

United States Environmental Protection Agency
Region VII
POLLUTION REPORT

Date: Thursday, June 30, 2011

From: Jim Silver

Subject: On-Going Activities

Southwest Jefferson County Mining Site OU 00

13291 State Rd CC, DeSoto, MO

Latitude: 38.1394353

Longitude: -90.4693197

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|--------------------------|--------------------------|----------------------------|----------------|
| POLREP No.: | 13 | Site #: | A7D2 |
| Reporting Period: | 4/12/2011 thru 6/30/2011 | D.O. #: | 0019 |
| Start Date: | 10/1/2007 | Response Authority: | CERCLA |
| Mob Date: | 10/1/2007 | Response Type: | Time-Critical |
| Demob Date: | | NPL Status: | Non NPL |
| Completion Date: | | Incident Category: | Removal Action |
| CERCLIS ID #: | MON000705443 | Contract # | EP-R7-07-12 |
| RCRIS ID #: | | | |

Site Description

The Southwest Jefferson County Lead District Site consists of high concentrations of lead contamination from mining, and from other unknown sources. The ore would normally be hauled from the mines to the concentrators (also known as the "mills") where it was formed into lead concentrate. Lead concentrate at the Site was/is derived from the physical concentration of lead sulfide ore and is typically 70 to 80 percent - 700,000 to 800,000 parts per million (ppm) lead sulfide.

The primary problem areas at this Site which require action are lead-contaminated soils in residential yards. There is also drinking water wells contaminated with metals, and lead-contaminated dust in homes along these roadways. Many of these properties are the result of lead-contaminated soils unknowingly being brought in by the property owner to improve their lawn or for landscaping.

Jefferson County is located in southeastern Missouri and 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. The county seat is located in Hillsboro, Missouri, organized Jefferson County 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. The Gray's mine located on the Big River and the McKane's Mine located on the Dry Creek. Many other mines 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 the Valles Mines, the Mammoth Mines, and the 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 Occurrences 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 barium (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. Their predecessor, the St. Joe Lead Company, opened the Doe Run's smelter in 1892. In 2003, the Doe Run smelter was producing over one-hundred thousand tons of lead a year. The Valles Mining company still exists but no longer mines for lead.

According to historical records, the company operated the lead mining 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 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 these sampling events, EPA sampled the soil at 353 residences located on or near mining or mine waste disposal areas. Based on the data, approximately 22 percent (55) of these residential properties had soils which exceeded 400 ppm, and roughly 6 percent (22) had soils which exceeded 1200 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 2 with cadmium levels greater than 5 ppb. Of those wells with lead greater than 15 ppb, 16 (5 percent) had lead levels greater than 30 ppb.

Current Activities

Site activities resumed April 12, after demobilizing at the end of last year.

EPA continues to sample residential yards and private drinking water wells.

The remedial program, during their RI/FS investigation, discovered twelve additional properties that had lead contamination greater than 1200 ppm in at least one area, and gave that information to the OSC. EPA has attempted to contact each of those homeowners, with only four responding.

In addition EPA has identified six schools or daycares that have at least one area with lead levels above levels of concern. Each of those have either been excavated or scheduled for excavation, pending the schools schedule.

Properties with soil lead levels above the time-critical removal action level of 1,200 ppm - 172.

Properties cleaned as of this document issuance date (to date) - 151.

Private drinking water wells identified to date with lead levels above the removal action level of 15 micrograms per liter (ug/L) - 38.

Private drinking water wells identified with cadmium above the removal action level of 5 ug/L - 2.

Properties with alternate water offered to date - 40.

Planned Removal Actions

EPA continues to sample residential yards and private drinking water wells. EPA will continue to offer alternative drinking water to residents with contaminated drinking water wells, and at some time, point-of-use filtration systems will be offered to residents with contaminated drinking water wells.

Next Steps

Evaluate alternatives to bottled water such as filtration systems and begin installation in homes with contaminated drinking water.

Key Issues

As the sampling of properties continues, the number of time-critical properties keeps rising, prolonging the completion of the removal activities.

Disposition of Wastes

| Waste Stream | Quantity | Manifest # | Disposal Facility |
|------------------------|-----------------|-------------------|--|
| Lead contaminated soil | 32,242.89 tons | N/A | IESI Timber Ridge Landfill 12581 St Hy H Richwoods, MO 63071 |