

**RESPONSE TO COMMENTS FROM THE
TECHNICAL ADVISORY GROUP
ON THE DRAFT SUMMARY REPORT OF
GROUND-WATER AND SOIL INVESTIGATIONS AT SITE 7,
NAVAL AIR STATION, BRUNSWICK, MAINE**

COMMENTOR: Carolyn A. LePage, C.G.

DATED: 27 November 2001

The following comments on the October 2001 Draft *Summary Report of Ground-Water and Soil Investigations at Site 7* are submitted on behalf of the Brunswick Area Citizens for a Safe Environment (BACSE):

- 1. Page 2, Section 2, Summary of Site 7 Investigation Activities**—The statement is made in this section that no soil source for cadmium has been identified in previous investigations, so therefore the dissolved cadmium concentrations detected in groundwater may be the result of local geochemical conditions. As outlined below, this statement misrepresents both the design of, and interpretations resulting from, the earlier investigations. Therefore, the statement must be rewritten.

The August 1990 Draft Final Remedial Investigation (RI) Report indicates that the purpose of the Site 7 RI investigation conducted in 1988 was to better determine groundwater flow direction, locate the former disposal pit, and monitor groundwater quality downgradient of the disposal pit. The additional investigation conducted in 1989 was designed to confirm the location of the disposal pit and to assess the areal and vertical distribution of soil contamination indicated in the soil organic [not inorganic] vapor survey. So the previous investigations were not designed to target a soil source of cadmium.

Furthermore, the previous investigations did identify a potential source area for the cadmium detected in monitoring wells. While the investigations conducted in 1988 and 1989 did not identify elevated cadmium concentrations in soil samples, test pitting revealed a layer of blue-gray crystals in two test pits. According to the August 1990 Draft Final RI Report, the crystals were believed to be acid salts resulting from liquid battery disposal and to represent the location of the old acid/caustic pit. This disposal area represents a likely source for contaminants reported at Site 7, as indicated by the following statement in the 1990 RI report: "The southeast groundwater flow direction at Site 7 demonstrates that MW-704 [one of two monitoring wells with cadmium concentrations exceeding the MCL is downgradient of the interpreted location of the Old Acid/Caustic pit. The relationship between the elevated metals, bicarbonate, and TOC in groundwater directly downgradient of the inferred pit location further confirms the location of the Old Acid/Caustic Pit.

Response—Comment noted.

- 2. Page 5, Section 2.2.2.1 Excavation and Visual Survey**—The last bullet on the page refers to the portable XRF detector that was used in the field to characterize cadmium levels during excavation. The detection limit of the detector is described, as being above the minimum soil concentration that would account for observed concentrations in groundwater. What is that

minimum soil concentration and how was it derived? If the instrument detection level exceeded that minimum concentration, how can the conclusion be reached that a soil source for the cadmium was not found? Additional information should be added to the text to clarify these points and to qualify statements regarding not finding a soil source.

Response—An estimation was provided as Attachment A in the 28 August 2000 Revised Technical Evaluation of Site 7. The XRF instrument was used in the field as a *screening* instrument. If elevated XRF levels were reported or if the soil exhibited an unusual appearance, an analytical sample was collected. The XRF data were not used solely to make any determination on the source of the cadmium, but rather provided a means to obtain field-level data on cadmium in the soil during the test pitting operations at the site. Information about cadmium properties and partitioning coefficients was reviewed and included in the previous report noted above. The 3rd bullet on Page 5 will be modified to reinforce the limitation of the use of the XRF field instrument.

3. **Page 6, Section 2.2.2.1 Excavation and Visual Survey**—Information regarding the type of material sampled in sample STP-T1-2-0-2 should be added to the text.

Response—The soil descriptions were provided in the test pit logs included in Appendix J. The information recorded from the depth interval where this sample was collected will be added to the text of the 3rd bullet on Page 6.

4. **Pages 6 and 7, Section 2.2.2.1 Excavation and Visual Survey**—The last sentence on Page 6 and next-to-last bullet on Page 7 state that the black peat layer may be a naturally occurring source of cadmium to Site 7 that could have contributed to elevated cadmium concentrations in groundwater. The scientific basis for, and site-specific data supporting this statement must be added to the report. Otherwise, the statement must be removed from the report.

Response—The background literature on the naturally occurring source of cadmium was provided in Attachment A in the 28 August 2000 Revised Technical Evaluation of Site 7. The sentence on Page 6 will be reworded to reinforce that a naturally occurring source of cadmium was not concluded based on the finding of the organic peat layer, and references, as appropriate, will be added to support factual statements about cadmium.

5. **Page 9, Section 3.1 Evaluation of Results**—The first paragraph in the section states that the data collected during the investigation suggests that the source of cadmium at Site 7 appears to be a combination of both naturally occurring and anthropogenetic in origin. BACSE concurs with the Maine Department of Environmental Protections November 2, 2001 comment that the data presented in this Investigation Report do not support the Navy's conclusion that a natural source for the elevated concentrations of cadmium in groundwater exists at Site 7. If sufficient supporting data cannot be added to the data, statements regarding a naturally-occurring source of cadmium must be properly qualified.

Response—Comment noted. It was not the Navy's intent to imply that the source of cadmium at Site 7 was solely naturally occurring. The investigation at Site 7 was targeted to determine the possible sources, in which case the possibility of a naturally occurring source was also considered as part of the investigation. The statements on Page 9 will be properly qualified regarding both the suspected source and relationship of cadmium to the peat-rich layer encountered at the site.

6. **Page 9, Section 3.2 Recommendations**—The last paragraph on the page states that if the two recommended rounds of sampling show cadmium concentrations below regulatory levels, the site should be considered for No Further Action in concurrence with the MEDEP. Discussions at recent meetings indicate that the Record of Decision for Site 7 will not be a No Further Action ROD, and that monitoring and institutional controls will be required for at least a short period (depending on monitoring results) after a ROD is signed. In addition, concurrence (approval?) by both the MEDEP and the USEPA would be required. The text should be revised accordingly. In addition, as noted by the MEDEP and USEPA in their November 2001 comment letters, two rounds of non-detect groundwater monitoring results alone would not be enough to implement a No Further Action remedy at the site. Rather it should prompt an evaluation of monitoring results and trends and an assessment of the effectiveness of the remedy.

Response—Comment noted.