

***** D R A F T ***** DO NOT CITE OR QUOTE ***** D R A F T *****

Brigadier General Lawrence H. Livingston
Commanding General
Camp Lejeune Marine Corps Base
PSC 20004
Camp Lejeune, North Carolina 28542-0004

Dear General Livingston:

The Agency for Toxic Substances and Disease Registry (ATSDR) has reviewed the tap water sampling data (December 31, 1992 - December 31, 1993) for the medium-sized water distribution systems; Hadnot Point, Marine Corps Air Station, and Holcomb Boulevard and the small-sized distribution systems; Courthouse Bay, Rifle Range, and Onslow Beach. We believe these data indicate a widespread problem with plumbing and that the extremely high levels detected at many of the faucets sampled pose a significant risk to the health of your personnel. Lead levels detected (0 - 10,100 ppb) range from non-detectable to over 600 times the Environmental Protection Agency's Action Level of 15 parts per billion.

Because the effects of lead on the body are additive and long lasting, people drinking one glass of water containing lead at the high levels detected at Camp Lejeune may absorb enough lead to experience serious long-term health effects. Therefore, we are concerned that action be taken to prevent exposure based on the known lead levels in tap water rather than waiting until elevated blood lead levels appear in your personnel.

In the remainder of this letter, we list the most important actions which can be taken to safeguard the health of your personnel by educating personnel and ceasing exposure.

In order to protect the health of your personnel and to prevent prolonged exposures, additional health education should be provided to all employees, residents, and visitors on the importance of flushing the water lines and the seriousness of the consequences if proper flushing is not done. We have developed a simple four page flier (enclosed) to address frequently asked questions. Flushing procedures are quite simple: If water sits overnight in the line, the tap should be flushed before use in the morning and again if the tap is not used for more than 4 hours. The water should be allowed to run until it becomes noticeably colder; in most instances this takes 2-3 minutes.

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The educational efforts to date have not been effective in getting personnel to flush taps. According to your recent survey, out of 103 individuals tested for blood lead, only one individual flushed the tap for the recommended time. Therefore, we recommend these fliers be distributed to all employees, residents, and visitors and to new personnel as they arrive on base.

At certain levels, it is recommended that actions be taken to prevent exposure of personnel. In general we recommend that if a tap water sample contains lead > 15 ppb, further evaluation of the current use of that water is recommended to determine who is drinking it. The following table provides the lead levels at which we recommend protective action be taken:

<u>Lead levels</u>	<u>People drinking the water</u>	<u>Action Recommended</u>
> 50 ppb	Adults	Cease exposure*
15 - 50 ppb	Adults	Reduce exposure**
≥ 15 ppb	Children or pregnant women	Cease exposure
0 - 14 ppb	Children or adults	No action necessary

* Cease Exposure: You can cease exposure by posting signs above particular faucets stating that water from them is not to be used for drinking. You can also stop exposure by offering bottled water, providing a water purification method, or replacing the plumbing.

** Reduce Exposure: Exposure can be reduced by flushing water lines for 2 - 3 minutes before using.

There are several actions which should be taken based on specific sampling results.

A large proportion of deep sink faucets tested reported lead levels above 50 ppb, indicating a potential inherent problem with the type of faucet used in those sinks. We recommend not using water from deep sink faucets for drinking and suggest that signs be posted at all deep sinks on the base stating that water from these faucets should not be used for drinking under any circumstances.

Sampling results (HP1-10C) from building H 55, a single family home, showed a lead level of 52 ppb. ATSDR recommends stopping exposure at this home.

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Sampling results (HP2-24A) from building FC 40, an auto shop kitchen faucet, showed a lead level of 256 ppb. ATSDR recommends stopping exposure at this faucet as well.

Sampling results (MCAS3-56A,B,C) from building G 560, a staff club ladies bathroom faucet, showed lead levels of 698, 321, and 778 ppb respectively. Most likely, no one is drinking water from this tap; however, we recommend that a sign be posted at this tap informing people that water from this faucet should not be used for drinking.

We appreciate your concern for the personnel and families of Camp Lejeune. In the interest of public health, we would like to receive from you a written response to our recommendations so that we have a clear idea of the actions you will take and the time frame in which you will take them. If you have any questions, please have your staff contact Ms. Carole Hossom, Federal Programs Branch, at:

ATSDR
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1600 Clifton Road NE (E-56)
Atlanta, Georgia 30333
404-639-6070
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Sincerely yours,

Robert C. Williams, P.E., DEE
Director
Division of Health Assessment
and Consultation

Enclosure

cc:

- Mr. Robert Warren, MCB Camp Lejeune
- Mr. Neal Paul, MCB Camp Lejeune
- Captain W. Thomas, NEHC
- Yvonne Walker, NEHC
- Pete McGarry, EPA
- John McFadyen, NC DEHNR

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