

NPL Site Narrative for Newton County Mine Tailings

NEWTON COUNTY MINE TAILINGS Newton County, Missouri

Conditions at Proposal (April 30, 2003): The Newton County Mine Tailings site is located in southwest Missouri in the Tri-State Mining District. The site is being proposed to the NPL because of the presence of lead and cadmium contamination in residential drinking water wells significantly above the current health based drinking water limits. Based on current sampling information, the contaminated ground water encompasses approximately 160 square miles. In 1999, EPA provided bottled water to county residents as an immediate, temporary response to the known health threat associated with the consumption of lead and cadmium contaminated water. Currently, 350 residential properties in Newton County receive bottled water from EPA and have no alternative safe drinking water supply.

From approximately 1850 to 1950, lead, cadmium, and zinc mining were major industries in Newton County and the land is marked by numerous open mine shafts, tailings piles, and underground mine workings. In addition, the extensive mining activity has resulted in unique underground channels and faults with exposed lead, cadmium, and zinc ores. The mines were located below the water table and during periods of operations were kept dry by pumping ground water from the shafts. Following abandonment of the mines, pumping ceased, the water table returned to its natural levels, and the ground water came in contact with abandoned underground mines and exposed ore. Lead, cadmium, and zinc ground water contamination resulted when the oxygenated water leached metals from the exposed ores in the abandoned mines. Further contamination resulted from lead, cadmium, and zinc leaching from surface waste piles into the ground water through naturally occurring faults and the numerous constructed mine shafts throughout the county.

Following reports of elevated blood lead levels in children in surrounding counties with similar mining histories, EPA conducted limited sampling around the city of Granby in 1995, followed by more extensive ground water and soil sampling throughout Newton County in 1998 and 2000. The upper aquifer is the sole source of drinking water for private residential wells throughout Newton County. Based on the 2000 sampling data, at least 200 residential wells are contaminated with lead or cadmium above health based benchmarks of 15 ppm of lead and 5 ppm of cadmium. In addition, the 1998 soil sampling indicated surface soil lead contamination as high as 33,500 milligrams per kilogram (mg/kg) in the city of Granby.

In addition to the ground water contamination, several hundred properties have elevated levels of lead and cadmium in the surface soil. A removal action conducted in 1999-2000 included excavation of contaminated soils from a number of properties. The criteria for removal included properties with soil samples (collected outside the roof drip line) containing lead concentrations equal to or greater than 400 mg/kg. Currently, removals have occurred at 221 properties. No further soil remedial action at these properties is anticipated based on information currently available. Soil removal at additional residential properties is ongoing.

Status (September 2003): EPA is considering various alternatives for this site.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at [ATSDR - ToxFAQs](http://www.atsdr.cdc.gov/toxfaqs/index.asp) (<http://www.atsdr.cdc.gov/toxfaqs/index.asp>) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.