



DEPARTMENT OF THE NAVY
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From: Commanding Officer, Navy Environmental Health Center
To: Commanding General, AC/S EMD (IRD), Marine Corps Base Camp Lejeune,
(ATTN: Mr. Neal Paul), PSC 20004, Camp Lejeune, NC 28542

Subj: AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)

Encl: (1) ATSDR Activity Report

1. ATSDR provided us a copy of its fourth quarter FY1997 activity report for Department of the Navy installations. Specific comments for your installation are provided in enclosure (1).
2. We trust the information provided by ATSDR about your activity is useful. If you have any questions or comments, please call Ms. Andrea Lunsford, Deputy Director, Environmental Programs at (757) 363-5554, DSN 864-5554.


G. D. KRAMER
By direction

Copy to:
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ATSDR ACTIVITY REPORT

The following information is taken verbatim from the Agency for Toxic Substances and Disease Registry (ATSDR) fourth quarter FY1997 activity report for Department of the Navy installations:

PUBLIC HEALTH ASSESSMENTS AND CONSULTATIONS

U.S. Marine Corps Camp Lejeune, NC

On August 4, 1997, ATSDR finalized the public health assessment for Camp Lejeune.

ATSDR concluded that three situations posed past public health hazards. In order of health priority, they are (1) exposure to lead in the tap water in on-base buildings containing lead plumbing; (2) past exposure to volatile organic compounds (VOCs) in the three drinking water systems on base; and (3) past exposure to pesticides in the soil at Site 2, a former day-care center. MCB Camp Lejeune has taken action to stop or reduce exposure in all these situations.

Lead levels in tap water on base were of immediate health concern. Sampling results, although variable, indicated a widespread problem with lead leaching from faucets or water pipes into drinking water. It is not possible to determine the exact number of people exposed to lead in drinking water or the exact amount of lead they were exposed to because lead levels in tap water are variable, dropping as the water pipes are flushed by running water. Blood lead samples taken from people who live or work in the two buildings containing the highest levels were considered within normal range. However, because of the extremely high levels found at some taps, ATSDR recommended exposure be reduced or in some cases stopped. As a result of ATSDR's recommendations, MCB Camp Lejeune took action to reduce lead exposure by restricting the use of sinks in certain buildings and by educating base employees, residents, and visitors on the importance of flushing water lines before using them.

Volatile organic compound (VOC) levels in three base drinking water systems (Tarawa Terrace, Hadnot Point, and Holcomb Boulevard) were of health concern until 1985 when use of contaminated wells stopped. Well contamination was caused from leaks in off-base and on-base underground tanks that were installed in the 1940s and 1950s. Human exposure to trichloroethylene (TCE), tetrachloroethylene (PCE), and 1, 2-dichloroethylene (DCE) in drinking water systems at MCB Camp Lejeune have been documented over a period of 34 months, but likely occurred for a longer period of time, perhaps as long as 30 years. Included in the population that used this water were approximately 6000 residents in base family housing. The population consisted of a large portion of young married women. Even though adverse health effects are not expected in adults, concern was raised about potential toxic effects on developing fetuses. To help address the issues about pregnancy outcomes, ATSDR began a study in 1995. In an

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Enclosure (1)

interim report released in 1997, ATSDR identified approximately 6000 infants whose mothers resided in VOC-exposed housing areas while pregnant. A statistically significant decrease in mean birth weight and a statistically significant increase of small-for-gestational-age incidences were observed for male infants born to mothers whose housing was supplied with water from Hadnot Point. No differences in mean birth weight or the condition small-for-gestational-age were noted in most residents receiving water from Tarawa Terrace compared with residents of other housing areas. However, in Tarawa Terrace residents, the children of mothers who were 35 years of age or older and the children of mothers who had previously had a fetal loss were more likely to have been born small-for-gestational-age. Infants whose mothers were very briefly exposed to VOCs from the Holcomb Boulevard system did not have significant decreases in mean birth weight and were not more likely to be born small-for-gestational-age.

Pesticide levels in surface soil at Building 712 at Site 2, a former day-center, were of health concern. The pesticides of concern were chlordane and dichlorodiphenyl-trichloroethane (DDT) and its breakdown products, dichlorodiphenyldichlorethane (DDD) and dichlorodiphenyldichlorethylene (DDE), which have remained in the surface soil since the 1950s, when the site was used for pesticide storage and handling. ATSDR recommended that MCB Camp Lejeune prevent further pesticide exposure for approximately 20 current office lawn-care workers. Consequently, MCB Camp Lejeune restricted access to the contaminated soil areas and in 1994 removed the contaminated soils from the parking lot and lawn areas. Each year from 1966 to 1982, approximately 60 people, including adult and children, attended a day-care center located in Building 712. They were also exposed to pesticide-laden soil. Workers and other adults who used the parking lot over time may have inhaled or swallowed enough contaminated soil to increase their risk of developing cancer over their lifetimes. However, noncancerous adverse health effects are unlikely in any of the people exposed.

ATSDR concluded that two possible exposure situations present potential (indeterminate) public health hazards. In the first situation, suspected fish contamination in Brinson Creek, additional sampling is needed to determine the extent of mercury present in Brinson Creek fish and whether the levels present a public health hazard. In the second situation, suspected contamination of fish and shellfish in Northeast Creek near New River, sampling of fish and shellfish in this area has not been conducted and would be required to determine if the contamination from Sites 7, 16 and 80 presents a health hazard to people eating fish and shellfish caught in that creek. In both of these locations, the North Carolina Department of Environment, Health and Natural Resources conducted additional fish sampling in late July 1997 to determine the public health implications of eating fish caught from both of these areas.