

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

**Date:** Tuesday, May 4, 2010

**From:** Jim Silver

**Subject:** On-Going Activities

Southwest Jefferson County Mining Site OU3

13291 State Road CC, DeSoto, MO

Latitude: 38.1394353

Longitude: -90.4693197

<b>POLREP No.:</b>	9	<b>Site #:</b>	A7D2
<b>Reporting Period:</b>	3/29/2010 to 5/04/2010	<b>D.O. #:</b>	0030
<b>Start Date:</b>	7/14/2008	<b>Response Authority:</b>	CERCLA
<b>Mob Date:</b>	7/14/2008	<b>Response Type:</b>	Time-Critical
<b>Demob Date:</b>		<b>NPL Status:</b>	NPL
<b>Completion Date:</b>		<b>Incident Category:</b>	Removal Action
<b>CERCLIS ID #:</b>	MON000705443	<b>Contract #</b>	EP-R7-07-12
<b>RCRIS ID #:</b>			

**Site Description**

The Jefferson County Lead Site OU 03 consists of high concentrations of lead contamination from soil delivered by trucking companies from a contaminated farm field to numerous residences and businesses throughout Jefferson County. The primary problem areas at this site that require action are lead contaminated soils in yards and lead contaminated dust in homes.

Jefferson County is located in southeastern Missouri. 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. Jefferson County, named in honor of former President Thomas Jefferson, was organized in 1818. The county seat is located in Hillsboro, Missouri.

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 in operation as early as 1818, the Gray's Mine located on the Big River and the McKane's Mine located on the Dry Creek. In the 1830s and 1840s, there were many other mines opened for the production of lead, zinc, and barium (tiff). By 1855, three smelters were operating in Jefferson County, including the Valles Mines, the Mammoth Mines, and the Sandy Mines. Historical records indicate annual shipping of over three million pounds of lead out of Jefferson County, during this time period, making it one of the leading lead producers.

The Inventory of Mines, Operations, and Prospects database lists 253 historical sites associated with mining and production operations in Jefferson County. Of the 253 mining sites, 202 were for lead or lead and other commodities, particularly zinc and tiff. Most of the remaining sites were exclusively tiff mines. Past mining operators in Jefferson County included the St. Joe Lead Company (now the Doe Run), the Valles Mining Company, the Big River Lead Company, Del Stocking, the Magnolia Mining & Milling Company, the Sandy Mining Company, the National Lead Company, the Bennett Lead & Zinc Company, the Walther Mining Company, Ed Dixon, the Big River Lead Mine, the M. Development Company, and Iva Schmitz-Rome & John. Of these operators, the Doe Run is the only mining operator currently listed in Jefferson County.

Its predecessor, the St. Joe Lead Company, opened the Doe Run's smelter in 1892. In 2003, the Doe Run smelter was producing over 100,000 tons of lead a year. The Valles Mining Company still exist but no longer mines for lead. According to historical records, the company operated the lead mine and smelting operation at the 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 the Valles Mines.

In September 2006, the U.S. Environmental Protection Agency (EPA) began an integrated site assessment, which included soil and groundwater sampling in the area. During the 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 percent (55) of these residential properties had soils that exceeded 400 ppm, and 6 percent (22) had soils that exceeded 1,200 parts per million (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 percent) were found with lead levels greater than 15 parts per billion (ppb) and/or cadmium levels greater than 5 ppb.

In September 2006, EPA sampled a farm field in anticipation of purchasing the soil for use as backfill following the excavation of lead contaminated soil from residences in Washington County, Missouri. The soil contained lead at levels greater than 1,200 ppm. EPA advised the hauling company of the contaminated soil and not to use the contaminated sild for backfill. EPA sent a letter to the property owner in June of 2007, stating that “it is important that the contaminated soil from your property not be sold or transported off of your property for use elsewhere.” In September 2007, EPA sent a 104(e) letter to the property owner asking for “information and documents related to the delivery of contaminated soil, sand, gravel, and/or rock found in residential yards.”

The property owner furnished the names of several trucking companies that had purchased soil from his property. In November 2007, EPA again sampled the property owner’s property at three locations. Analysis of the soil by an X-Ray Fluorescence instrument indicated lead levels from 1,000 ppm to nearly 4,000 ppm.

### **Current Activities**

Excavation of lead contaminated soil greater than 1,200 parts per million (ppm) is ongoing. Properties are prioritized by (1) households of pregnant women, (2) households with children 6 years old or less, and (3) households where children reside.

Properties identified with lead levels greater than 1,200 ppm - 113.

Properties where cleanup is complete - 98.

EPA gained access for soil sampling to more than 120 properties following a mailing to property owners in the Summer Set and Raintree developments.

### **Planned Removal Actions**

EPA will continue to sample residences as owners grant access.

Excavation of those properties with elevated lead levels will continue.

### **Next Steps**

EPA is working with county officials to draft an ordinance that would prohibit the selling of lead contaminated soil and gravel in Jefferson County.

### **Key Issues**

A different type of straw matting is being used successfully to prevent erosion of newly backfilled and seeded yards, increasing germination success and saving the cost of regrading.

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