

**DEPARTMENT OF THE NAVY**NAVAL SUBMARINE BASE NEW LONDON
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1-9-1993

1292 Route 12
Groton, CT 06340

Dear

I want to thank-you for your letter of February 8, 1993, and previous correspondence on the Naval Submarine Base New London (SUBASENLON) Installation Restoration Program. You raised a number of points in your comments which I would like to address:

1. The Technical Review Committee (TRC) is intended to represent the community. However, we agree discussions with TRC members will not ensure that an issue is brought to the Navy's attention. Corresponding with the SUBASENLON directly is the most effective way to ensure the matter is brought to our attention.

2. The intent of background testing is to establish local soil concentrations for various metals and naturally occurring substances. What is important in this sampling program is to find locations where there is little likelihood that the effects of human activity have altered the naturally occurring levels. Samples at these locations will be taken to a depth of four feet. The background levels will be established for soils only, not groundwater, and will be used to determine what substances will be used in the risk assessment - which will establish soil clean-up levels. Groundwater will be addressed by comparison with Drinking Water Standards.

3. The statistical method used to determine background soil concentrations will be discussed again at the next TRC meeting. However, in simplest terms, the intent of the background sampling is to establish what the naturally occurring levels of inorganic substances, such as lead, cadmium, boron etc., are in the immediate vicinity of the SUBASENLON. When these levels have been established, all soil data for inorganics will be compared to the local naturally occurring level to determine if remediation may be required. Obviously, when 16 to 20 sample results for a substance, such as lead, are obtained, the question becomes one of how to establish what is representative of background. The assumption is that this data will follow a normal distribution pattern i.e. the results are randomly distributed about the average. The Navy proposes to use the 95% confidence level, derived from this normal distribution curve, as background. This represents a level where there would be a one-in-twenty chance of exceeding this level because of a substance occurring naturally in the soil. The discussions to date have

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focused on two issues; (1) are the locations representative of natural conditions i.e. are the levels "low enough" or skewed to a higher level due to the Navy's activity and (2) is the 95% confidence level reasonable. There will be further discussion of this issue at the next TRC meeting.

It must be kept clear that while there are acceptable standards for surface waters (water quality standards) and ground water (drinking water standards), there are none for soil.

Questions regarding this program should be directed to Mr. W. L. Mansfield at 449-2276.

Sincerely,

O. E. BARFIELD
Commander, CEC, U.S. Navy
Public Works Officer
By direction of
the Commanding Officer

