**United States Environmental Protection Agency**
**Region VII**
**POLLUTION REPORT**

**Date:** Monday, February 11, 2008
**From:** Jim Silver

**Subject:** Jefferson County Lead Site
DeSoto, MO

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| **POLREP No.:** | 2 | **Site #:** | A7D2 |
| **Reporting Period:** | 11/2/2007 thru 12/31/2007 | **D.O. #:** | |
| **Start Date:** | 10/5/2007 | **Response Authority:** | CERCLA |
| **Mob Date:** | 10/5/2007 | **Response Type:** | Time-Critical |
| **Demob Date:** | | **NPL Status:** | Non NPL |
| **Completion Date:** | | **Incident Category:** | Removal Action |
| **CERCLIS ID #:** | MON000705443 | **Contract #** | |
| **RCRIS ID #:** | | | |

**Site Description**

Jefferson County is located in southeastern Missouri. It is bordered on the north by St. Louis County and the Meramec River; on the east by the Mississippi River; on the south by St. Genevieve and St. Francis Counties; and on the west by Washington and Franklin Counties. The county encompasses 664 square miles. According to the 2000 census, the population of Jefferson County is 198,099 people. The county seat is located in Hillsboro, Missouri. Jefferson County was organized in 1818 and named in honor of former President Thomas Jefferson.

Mining activities in Jefferson County began in the early 1800s in southern Jefferson County where the Cambrian dolomite source rock is concentrated along the Big River and other major streams. The first production operation was a lead shot tower erected in 1809 in the southern part of Herculaneum. Two mines were in operation as early as 1818: Gray's mine was located on the Big River and McKane's mine was located on the Dry Creek. Many other mines were opened in the 1830s and 1840s for the production of lead, zinc, and barium (tiff). By 1855, three smelters were operating in Jefferson County, including Valles Mines, Mammoth Mines, and Sandy Mines. Historical records indicate that over three million pounds of lead was shipped out of Jefferson County annually during this time period making it one of the leading lead producers.

The IMOP database lists 253 historical sites associated with mining and production operations in Jefferson County. Of these, 202 of the mining sites were designated for lead or lead and other commodities, particularly zinc and barium (tiff). Most of the remaining sites were exclusively tiff mines. Past mining operators in Jefferson County included the St. Joe Lead Company (now Doe Run), the Valle Mining Company, the Big River Lead Company, Del Stocking, Magnolia Mining & Milling Company, Sandy Mining Company, National Lead Company, Bennett Lead & Zinc Company, Walther Mining Company, Ed Dixon, Big River L.M., M. &. Development Company, and Iva Schmitz-Rome & John. Of these operators, Doe Run is the only mining operator currently listed in Jefferson County. Doe Run's smelter was opened in 1892 by their predecessor, the St. Joe Lead Company. In 2003, the Doe Run smelter was producing over 100,000 tons of lead a year. The Valle Mining company is also still in existence, but no longer mines for lead. According to historical records, the company operated the lead mine and smelting operation at Valles Mines from approximately 1824 through the 1930s. The ruins of several ore milling structures, a former smelter, chat piles, and mill wastes are still present in the vicinity of Valle Mines.

In September 2006, EPA began an integrated site assessment, which included soil and groundwater sampling in the area. During this sampling event, EPA sampled the soil at 353 residences located on or near mining or mine waste disposal areas. Based on this data, approximately 22% (55) of these residential properties had soils that exceeded 400 parts per million (ppm), and roughly 6% (22) had soils that exceeded 1,200 ppm for lead. Beginning in September 2006, EPA also sampled approximately 304 private drinking water wells in Jefferson County. Of these 304 wells sampled, 36 (12%) were found with lead levels greater than 15 parts per billion (ppb) and 2 with cadmium levels greater than 5 ppb. Of those wells with lead greater than 15 ppb, 16 (5%) had lead levels greater than 30 ppb.

**Current Activities**

Two additional Operable Units have been created in the Jefferson County Lead to address the two

additional sources of contamination, the Lubbers OU 2 and Stewart OU3. EPA continues to obtain access and conduct screening for lead on residential properties. To date, soil at 443 properties has been sampled, with 35 properties above the Removal Action Level (RAL) for lead of 1200 ppm and 67 with lead levels between 400 ppm and 1199 ppm. There have been 345 private drinking water wells sampled in Jefferson County with 35 of the wells above the Removal Action Level of 15 ppb lead. EPA is providing alternative drinking water to those residents whose drinking water was found to have metals above the RALs. EPA is continuing to sample residential soils and drinking water.

**Planned Removal Actions**

EPA will continue to provide alternative drinking water to affected residents. EPA will continue to seek a location for a repository of soil from residential yards.

**Key Issues**

A repository needs to be located before excavation of contaminated soil can begin.

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