

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

**Date:** Friday, October 9, 2009

**From:** Jim Silver

**To:** Scott Hayes, EPA

**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>	5	<b>Site #:</b>	A7D2
<b>Reporting Period:</b>	7/15/2009 thru 10/09/2009	<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. 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 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 Big River and McKane's Mine was located on 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 Inventory of Mines, Operations, and Prospects 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 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 Lead Mine, 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 its predecessor, the St. Joe Lead Company. In 2003, the Doe Run smelter was producing over 100,000 tons of lead a year. The Valles 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

Valles 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 ppm, and 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/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 was found to contain lead at levels greater than 1,200 ppm. EPA advised the hauling company that the soil was contaminated and that it could not be used 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 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 XRF indicated lead levels from 1,000 ppm to nearly 4,000 ppm.

### Current Activities

Excavation of lead-contaminated soil greater than 1,200 ppm is ongoing. Properties are prioritized by: 1) households of pregnant women, 2) households with children six years old or less, 3) households where children reside. There are 74 properties to date where excavation is complete. Backfilling and seeding is complete on all of those properties. There are 113 residences identified with lead levels greater than 1,200 ppm.

### Planned Removal Actions

EPA will continue to sample residences as owners grant access. Excavation of those properties with elevated levels will continue.

### Key Issues

Periodic heavy rains throughout the spring, summer and fall, and steep slopes on most properties excavated has made it difficult to establish lawns. Ditches are cut into the new lawns, requiring crews to rework the damaged areas, (sometimes more than once at a property). Various techniques have been used and are being evaluated to reduce the erosion problem.

### Estimated Costs \*

	Budgeted	Total To Date	Remaining	% Remaining
<b>Extramural Costs</b>				
ERRS - Cleanup Contractor	\$3,029,602.00	\$2,605,256.00	\$424,346.00	14.01%
RST/START	\$231,855.00	\$176,187.00	\$55,668.00	24.01%
<b>Intramural Costs</b>				
USEPA - Direct (Region, HQ)	\$80,000.00	\$30,000.00	\$50,000.00	62.50%
USEPA - InDirect	\$1,301,680.00	\$1,084,373.00	\$217,307.00	16.69%
<b>Total Site Costs</b>				
	\$4,643,137.00	\$3,895,816.00	\$747,321.00	16.10%

\* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

