

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

**Date:** Friday, September 16, 2005  
**From:** Doug Ferguson

**Subject:** Final POLREP  
Annapolis Lead Mine Site  
Iron County, Annapolis, MO  
Latitude: 37.3633000  
Longitude: -90.6746000

|                          |              |                            |                |
|--------------------------|--------------|----------------------------|----------------|
| <b>POLREP No.:</b>       | 9            | <b>Site #:</b>             | 07XLRV01       |
| <b>Reporting Period:</b> |              | <b>D.O. #:</b>             | 0045           |
| <b>Start Date:</b>       | 2/18/2004    | <b>Response Authority:</b> | CERCLA         |
| <b>Mob Date:</b>         | 2/18/2004    | <b>Response Type:</b>      | Time-Critical  |
| <b>Demob Date:</b>       |              | <b>NPL Status:</b>         | NPL            |
| <b>Completion Date:</b>  | 12/7/2004    | <b>Incident Category:</b>  | Removal Action |
| <b>CERCLIS ID #:</b>     | MO0000958611 | <b>Contract #</b>          | 68-S7-02-04    |
| <b>RCRIS ID #:</b>       |              |                            |                |

**Site Description**

The Annapolis Lead Mine site is the location of a lead mine that operated in the 1920's and 1930's. During that operational period tons of mine wastes were abandoned at the surface of the site. This mine waste contains elevated levels of lead along with cadmium, thallium and arsenic. The mine waste is slowly washing off of the site through a small ditch that drains from the site. The ditch empties into Sutton Branch, which, only about a mile south, empties into Big Creek. Environmental assessments have been performed by both the U.S. Environmental Protection Agency (EPA) and the Missouri Department of Natural Resources (MDNR) in the past. The EPA performed a removal action at the site in 1997 in response to children with elevated blood-lead levels living on-site. However, the current action is the first action taken to stabilize the tailings pile and end the contamination migration off-site.

Between February 2002 and May 2002, the EPA was on-site on an intermittent basis. The EPA and the EPA contractor, Superfund Technical Assessment and Response Team (START), roughed in the outer boundaries of the lead-contaminated soil with an X-Ray Fluorescent (XRF) Analyzer. An EPA surveyor was utilized to grid the site off into 50'X 50' cells. The START contractor mobilized to the site to perform lead assessment activities on each grid and modify the outer boundary of lead-contaminated soil based upon their findings. A map was generated that visually depicts the area contaminated by lead. The map is broken into three separate ranges: 0- 400, 401-999, 1000-infinity.

The Emergency and Rapid Response Service (ERRS) contractor crews mobilized to the site on May 10, 2004. By the time they were mobilized to the site, a clean area had been constructed near the county road. Office trailers, storage and portable toilets were placed on the clean area. The office trailers were connected to electricity and had phone service installed.

During the weeks of May 10/17, 2004, the ERRS crews utilized two bull dozers and an excavator to begin constructing roads and drainage ways around the tailings pile as well as clearing trees, concrete structures and rubbish. During the week of May 24, 2004, and Memorial Day week beginning June 2, 2004, the ERRS crews constructed a lower settling basin. The settling basin, constructed before Memorial Day weekend, effectively placed a physical barrier between the tailings pond and Sutton Branch Creek.

During the week of June 2, 2004, a large off-road dump truck was mobilized to the site. Construction of the upper settling basin was completed June 12, 2004.

Work is proceeding according to a set of plans and specifications completed for the EPA by the START contractor.

A National Pollutant Discharge Elimination System (NPDES) permit has been obtained from the MDNR. Initial flow and discharge measurements were taken after the first significant rain

event. Analytical results indicated the settling basins are highly effective in reducing the spread of lead-contaminated soils off-site. The MDNR has been contacted to begin the process of terminating the permit when this removal action is completed.

The START contractor is also currently on-site performing removal oversight and documentation of site conditions.

All tailings material has been transported to the top of the repository to maximize volume for future waste that may be added to the repository. Area around the repository has been graded to meet engineering specifications for slope and drainage.

The site was added to the National Priority List (NPL) on July 22, 2004, and a community meeting was held on August 3, 2004, to provide information to the community regarding the current removal progress and future actions related to the remedial program.

The START contractor has characterized on-site borrow areas and determined they are acceptable as repository cap material. The START continues to screen excavated materials to ensure they are below cleanup levels before confirmation samples are taken.

Crews have removed the lower sedimentation basin and excavated contaminated soils associated with the haul roads constructed at the beginning of the site. Hydroseeding with winter wheat, lespedeza clover, and orchard grass has been completed.

### Current Activities

The time-critical removal action has been completed. As built survey work remains as well as a public meeting to discuss completion of the removal action and potential for future cleanup actions.

### Planned Removal Actions

The primary purpose for this removal action was to stabilize the tailings pile that has been washing away for upwards of 60 years. With the construction of the upper and lower settling basin, sediments migrating from the tailings pile can be managed during construction before they impact Sutton Branch or Big Creek. The upper sedimentation basin will be revegetated before demobilization. The area to be capped (repository) as well as the drainage has been constructed in accordance with the engineering plans and specifications.

### Next Steps

In the meeting held October 5, 2004, with the MDNR and the EPA Region 7 Removal and Remedial Programs it was agreed to fence the site and place deed notices to prevent accidental exposure. A county ordinance against digging on the property is being sought from local government officials.

Now that the tailings are shaped to plans and specifications a cap will be installed over them. When the cap is completed, seed will be sewn over the cap to establish a vegetative cover.

### Key Issues

Sam A. Baker State Park is located about 15 miles downstream of the site on Big Creek. Two sediment samples were taken in Big Creek near the intersection of Highway 143 and Big Creek. The samples were analyzed for lead and other heavy metals commonly associated with mining in the area. The sample analysis did not indicate a problem with heavy metals in the sediments of Sam A. Baker State Park.

Also, a consensus of the MDNR, the EPA OSC, the EPA Remedial Project Manager (RPM), and the EPA Environmental Risk Assessors determined that a 50-100 foot buffer should be left around the creek to maintain the creek ecosystem and prevent erosion until a Remedial Investigation/Feasibility Study (RI/FS) can be completed.

### Estimated Costs \*

|                           | Budgeted       | Total To Date  | Remaining    | % Remaining |
|---------------------------|----------------|----------------|--------------|-------------|
| <b>Extramural Costs</b>   |                |                |              |             |
| ERRS - Cleanup Contractor | \$1,600,000.00 | \$1,583,000.00 | \$17,000.00  | 1.06%       |
| RST/START                 | \$108,512.00   | \$87,403.00    | \$21,109.00  | 19.45%      |
| Analytical                | \$24,000.00    | \$0.00         | \$24,000.00  | 100.00%     |
| Contingency               | \$161,000.00   | \$0.00         | \$161,000.00 | 100.00%     |

| <b>Intramural Costs</b>     |                |                |              |        |
|-----------------------------|----------------|----------------|--------------|--------|
| USEPA - Direct (Region, HQ) | \$48,000.00    | \$40,000.00    | \$8,000.00   | 16.67% |
| USEPA - InDirect            | \$25,411.00    | \$23,000.00    | \$2,411.00   | 9.49%  |
|                             |                |                |              |        |
| <b>Total Site Costs</b>     | \$1,966,923.00 | \$1,733,403.00 | \$233,520.00 | 11.87% |

\* 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.

[response.epa.gov/annapolisleadmine](http://response.epa.gov/annapolisleadmine)

POLREP #9 Last Updated 10/2/2006