

Consulting Geotechnical Engineers and Geologists

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December 10, 1993
File #965

Ms. Loukie Lofchie
Brunswick Area Citizens for a Safe Environment
P. O. Box 245
Brunswick, ME 04011

Subject: Review of "Technical Memorandum, Preliminary Assessment and Field Investigations: Site 11, [Fire Training Area], Brunswick Naval Air Station, Brunswick, Maine", November 1993.

Dear Ms. Lofchie:

As requested by the Brunswick Area Citizens for a Safe Environment (BACSE), Robert G. Gerber, Inc. (RGGI), has reviewed the "Technical Memorandum, Preliminary Assessment and Field Investigations: Site 11, [Fire Training Area], Brunswick Naval Air Station, Brunswick, Maine", dated November 1993. The document was prepared by ABB Environmental Services, Inc., (ABB) for the U. S. Department of the Navy for the Naval Air Station Brunswick (NAS Brunswick) located in Brunswick, Maine. The subject document is intended to present the results of geophysical survey, test pitting, and drum sampling activities conducted at Site 11 between July and September 1993.

Site 11, also known as the Fire Training Area, is located near the intersection of Old Gurnet and Sandy Roads in the east-central portion of NAS Brunswick. The site was reportedly used for fire training exercises from the 1950s until the 1980s. During training, various fuels, solvents, and other materials were dumped on the ground and set on fire. No control measures were implemented to prevent the infiltration of the materials into the soil until 1987, when a concrete pad and berm were constructed. As a result, soil and groundwater at Site 11 are contaminated by a variety of constituents.

Results of earlier environmental investigations were reported in the 1990 Draft Final Remedial Investigation (RI) and the 1991 Draft Final Supplemental RI reports prepared by E. C. Jordan. Recent information indicated that, in addition to the release and burning of the materials during fire training exercises, drums might also have been buried at Site 11. The subject document describes field investigations conducted in 1993. These investigations demonstrated that drums had been buried at Site 11. The Navy is proposing to remove the drums and conduct additional investigations to confirm all drums have been found and removed.

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We have summarized our comments and concerns in the following:

1. **Cover Letter.** The cover letter states that the subject document contains the results of field activities conducted in September 1993. However, the text indicates activities were conducted in July, August, and September 1993. The cover letter should be corrected.
2. **Page 1-1.** It would be helpful to have the purpose of the report clearly stated in the introduction, particularly for people reviewing the report who may not have seen the cover letter.
3. **Page 2-3.** The piping described at the top of the page is not apparent on Figure 4-1. Please provide an explanation why the piping was not detected by the geophysical methods employed at Site 11. The proposed activities to remove the buried drums at the site should be expanded to include the removal of the underground storage tank and associated piping, and evaluation of potential contamination at the tank site and along the piping.
4. **Pages 3-1 - 3-4.** For what years were aerial photographs covering Site 11 available for review? Was the April 1959 photo the first to conclusively show the location of the fire training activities? The Brunswick Fire Chief was able to provide information concerning some of the activities that occurred at the site during the 27 years he's been with the local fire department, which helped to focus the recent search for buried drums. What sources (in addition to aerial photographs) has the Navy consulted concerning activities conducted at Site 11 prior to 1966? Has the Navy evaluated other possible sites (besides Site 11) where fire training exercises may have been conducted? How certain is the Navy that fire training has been confined to Site 11?
5. **Pages 4-1 - 4-3.** Additional information concerning the capabilities of the instruments used in the geophysical surveys should be provided in order to properly evaluate the results. How far below the ground surface could reliable data be interpreted, and what were the site-specific factors limiting the effectiveness of the instruments? The criteria for selecting magnetic anomalies for GPR (ground penetrating radar) surveys, as well as for selecting anomalies for test pitting, should also be provided. There appear to be several anomalies on Figure 4-1 (such as the area at 200N 360E) that may warrant further investigation. In addition, how will the potential for buried drums be evaluated in the vicinity of monitoring wells and other features affecting the geophysical data?
6. **Page 5-1.** The second paragraph describes metallic debris encountered in several test pits as non-hazardous. How was that determination made?
7. **Page 6-1 & 6-2.** What were the criteria for selecting the three liquid samples for analysis? Drums were reportedly encountered in 5 test pits (page 5-1). How was the determination made that the sample from the drum at TP-93-11 was mostly water?

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8. Page 7-1 & 7-2. In the first paragraph of Section 7.0, the amount of liquids and sludges remaining in the drums is described as unknown. While this may be true, what is more important is that the constituents of the drum contents are also unknown. The laboratory results appear to indicate that only one drum sample was pure methyl ethyl ketone. We agree that all drums should be removed as soon as possible, and that the drums and their contents be disposed of properly. It is also necessary to test the contents of the drums and evaluate the potential for contamination in the immediate vicinity of the drums. The confirmatory geophysical surveys should be performed before the excavations resulting from drum removal are backfilled in order to confirm that additional drums or other material are not buried at a greater depth. In addition, other potential sources (see comments above) should be evaluated concurrently to ensure that source removal activities at Site 11 are comprehensive, and not just limited to the caches of drums found to date.

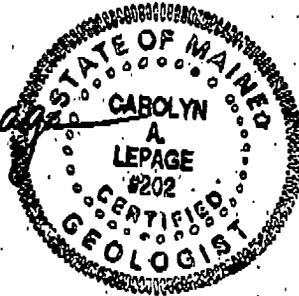
9. Page 7-2. What is the anticipated timeframe for the activities proposed in the subject document?

10. General Comment. How was the potential for radioactive hazards evaluated at Site 11.

Please do not hesitate to give us a call if you have any questions on the comments above.

Sincerely,
Robert G. Gerber, Inc.

Carolyn A. Lepage
Carolyn A. Lepage, C.G.
Director of Operations



Andrew L. Tolman
Andrew L. Tolman, C.G.
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