

ATSDR Public Health Activities at Camp Lejeune, North Carolina

1979 - 1980 - New EPA water standards

EPA amends National Primary Drinking Water Standards to control chemicals formed when chlorine is added to drinking water. EPA standards call for drinking water sampling and testing for trihalomethanes to begin in 1982.

1979 - 1980 - Water contamination

Camp Lejeune conducts voluntary sampling of some drinking water wells and finds unidentified chlorinated hydrocarbons in Hadnot Point Water System.

1982 - 1985 - TCE, PCE, benzene in water

Camp Lejeune samples drinking water systems on base. Testing finds TCE and PCE in systems at Tarawa Terrace, Hadnot Point and Holcomb Blvd. Testing water samples from Hadnot Point finds benzene in two wells. The source of contamination at Tarawa Terrace is waste disposal at ABC One - Hour Cleaners off base. The contamination sources at Hadnot Point and Holcomb Boulevard include on - base waste disposal, gasoline fuel farm, underground storage tanks, and others.

1984 - 1985 - Camp Lejeune shuts down wells

Camp Lejeune shuts down the two most contaminated wells in the Tarawa Terrace treatment system and all contaminated wells in the Hadnot Point system. In 1987, Camp Lejeune shuts down all Tarawa Terrace wells.

1989 - Camp Lejeune and ABC Cleaners Superfund sites

EPA lists both Camp Lejeune and ABC One - Hour - Cleaners as Superfund sites and puts Camp Lejeune on the National Priority List. -

1990 - First ATSDR health assessment

ATSDR's first public health assessment of ABC One - Hour Cleaners finds that the major contaminant detected in onsite and offsite wells is PCE.

1997 - Past water hazard at Camp Lejeune

ATSDR identifies a past health hazard of contaminated water in Tarawa Terrace and Hadnot Point water systems and brief contamination in Holcomb Boulevard system. ATSDR recommends study to assess risk to children from maternal exposure in pregnancy.

1998 - ATSDR releases health study

ATSDR (<http://www.atsdr.cdc.gov/HS/lejeune>) completes first study on health of children born from 1968 - 1985 whose mothers were exposed to contaminated drinking water. The study is later published in the American Journal of Epidemiology in 2001. This study is being reanalyzed because of errors in the original exposure assessment.

1999 - 2002 - Parent telephone survey

ATSDR conducts a (<http://www.atsdr.cdc.gov/sites/lejeune/survey.html>) telephone survey of 12,598 parents of children born to women who were pregnant while living at Camp Lejeune from 1968 - 1985. Survey is designed to identify and confirm all reported cases of birth defects and childhood cancers in children exposed to VOC contaminated drinking water in utero.

2003 - ATSDR releases telephone survey results

ATSDR's (<http://www.atsdr.cdc.gov/sites/lejeune/lejeunehealthsurvey.pdf>) telephone survey finds parent reports of 106 children with specific birth defects and childhood cancer [PDF, 147 KB]. (http://www.atsdr.cdc.gov/sites/lejeune/ga_healthstudyactivities.html) ATSDR begins confirming cases with medical records.

2004 - 2005 - ATSDR begins water modeling

Past Camp Lejeune water - quality sampling data are very limited. ATSDR begins (http://www.atsdr.cdc.gov/sites/lejeune/faq_water.html) historical reconstruction of Tarawa Terrace and Hadnot Point water treatment plant service areas to determine where and when certain areas at Camp Lejeune received VOC - contaminated drinking water. -

2005 - Expert review panels

ATSDR convenes an

(http://www.atsdr.cdc.gov/sites/lejeune/docs/CL_health_survey_expert_panel_summary_notes.pdf) expert panel [PDF, 75 KB] in February to explore the need for and feasibility of conducting additional human health studies of people exposed to contaminated drinking water at Camp Lejeune. ATSDR convenes an (http://www.atsdr.cdc.gov/sites/lejeune/panel_report_groundwater.html) expert panel in March to evaluate the agency's water modeling and field data gathering at Camp Lejeune, N.C.

2005 - Children's health study begins

ATSDR begins study (<http://www.atsdr.cdc.gov/sites/lejeune/update.html>) Exposure to Volatile Organic Compounds in Drinking Water and Specific Birth Defects and Childhood Cancer. The study evaluates groups of children with and without health effects. Telephone interviews gather information about residence, other health factors, and amount of water mothers drank during pregnancy. Study includes water modeling to determine which mothers received contaminated water.

2006 - Community Assistance Panel holds first meeting

ATSDR holds the first meeting of the (<http://www.atsdr.cdc.gov/sites/lejeune/capmeetings.html>) Community Assistance Panel (CAP) with community members and outside scientific experts, as well as ATSDR staff working on Camp Lejeune studies. - The CAP will help identify feasible studies for the future and prioritize them. ATSDR holds 25 CAP meetings through July 2012.

2007 - Tarawa Terrace water contamination

ATSDR's analysis of (<http://www.atsdr.cdc.gov/sites/lejeune/tarawaterrace.html>) Tarawa Terrace water treatment plant service area reveals that residents of Tarawa Terrace family housing and other facilities received PCE - contaminated drinking water above EPA's maximum contaminant level from November 1957 through February 1987.

2008 - National Defense Authorization Act

President Bush signs the 2008 National Defense Authorization Act in January. This act includes a requirement that ATSDR develop a health survey of persons possibly exposed to contaminated drinking water at Camp Lejeune.

2008 - 2009 - ATSDR evaluates future studies

ATSDR determines future epidemiological studies at Camp Lejeune are http://www.atsdr.cdc.gov/sites/lejeune/docs/feasibility_assessment_Lejeune.pdf feasible [PDF, 542 KB], scientifically useful, and helpful to people exposed to contaminated water.

2009 Experts review water modeling

ATSDR convenes <http://www.atsdr.cdc.gov/sites/lejeune/watermodelingmeetings.html> expert panel to assess water - modeling and data analyses for Hadnot Point - Holcomb Boulevard study area. - ATSDR agrees to develop simplified approaches for determining historical concentrations at water - supply wells using data gathered during the water modeling process. The panel also encourages the Department of the Navy to continue to ensure that ATSDR has all data and documentation necessary to accurately and efficiently complete water - modeling activities.

2009 - ATSDR withdraws 1997 PHA

ATSDR removes the <http://www.atsdr.cdc.gov/hac/pha/pha.asp?docid=1082&pg=0> 1997 Camp Lejeune PHA from its Web site. Since it was published, ATSDR discovered additional information about VOCs in finished water at Camp Lejeune. ATSDR learned that communities serviced by the Holcomb Boulevard water - distribution system were exposed to contaminated water for a longer period. ATSDR also learned that benzene was present in some water - supply wells before 1985.

2010 - 2012 - DON/ATSDR gather data

From 2010 - 2012, the http://www.atsdr.cdc.gov/sites/lejeune/data_mining_workgroup.html DON/ATSDR Camp Lejeune Data Mining Technical Workgroup conducts 9 meetings to gather data for ATSDR activities.

2010 - ATSDR begins mortality study

ATSDR begins a http://www.atsdr.cdc.gov/sites/lejeune/ga_healthstudyactivities.html#3 mortality study looking at all causes of death for military and civilian personnel who lived/worked at Camp Lejeune between 1975 - 1985 to determine if the deaths are linked to the contaminated drinking water. The study includes a comparison group of military and civilian personnel at Camp Pendleton between - 1975 - 1985 who did not live/work at Lejeune when the drinking water was contaminated.

2010 - ATSDR groundwater report

ATSDR releases the Hadnot Point - Holcomb Boulevard (<http://www.atsdr.cdc.gov/sites/lejeune/hadnotpoint.html>) Chapter C Report . The report describes the occurrence of PCE, TCE, benzene, and vinyl chloride in groundwater at Navy installation restoration sites. The sites are located within the service areas of the Hadnot Point and Holcomb Boulevard water treatment plants and vicinities at Camp Lejeune.

2011 - ATSDR mails health surveys

ATSDR convenes an expert panel to review the Camp Lejeune health survey. ATSDR mails (http://www.atsdr.cdc.gov/sites/lejeune/health_survey.html) ATSDR Health Survey of Former Marine Corps Personnel and Civilians to persons who lived or worked at Camp Lejeune when drinking water was contaminated. The survey asks about more than 20 different cancers and diseases and provides opportunity to report diseases not mentioned.

2011 - ATSDR holds public information session

ATSDR holds a (<http://www.atsdr.cdc.gov/news/displaynews.asp?PRid=2510>) public information forum for Camp Lejeune at the University of North Carolina Wilmington. The forum includes an update on ATSDR's health survey and other activities, an open house, one - on - one question and answer sessions, and a CAP report.

January 2012 - Sediment and groundwater report

ATSDR publishes the Hadnot Point - Holcomb Boulevard (http://www.atsdr.cdc.gov/sites/lejeune/docs/chapter_B_hadnotpoint.pdf) Chapter B [PDF, 25 MB] report that includes information and data on the shape and size of the layers of sediment and groundwater beneath Camp Lejeune. This information provides a foundation for understanding groundwater flow and conducting water modeling.