

ANNAPOLIS LEAD MINE

MISSOURI

EPA ID# MO0000958611

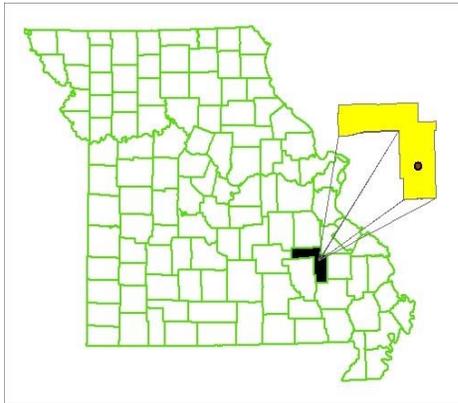
EPA Region 7

City: Annapolis (one mile west of site)

County: Iron

Other Names:

02/06/2009



SITE DESCRIPTION

The Annapolis Lead Mine (the site) site is located approximately one mile east-northeast of Annapolis, Missouri. The site is arranged into three operable units for administrative efficiency in conducting environmental cleanups. Operable Unit-1 is defined as the Sutton Branch Creek flood plain and the historical mining areas. The northern portion of Operable Unit-1 is located along Iron County Road number 138 north of State Highway 49 and extends south along the Sutton Branch Creek flood plain to Highway 49. That portion of the site lies on either side of the county road. Runoff from the mine works and waste piles entered Sutton Branch Creek which runs near the western boundary of the site. The western boundary of this portion of the site is the western edge of the Sutton Branch flood plain. The southern portion of Operable Unit-1 begins south of Highway 49 and follows the Sutton Branch Creek flood plain south into Big Creek. Operable Unit-2 is defined as Big Creek from the mouth of Sutton Branch Creek downstream to the confluence with the St. Francois River. Operable Unit-2 is approximately 20 miles in length. Operable Unit-3 is defined as the soil in the town of Annapolis, Missouri. Residences north of Operable Unit-1 were also included in the Remedial Investigation of Operable Unit-3.

The majority of the work at the site has focused on Operable Unit-1 (the source area). The site property boundary is roughly rectangular in shape. It is bordered to the east and west by wooded uplands. A residential plot lies to the north and Big Creek is the southern boundary. The dominant features at the site include a 10 acre tailings pile, building foundations that are remnants of the former mining operations and Sutton Branch, including its flood plain.

The tailings pile has in the past been severely eroded due to surface runoff. Rough estimates of the amount of tailings that have migrated or have been hauled offsite could easily be in the hundreds of thousands of tons. There is coarser-grained mining refuse, ranging from

sand/granule size up to cobbles and boulders, around the remains of the former mining operations.

The above mentioned materials have been consolidated into the tailings piles and contained with a cover. This is the result of an EPA lead removal action. The mine area and the tailings piles no longer represent a threat or source of contaminated sediment for the downgradient bodies of water.

Site Responsibility:

This site is being addressed through federal and State actions. Missouri Department of Natural Resources (MDNR) is the lead state agency.

NPL LISTING HISTORY

Proposed Date: 03/08/2004

Final Date: 07/22/2004

Deleted Date:

THREATS AND CONTAMINANTS

Heavy metals resulting from erosion and runoff from the mine tailings and mine works are the contaminants of concern. The principal contaminant is lead. The contaminants are found in surface soils and sediment in the flood plain of Sutton Branch.

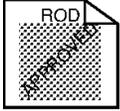
CLEANUP APPROACH

Response Action Status



Site Studies: An EPA Fund-Lead Remedial Investigation/Feasibility Study (RI/FS) for Operable Unit-1 (OU-1) was completed in August 2005. The RI combined the information about the nature and extent of contamination in and around the site. The FS developed alternatives for remedial action for OU-1. Additional studies conducted by the EPA, the MDNR, the United States Fish and Wildlife Service (USFWS), and others assisted in developing and supporting the alternatives in the FS.

Remedy Selected: An EPA-Fund Lead Record of Decision was completed for OU-1 in September of 2005. The remedy for OU-1 was Phosphate amendment of flood plain soils with in-stream stabilization techniques and limited sediment



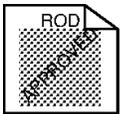
removal. This also included erosion controls around the existing vegetated cap.



Remedy Design: An EPA Fund-Lead Remedial Design for OU-1 was completed in June of 2007. The Remedial Design was reviewed by MDNR and went through the required Value Engineering Screening Process by the US Army Corps of Engineers. The Value Engineering Screening resulted in various recommended changes to the design. EPA made the recommended changes and the Remedial Design was approved.



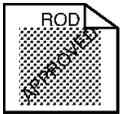
Site Studies: An EPA Fund-Lead RI/FS for Operable Unit-2 (OU-2) began in October 2005 and was completed in June 2007. MDNR assisted with the sampling effort. Sediment samples were collected from 49 depositional areas in a 20 mile reach of Big Creek. Results of data showed no unacceptable risk associated with Big Creek.



Remedy Selected: The RI/FS has shown that no action at OU-2 is necessary.



Site Studies: An EPA Fund-Lead combined RI/FS for Operable Unit-3 (OU-3) began in August of 2006 and was completed in June of 2007. Eighty-five properties were sampled for lead contamination. MDNR assisted with the sampling effort. Results showed that there was one driveway that presented an unacceptable risk.



Remedy Selected: The selected alternative for addressing contaminated soil at OU-3 was a time critical removal action of the property with the contaminated driveway. The property with the contaminated driveway exceeded 400 ppm, the EPA screening level for lead.



EPA completed the remediation of OU-3 in August of 2008. The contaminated material was placed in the repository located in OU-1. The driveway was replaced with clean gravel.



EPA completed the Remedial Action for OU-1 in September of 2008. The Remedial Action consisted of the following activities:

- Excavation of sediment from Sutton Branch Creek occurred in pockets, or depositional areas, where the benefit of excavation/removal outweighed the habitat destruction that resulted. Areas of sediment removal were determined and estimated during the Remedial Design phase.

- Excavated sediment was placed in the existing repository area and capped with a simple soil cover. The cover is approximately 3 feet thick. The capped tailings

deposits were revegetated by planting with an appropriate site-specific seed mix selected through a site revegetation plan.

- Stabilization of the Sutton Branch Creek banks with large rock, other materials, and structures to prevent wash-outs and stream channel meandering. The quantity of rock used, and the location of structures and their design were determined during the Remedial Design. The material was placed in increments in Sutton Branch Creek. The placement of the structures required the excavation of bank material in some areas. Excavated material was placed with the excavated sediment in the on site repository.

- Construction of rock blankets, berms, settlement basin, and channels around the former mining area.

- Implementation of Institutional Controls.

- Perform annual monitoring to determine remedial effectiveness. Initial monitoring will be biannually. At each 5-year review the length of the monitoring period will be evaluated to determine whether monitoring should be less or more frequent.

- Regular water quality monitoring (including phosphorus) will be carried out by MDNR at established monitoring stations, pursuant to the Clean Water Act (CWA).

- MDNR will manage post-removal maintenance of the protective cover consistent with all federal and state laws.



A Final Closeout Report was completed for the Annapolis Lead Mine Site (OU-1, OU-2, and OU-3) in September 2007. EPA will monitor the site until September 30, 2008. MDNR is responsible for the Operation and Maintenance of the site after September 30, 2008.

Site Facts:

ENVIRONMENTAL PROGRESS



The completion of the response actions have eliminated the continuing source of contaminated sediment at the site. Exposures have been reduced to the residual contaminated sediment in and along Sutton Branch Creek. Monitoring of aquatic macroinvertebrates, surface water, and sediment is being conducted to evaluate the effectiveness of the remedy.

COMMUNITY INVOLVEMENT

10/01	Fact Sheet and Display Ad announcing community meeting
10/18/01	Community Meeting
03/10/04	Fact Sheet and display ad announcing Annapolis Lead Mine Site being proposed to the NPL
07/22/04	Press Release announcing Annapolis Lead Mine Site being placed on NPL
07/27/04	Fact Sheet and display ad announcing community meeting and time critical removal
08/03/04	Community Meeting to discuss time critical removal, EPA listing of the site on the NPL, and upcoming remedial investigation
01/04/05	Flyer and Display Ad announcing community meeting, summary of completed work, and future remedial actions
01/11/05	Community Meeting
01/11-12/05	Community Interviews
01/05	Town Hall Meeting (EPA and MDNR)
05/31/05	Community Involvement Plan
07/24&25/06	Door Knocking to pass out Access Agreement Forms and Information about the Site
03/07	Fact Sheet and Display Ad announcing public meeting 4/5/07 on Proposed Plans for OU-1 and OU-2
03/08	Fact Sheet and Display Ad announcing water monitoring and site sampling activities
10/08	Contacted impacted property owners to discuss meeting arrangements with RPM regarding institutional controls and the environmental covenant.

SITE REPOSITORY



Annapolis City Hall
Annapolis, Missouri
204 School St.
Annapolis, MO 63620-9114
(573) 598-3531
Contact: Sandy May
M-F 9am-4pm

Superfund Records Center
901 N. 5th St.
Kansas City, KS 66101
Mail Stop SUPR
(913)551-7166

REGIONAL CONTACTS

SITE MANAGER: Jason Gunter/R7/USEPA/US
E-MAIL ADDRESS: gunter.jason@epa.gov
PHONE NUMBER: (913) 551-7358

**COMMUNITY INVOLVEMENT
COORDINATOR:** Belinda Young
PHONE NUMBER: (913) 551-7463
E-MAIL ADDRESS: young.belinda@epa.gov

STATE CONTACT: Evan Kifer
PHONE NUMBER: evan.kifer@dnr.mo.gov
(573) 751-1990

MISCELLANEOUS INFORMATION

STATE: MO
CONGRESSIONAL DISTRICT: 07XL
EPA ORGANIZATION: 8
SFD-SPEB

MODIFICATIONS

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