

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

Date: Monday, August 13, 2012

From: Manuel Schmaedick, OSC

Subject: Franklin County Lead Site Final PolRep

Franklin County Lead Site

St. Clair, MO

Latitude: 38.3500000

Longitude: -90.9800000

POLREP No.:	3	Site #:	A7E7
Reporting Period:	Final	D.O. #:	
Start Date:	12/20/2007	Response Authority:	CERCLA
Mob Date:	12/1/2009	Response Type:	Time-Critical
Demob Date:	8/8/2012	NPL Status:	Non NPL
Completion Date:	8/10/2012	Incident Category:	Removal Action
CERCLIS ID #:	MON000705442	Contract #	
RCRIS ID #:			

Site Description

*****Website Updated to include details for EPA Water Filter System Project:**

Franklin County, Missouri, consists of 922 square miles located in the Ozark region of eastern Missouri bordered by the Missouri River to the north. The county is known for steep hills, deep valleys, caves, springs and sinkholes. The temperate climate of the area is known for hot summers and cold winters. According to the 2000 Census, approximately 101,579 people live in Franklin County. Because Franklin County is located in the very northwestern portion of the Lead and Barite District of southeast Missouri, it was subject to light to moderate historic mining activities and potentially associated areas of residual contamination.

Lead mining was confined to the south central portion of the county where lead-bearing mineral deposits of the Cambrian and Ordovician age are located near the surface. Lead, iron, copper and barite have been mined in the county since the 1800s and the area grew at its peak to include several distinct mines, the largest of which was the Virginia Mine. During its operation, the Virginia Mine produced more than 25,000 tons of lead. One hundred and seventy-seven mining sites have been identified by the Missouri Department of Natural Resources' Inventory of Mines, Operations, and Prospects (IMOP) in Franklin County. Waste from these mining sites has the potential to be harmful to human and environmental health if not dealt with properly. The waste contamination concerns are primarily associated with lead but may also include arsenic, cadmium, and/or barium.

Prior to 2006, no known lead mining related investigations had occurred at the Franklin County Lead Site (Site). The Missouri Department of Natural Resources (MDNR) Department of Geological Land Survey (DGLS) listed several historical mining locations in southeastern Franklin County in the IMOP database. Several of these former mining locations produced significant amounts of lead ore and were identified for further assessment by the EPA. EPA assessment activities focused on residential properties, daycares and schools located close to these former mining operations.

In 2006, the EPA START contractor conducted an Integrated Site Assessment (ISA) at the Site. In total, 117 residential properties were screened for lead, barium, cadmium and arsenic contamination. Four properties were found to have lead soil levels above 400 parts per million (ppm), while 15 wells contained lead concentrations greater than the Maximum Contaminant Level (MCL) of 15 parts per billion (ppb). In early fall of 2008 the sampling continued, this time in the form of a pilot study to compare different sampling methodologies in terms of analytical accuracy/repeatability and cost-efficiency/time of effort. During this study, two more contaminated wells were discovered, bringing the total in Franklin County to 17. A total of five properties had contaminated soil greater than 400 ppm. An Action Memorandum was signed for the Site on December 20, 2007. The memorandum provided authorization and funding to conduct a Removal Site Evaluation and to remediate contaminated wells and soils already identified on-site.

Current Activities

The Removal Site Evaluation report was submitted to the EPA on October 10, 2010. A total of 362 properties were sampled during this assessment activity in areas located near former mining locations in Franklin County, Missouri. Most of the historical mining operations occurred in the southwestern portion of the county within Meramec, Central and Prairie Townships. The largest facilities were the Virginia Mine Furnace and the J.H. Bartle Smelter. The Virginia Mine Furnace produced approximately 27 million pounds of ore from approximately 1830-1901.

Of the 362 properties sampled during the assessment, one property was identified with lead above the Time Critical Action Level of 1,200 milligrams per kilogram (mg/kg), and six residences were identified with lead contamination present above the Non-time Critical Action Level of 400 to 1200 mg/kg. Of 280 privately-owned wells sampled, 32 properties were identified with lead concentrations above 15 micrograms per liter (µg/l), and one property was identified with arsenic levels above 10 µg/l. Arsenic contamination identified in wells was not attributed to former mining activities and is likely related to elevated arsenic concentrations present in background levels in the area.

Franklin County Sampling Totals:

Total Properties Sampled: 362

Total Properties with Lead in Soils over 1200 ppm: 1

Total Properties with Lead in Soils over 400 ppm: 6

Total Drinking Water Wells with Lead over 15 ppb: 32 (some of these wells removed from list prior to start of EPA filter install project)

Properties with contaminated wells were provided bottled water as an interim measure for alternative drinking water. During the summer of 2011 water filtration systems were installed in homes as a replacement for bottled water services. Water filtration units utilize Solid Block Activated Carbon (SBAC) technology to remove lead contamination from drinking water. Filtration units were sampled after installation in order to confirm that effluent from the filter was below screening levels for lead. The installation of the filtration units was completed in January 2012. During the summer of 2012 replacement filters were delivered to residents and an additional filtration unit was installed in a property that had previously refused the filter. This resident had two kitchens in the home and had initially permitted the EPA to install only one filter in 2011.

The area identified to contain lead-contaminated soil above the Time Critical Removal Action Level (1200 mg/kg) was located in a driveway of a residential property. According to the property owner, the contaminated material had recently been placed on the driveway to elevate a small section of the driveway. The source of these soils was not determined. The property was excavated during Removal Assessment activities. After contaminated soil (approximately 23 tons) was treated and determined to yield TCLP results below regulatory limits, the soil was disposed of at the Timber Ridge Landfill in Richwoods, Missouri. The property was then backfilled, completing the removal activities.

Current Removal Activities Performed On-site

Total Water Filtration Systems Installed by EPA: 23

Previously had EPA bottled water now use own filter or other arrangement: 4

Total Properties with Soil Excavation Performed On-Site: 1

Total Properties Planned for Further Remedial Action: 6

Planned Removal Actions

No additional removal activities are currently planned for this site. The EPA is coordinating with the Franklin County Health Department to assist several property owners identified on site with unsanitary drinking water wells. These residents will work with Franklin County to determine next steps for improving the conditions of their wells. The unsanitary condition of the wells is unrelated to lead contamination or former mining activities at the Franklin County Site.

Next Steps

A final report will be submitted to the EPA Region 7 Missouri Site Assessment Team for further consideration under the Superfund Remedial program.

Key Issues

The Franklin County Health Department conducted sampling activities at a well reported to be unsanitary by a local resident. The Health Department collected the samples in June of 2012. Results of the samples were reported to the EPA by the Franklin County Health Department in July of 2012; sample results did not indicate that any additional contaminants were present in the water. No further activities are planned for these wells at this time.

Disposition of Wastes

After contaminated soil (approximately 23 tons) was treated and determined to yield TCLP results below regulatory limits, the soil was disposed of at the Timber Ridge Landfill in Richwoods, Missouri. The property was then backfilled, completing the remediation activities.

Waste Stream	Quantity	Manifest #	Disposal Facility
Lead Contaminated Soil	23 tons	non-haz	Timber Ridge Landfill Richwoods, MO

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