

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

Date: Monday, August 13, 2012

From: Janice Kroone

To: Dave Williams, US EPA

Subject: Central Mining District Camden County Lead Site
Camden County, MO
Latitude: 38.0094000
Longitude: -92.7569000

POLREP No.:	37	Site #:	A7L9
Reporting Period:	Oct 20, 2011 - August 13, 2012	D.O. #:	
Start Date:	9/22/2008	Response Authority:	CERCLA
Mob Date:	9/22/2008	Response Type:	Time-Critical
Demob Date:		NPL Status:	Non NPL
Completion Date:		Incident Category:	Removal Action
CERCLIS ID #:	MON000705679	Contract #	
RCRIS ID #:			

Site Description

Contamination from mining activities potentially impacts 37,050 residents of Camden County.

The Camden County Mining area was mined from 1830 to 1910, with lead as the principal product. After 1910, most of the mining was for barite, with galena (lead) as a minor by-product. By 1947, lead production in the Central Mining District had totaled 24,855 short tons. Since 1950, no lead and very little barite have been mined. Mining operations and associated lands in the CMD area have been owned, operated, and managed by various entities and/or private citizens (USGS and Missouri Division of Geological Survey and Water Resources 1967). Hazardous substances typically associated with historic mining sites in Missouri include arsenic, barium, lead, and cadmium. The mining waste products often end up on driveways, in yards, and in children's play areas.

The CMD—Camden County covers approximately 655 square miles in central Missouri. The climate of the area is characterized by cool winters and hot summers. The average total annual precipitation is about 38–42 inches. Camden County site soils range widely in texture, natural drainage, depth to bedrock, and other characteristics. The predominant soil types are deep to moderately deep, sloping to very steep, very cherty silt that forms on uplands.

Several properties in the CMD—Camden County area were found to exceed the removal action level for lead. Sampling is continuing in this area.

Site assessment activities were conducted July–November 2006. Properties were sampled based on the Geological Survey and Resource Assessment Division's (GSRAD) Inventory of Mines, Operations, and Prospects database which identified more than 900 mining locations in the five-county Central Mining District area. The locations were then mapped out, and door to door sampling began. A total of 646 properties were sampled in the Central Mining District area. Thirty one properties were found to have lead greater than EPA's maximum contaminant level (MCL) of 15 ug/l; one property was found to have cadmium exceeding 5 ug/l, and eight properties were found to exceed the arsenic MCL of 10 ug/l.

A Regional Decision Team (RDT) meeting was held on 27 February 2007 where the proposed future actions of a second phase of sampling would be conducted. The purpose of this second phase was to sample the properties of residents who responded after November 13, 2006, when site assessment activities ended and to expand sampling into the other mining areas where limited sampling was conducted. At this meeting it was also agreed that site assessment would investigate the potential for naturally occurring contamination versus mining contamination. Also EPA's toxicologist was tasked with completing a site-specific streamlined risk assessment. The naturally occurring contamination project, with associated sampling event and receipt of data, was completed in October 2007. This sampling event included sampling all properties that were found to exceed the MCL of 15 ug/l for lead, 5 ug/l for cadmium, and 10 ug/l for arsenic. At that time both wellhead and tap samples were taken. This

information was provided to the removal program.

In June 2007, draft action memos were developed for the Central Mining District to address alternate drinking water sources, soil contamination, and continued drinking water sampling. On September 21, 2007, EPA's toxicologist completed site-specific removal action levels for lead in the Central Mining District memorandum. This memo set the Removal Action Level (RAL) for lead in drinking water at 30 ug/l. This memo is an attachment to the signed action memo.

The action memo for Camden County was signed on September 22, 2008. The response action includes continued sampling of drinking water sources, excavating contaminated soils in yards, and providing alternative drinking water sources to properties which exceed the RAL for this site.

A Regional Decision Team (RDT) meeting was held on July 30, 2009. At this meeting it was agreed that the action memo would be amended to reflect the lower drinking water removal action level (RAL) of 15 ug/l per the September 17, 2008 Memo from Debbie Dietrich, Director, Office of Emergency Management entitled "Revised Superfund Removal Action Levels". Also the Central Mining District Lead sites will not score on the NPL and therefore there is no other planned follow-up remedial action at these sites. It is also anticipated that the Central Mining Lead Sites will not exceed the expenditure of two million dollars in funds(per site).

The RDT also agreed that yards that exceeded 400 ppm of lead in soil would be excavated.

Properties where drinking water filters would be installed would be sampled quarterly for one year (to ensure effectiveness) and after that time, five filters would be left for the residents to change out as appropriate.

All properties which have water softeners, but do not exceed the RAL for lead, arsenic, and cadmium would be referred to the Missouri Department of Natural Resources (MDNR) for follow-up.

Current Activities

During this reporting period, drinking water sampling was conducted at several residences.

On June 28, 2012, a site walkthrough was conducted with EPA, START and the ERRs contractor in preparation for the excavation of several properties found to exceed the RAL for lead in soil.

During this reporting period, residential soil excavation began on July 30, 2012. One property has been excavated and the contaminated soil transported offsite. This property awaits clean backfill at this time.

A property in Camelot Estates was excavated in some areas to a depth of two feet as lead levels exceeded 1200 ppm lead at that depth. The material excavated from this property found black discolored materials and also smaller crushed rock and pieces of galena. Shipping of this material to a landfill in Jefferson City began on August 13, 2012. To date 91 tons of contaminated soil has been shipped to the landfill.

Approximately 25 other properties in this area have been sampled for lead in soil, and approximately 13 properties were found to have lead in soil exceeding 400 ppm.

Excavation began on several other properties and once lab data is received these contaminated soils will also be sent to the landfill.

EPA had installed a drinking water filter at a residence and drinking water has been sampled over the last year. Data indicates that this filter has been effective in reducing the lead in drinking water below the RAL. This property owner has been supplied several years' supply of filters.

EPA received access agreements from two other properties which have been supplied with bottled water.

Approximately 20 other properties have either been sent access agreements to receive an alternate water source, or request to sample at the tap.

During this removal action, one property which had lead contaminated soil over the RAL has been excavated. At this time two other properties have been identified as exceeding the RAL of 400 ppm for lead in soil. Access has been received for both of these properties at this time.

In the fall of 2009, a drinking water line from a public water supply was extended to a property which exceeded the RAL. This property was hooked up to the public water supply line and the sample at the tap indicates that the drinking water does not exceed the RAL. Another property which used water from the private drinking water well was hooked up by the company that owns that property. The private drinking water well was appropriately abandoned by EPA in consultation with the state of Missouri.

Planned Removal Actions

Continue to excavate residential lead contaminated soils. Transport soil to landfill. Backfill properties and reseed properties.

Next Steps

Continue sampling in Camden County area for properties impacted by lead mining.

Key Issues

None

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	\$243,015.00	\$186,359.00	\$56,656.00	23.31%
RST/START	\$329,900.00	\$286,641.00	\$43,259.00	13.11%
Intramural Costs				
USEPA - Direct (Region, HQ)	\$60,000.00	\$29,000.00	\$31,000.00	51.67%
USEPA - InDirect	\$157,333.00	\$38,000.00	\$119,333.00	75.85%
Total Site Costs	\$790,248.00	\$540,000.00	\$250,248.00	31.67%

* 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.

Disposition of Wastes

Hazardous Waste solids (lead) will be solidified.

Contaminated soil is sent to a Class D landfill in Jefferson City, MO

Waste Stream	Quantity	Manifest #	Disposal Facility
Hazardous waste, solid n.o.s. (lead)	7 - 55 drums	010339572JJK	EQ Detroit, Inc
Contaminated Soil	91 Tons		Jefferson City, MO

response.epa.gov/CMDCamdencountyleadsite

POLREP #37 Last Updated 8/13/2012