

## **Upper Blackfoot Mining Complex September 2011**

The Upper Blackfoot Mining Complex (also known as the Heddleston district), 15 miles east of Lincoln, is an inactive mining district, greater than 50 acres in size, which was mined intermittently from 1889 to the 1950s and explored intermittently up to the present. Tailings and waste rock dumps and acid mine drainage from old adits have contaminated surface water, sediments, soils and groundwater. The main workings in the district are the Mike Horse Mine, which is a major contributor to surface water contamination; the Anaconda, Carbonate, Edith, Mary P and Paymaster Mines; and a surface impoundment on Beartrap Creek. In 1975, the impoundment failed during heavy rains and washed metal-laden tailings down the drainage into the upper Blackfoot River.

The mining district is located in a fairly remote location on and near national forest land which is used by hunters and other recreationists. One residence with a domestic well is located on Beartrap Creek above the impoundment. No other residences are present within several miles. The mines are located in the headwaters of the Blackfoot River. The town of Lincoln is about 15 miles downstream.

The Montana Department of State Lands (DSL) completed an environmental assessment (EA) on the area in 1991. A 1991 state legislative action then transferred regulatory authority for the mining area from DSL to the MDHES CECRA program.

An August 1991 CERCLA preliminary assessment by MDHES summarized available information about facility history and contamination.

In February 1992, MDHES notified Asarco and Atlantic Richfield Co. (ARCO) they are potentially liable persons (PLPs) for the facility and directed them to conduct a remedial investigation/feasibility study (RI/FS.) Consultants for the PLPs began conducting surface water monitoring and conducted a Phase I RI sampling event in September 1992. However, Asarco and ARCO never completed the RI/FS.

Instead in September 1993, Asarco and ARCO began a five-year voluntary interim remedial action program at the UBMC. From 1993 through 1998, Asarco and ARCO conducted the voluntary interim remedial actions without formal DEQ approval. Remedial actions included mine waste removal to three constructed repositories, adit discharge flow control, constructed pretreatment ponds and wetlands for adit discharge for the Anaconda and Mike Horse mines, and capping mine waste in place.

In 1996-97, work was also conducted under the Voluntary Cleanup and Redevelopment Act (VCRA) program. Under a DEQ approved voluntary cleanup plan (VCP), mine waste was removed from several areas in and near Paymaster Creek and taken to an on-site repository. Due to the failure of Asarco to submit a construction completion report as per VCRA requirements, approval of the VCP was voided in 2003.

In 1999, Asarco petitioned the Board of Environmental Review (BER) of the State of Montana for temporary modification of water quality standards within the UBMC for a segment of the Blackfoot River and segments of two (Mike Horse Creek and Beartrap Creek) tributaries. The Board approved the adoption of the temporary standards in June 2000 for a period of eight years. In accordance with

Montana law regarding temporary water quality standards, Asarco prepared an implementation plan (IP) and schedule outlining a remedial action plan for the identification and mitigation of the remaining causes of water quality impairment in the three petitioned stream segments at the UBMC. Assessment of current water quality conditions, yearly monitoring, potential source area characterization, and remedial design and scheduling were required in the IP.

In 2002, as part of the IP requirements, the United States Forest Service (USFS) and Asarco negotiated an Administrative Order on Consent (AOC) to develop an Engineering Evaluation/Cost Analysis (EE/CA) for the Mike Horse dam and USFS land containing mine waste at the UBMC.

In June 2003, DEQ finalized the Water Quality Restoration Plan for Metals in the Blackfoot Headwaters TMDL (Total Maximum Daily Load) Planning Area. The restoration plan identified the UBMC as the primary source of metals contamination in the Blackfoot headwaters area.

In 2003, Grupo Mexico's purchase of Asarco, combined with Asarco's poor financial status, led to negotiations between the US Department of Justice (USDOJ) and Asarco. The primary result was the formation of a Trust Fund to handle all of Asarco's environmental obligations nationwide for a period of five years. The Trust Fund provided limited annual funding at the UBMC, which created uncertainty regarding the ability of Asarco to meet the temporary standards IP schedule deadlines.

In 2003, DEQ also instituted litigation against ARCO and Asarco for cleanup of the UBMC and cost recovery.

In 2004, Asarco began the first removal under the temporary standards at the Upper Mike Horse waste piles. The removal was completed in fall 2007.

In August 2005, Asarco filed for bankruptcy, which created further uncertainty regarding Asarco's ability to meet the temporary standards IP schedule deadlines. DEQ filed a proof of claim and aggressively pursued the claim in bankruptcy court.

In September 2006, Asarco completed the EE/CA for the Mike Horse dam and impoundment tailings and lower Mike Horse Creek, Beartrap Creek, and upper Blackfoot River floodplain removal areas. The EE/CA was finalized in July 2007 when the USFS issued an Action Memorandum that included complete removal of the Mike Horse dam and impounded tailings.

In December 2006, based on numerous failures by Asarco to meet temporary standards IP schedule deadlines and at the request of DEQ, the BER rescinded the temporary water quality standards for the UBMC.

In fall 2007, the USFS completed the Beartrap Creek diversion around Mike Horse Dam and tailings impoundment. The diversion will allow collection of information necessary for planning and designing the removal of the dam and impoundment tailings. It will also protect the dam by controlling annual runoff until the dam and impoundment are removed.

In August 2007, DEQ initiated a Remedial Investigation (RI) for all areas at the UBMC that were not covered in the EE/CA. The RI is funded with \$2 million dollars from the Montana Legislature to conduct the Remedial Investigation. The RI is scheduled to be completed in winter 2011/2012.

In April 2008, a \$37 million settlement was reached with ARCO and Asarco by DEQ, Montana Department of Justice (DOJ), USFS, and USDOJ. The State of Montana received \$16 million of the settlement money in August 2008 for the removal of the contaminated tailings impoundment at the Mike Horse Dam, other cleanup and natural resource restoration. The remaining settlement funds were received in December 2009. The DEQ, DOJ, and USFS are coordinating in the remediation and restoration at the UBMC.

In addition to the settlement money, Asarco was responsible for constructing a water treatment plant. Construction of the plant was completed in January 2009 and is designed to treat more than half a million gallons of contaminated mine adit water per week. Long-term operation and maintenance (O&M) of the plant will occur and be funded by a separate \$10 million settlement agreement reached with Asarco as part of the bankruptcy.

In 2009, DEQ, DOJ, and the USFS initiated the construction design process for the removal of the Mike Horse Dam and tailings impoundment, and repository design. During the design-level investigation, technical issues were identified regarding the suitability of the EE/CA-identified repository location, which led to the investigation of other alternatives. In 2011 DEQ contracted with an engineering firm to do a documented review of previous repository investigations for the site, conduct an independent repository identification effort, and provide a technical screening evaluation of potential suitable repository sites. The Repository Siting Study is available online at [http://www.fs.fed.us/r1/helena/index\\_page/MikeHorse/MikeHorse.shtml](http://www.fs.fed.us/r1/helena/index_page/MikeHorse/MikeHorse.shtml).

In March 2009, DEQ initiated a Baseline Risk Assessment that includes a Baseline Human Health Risk Assessment and a Baseline Ecological Risk Assessment. It is scheduled to be completed in winter 2011/2012.

The USFS, DEQ, and DOJ cooperatively manage the UBMC response and restoration actions on USFS Lands. The Watershed Restoration Agreement between the State of Montana and the USFS provides the framework for these actions.