB-094.

SPECIFIC COMMENTS

Table 1—An improvement would be to note when the samples were taken in the table footnotes.

Response—Comment noted, and EPA's recommended improvement will be incorporated into the report table.

1. Since the photos are important to understanding the removal results, will color photos be provided in the final report? If that wasn't planned, could they be emailed so parties can print them out?

Response—Color photographs will be provided in the final report.

2. We concur with the recommendation to reuse stockpiles 1-4 and dispose of stockpile 5 offsite.

Response—The Navy agrees with the comment.