



Private Well Waters from the Mills Gap Rd. Area

Health Consultation Summary
July 23, 2010

For a Full Report and Additional Information Visit

www.epi.state.nc.us/epi/oe/hace/reports.html (Under Buncombe County).

Background

This site is located in Skyland, Buncombe County, North Carolina. The U.S. Environmental Protection Agency (EPA) and the N.C. Department of Environment and Natural Resources (DENR) have collected private well water samples in this area as part of the investigation of the Mills Gap Road/CTS site. Trichloroethylene (TCE) is the primary chemical contaminant associated with the CTS site.

Private wells in the area are being sampled to determine if they have been contaminated by chemicals moving away from the former CTS site in the groundwater.

Purpose of the Health Consultation

The N.C. Division of Public Health (DPH) was asked to conduct an evaluation of the potential public health hazards related to the use of private well water in the Mills Gap Road area.

How was the Health Consultation conducted?

The DPH looked at all the private well data collected by DENR and EPA from June 2008 through January 2010. Approximately 160 wells were sampled and evaluated. All substances detected were evaluated for potential health effects regardless of possible source.

Results

1. One (1) well serving two homes was found to have levels of TCE that could have harmed the health of residents.

2. Levels of TCE and polycyclic aromatic hydrocarbons (PAH) found in some wells were at levels not expected to cause harm but it is not known when the wells were first contaminated or the TCE and PAH concentrations over time.
3. Levels of copper (in two wells) and lead (in three wells) were of concern. The copper in these wells was at levels that could cause short-term health effects to children and sensitive adults. Lead levels could be harmful to children because they are more sensitive to lead than adults.
4. The concentration of other substances found in the rest of the water samples is not expected to cause harm to resident's health.

The source or sources of the contaminants discussed in the Health Consultation have not been determined. There may be sources other than the CTS site. EPA and DENR are still investigating the source of the contaminants.

Toxic chemicals associated with the site and potential health effects

TCE: Breathing small amounts may cause headaches, lung irritation, dizziness, poor coordination and difficulty concentrating. Breathing large amounts may cause impaired heart function, unconsciousness and death. Breathing it for long periods may cause nerve, kidney, and liver damage.

Scientific evidence of non-cancer health effects from drinking TCE is inconclusive.

In recent years evidence supporting TCE's ability to cause cancer has been strengthened but is also inconclusive. Childhood leukemia has been observed after maternal exposure to TCE contaminated drinking water during the prenatal period.

Polycyclic Aromatic Hydrocarbons (PAH):
Some PAHs may reasonably be expected to be human carcinogens. Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer.

Copper is essential to our diet. Copper can be found in plumbing fixtures. Ingesting high levels can cause nausea, vomiting, and diarrhea. Very high doses of copper can cause damage to the liver and kidneys. There are a very small percentage of infants and children who are unusually sensitive to copper.

Lead can be found in old plumbing solder. It can affect the nervous system, kidneys, blood formation, reproduction, and the immune system. Lead may cause anemia. Pregnant women exposed to high levels of lead may experience miscarriages. Lead is considered a probable human carcinogen. Children are more sensitive to the effects of lead than adults.

DPH's recommendations

- Identify and test any additional private well in the likely path of the contamination. Provide alternative

- drinking water if contaminants exceed health or regulatory levels.
- Continue to monitor the groundwater coming off the CTS site for chemical contamination including vinyl chloride. Prevent human contact with contaminated groundwater.
- Continue to test private wells in the area until all contamination sources have been identified and controlled.
- Test homes with copper and lead contamination to see if the contamination is coming from the groundwater or the water lines. If the contamination is coming from the water lines, residents should be informed of ways to reduce these levels in their drinking water.
- Advise individuals living in the homes with elevated levels of TCE, PAH, copper and lead to let their physicians know of their exposure and should monitor their health.
- Evaluate the integrity of the septic and private well systems in the areas where trihalomethane chemicals were detected.

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Information and Assistance about Well

Testing, Buncombe County Health Department
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