

**Missouri Department of Health and Senior Services
Bureau of Environmental Epidemiology (BEE)**

POLICY STATEMENT ON PRIVATE DRINKING WATER ANALYSIS FOR LEAD

Lead poisoning is one of the most common and preventable environmental health problems today. Children are most sensitive to the effects of lead and exposures may result in lifelong learning disabilities or behavioral problems. Recent studies demonstrate that there is no known safe level of lead exposure. For these reasons, the prevention of childhood lead exposure must be a high priority and public health interventions should focus on eliminating all lead exposures in children.

Across the nation, children may have exposure to lead from a variety of sources and efforts have been underway for a number of years to identify and reduce or eliminate these exposures. However, in addition to the conventional sources of childhood lead exposure, Missouri has sources of potential environmental lead exposures that are uncommon in other parts of the country. Naturally-occurring lead deposits exist in the state and Missouri has a history of lead mining and production dating back to the 1700s. Mining and smelting activity still continue in parts of the state, making Missouri the largest producer of lead in the U.S. today.

Vast areas of the state have been impacted by lead waste from these operations. While many of these former mining sites are identifiable by the large chat and tailings piles left behind, others are not so obvious. The Missouri Department of Natural Resources (MDNR) in cooperation with the U.S. Environmental Protection Agency (EPA) is working on a statewide inventory of lead mining, milling, and smelting sites to identify and evaluate potential risk to human health and the environment. Sixty counties have been identified as having possible impacts from mining, milling, smelting, and transportation of mining materials.

Children in communities situated on lead-impacted lands are at increased risk of lead poisoning. Studies have shown that residential exposure to mining, milling, and smelting wastes is related to a high percentage of children with elevated blood lead levels.

Lead in drinking water has long been recognized as a contributor to childhood lead exposure. EPA estimates that 10 to 20 percent of exposure to lead may come from lead in drinking water. Infants consuming mixed formula may receive as much as 40 to 60 percent of their exposure to lead from drinking water.

Throughout the nation, the primary source of lead in drinking water is household plumbing materials and water service lines. However, in addition, lead contamination has been found in groundwater in the state of Missouri due to the naturally-occurring lead deposits in the state and from the past and present lead mining activities.

Missouri is committed to being proactive against lead exposure. This includes ensuring that lead concentrations in drinking water are as low as possible, and certainly below EPA's action level of 15 parts per billion.

The most-effective measure for further reducing exposure from drinking water is to encourage and enable households to test their water for lead. Therefore, as another strategy to identify and prevent childhood exposure to lead, BEE is recommending increased testing for lead in drinking water.

To accomplish this, the State Public Health Laboratory (SPHL) is adding lead to its list of analytes included in the New Well Series for private drinking water supplies. This change will be seamless and at no additional cost. In addition to this, we are recommending that local public health agencies (LPHAs) throughout the mining region request reporting of lead analysis for all water samples collected and submitted to the chemistry unit of the SPHL for inorganics. Again, this additional reporting can be requested for no additional cost or additional sampling.

We also encourage all counties, inside and outside the mining region, to increase lead testing to identify households that may be impacted from household plumbing or water service lines that may contain lead. An additional "first draw" sample is required for this.

In support of these efforts, BEE includes staff with years of experience with lead issues and has a variety of health educational materials available. Additionally, for any systems identified with a lead concentration greater than EPA's action level, staff from BEE are available to assist with homeowner education and selection of an appropriate water treatment system.

Attached to this is a map indicating the sixty counties identified as having potential lead impacts.

Please contact the Bureau of Environmental Epidemiology at (573) 751-6102 with any questions.

Missouri Counties associated with Lead Mining, Milling and Smelting

Legend

- Lead Impacted Counties
- Other Counties

