

Red Devil Mine

Environmental Investigation Update

January 2012

This newsletter provides updates on the environmental investigation at the Red Devil Mine, an abandoned cinnabar mine and mercury production facility on the Kuskokwim River. A complete record of documents for this investigation, including previous newsletters, is available at http://www.blm.gov/ak/red_devil_mine.

Red Devil Mine Remedial Investigation

The BLM continues work on a *Remedial Investigation and Feasibility Study* for the Red Devil Mine site. The purpose is to better understand the physical setting and potential impacts of the mine tailings (the leftover material after ore is processed), determine what potential risks the mine may have on human health and the environment, and what can be done to address those risks. The *Remedial Investigation* report will be ready for review in March 2012.

Community Involvement

Ongoing community involvement is an essential part of this investigation. In 2011 the BLM again met with interested tribes and residents in communities along the middle and lower Kuskokwim River.

The BLM also coordinated a site visit in August 2011 for the U.S. Office of Management and Budget, Alaska Department of Environmental Conservation, U.S. Environmental Protection Agency, and Department of the Interior. This group was joined by tribal and community leaders and residents from Sleetmute, Red Devil, Crooked Creek, Bethel, and the Kuskokwim River Watershed Council. State Representative Alan Dick also joined the site visit.



The BLM will continue to seek comments and suggestions from local communities as we develop the *Remedial Investigation and Feasibility Study* for the Red Devil Mine site.

2011 Field Sampling

Field data on soil, groundwater, surface water and sediment were collected in August and September 2011. The results are being analyzed by the BLM contractor, Ecology & Environment, Inc., and will be included in a draft *Remedial Investigation* report that will be available for review in March 2012. This report will describe the physical setting and potential impacts of tailings on the environment. It will also provide an estimate of the risk to fish, animals and people presented by tailings and petroleum hydrocarbons on the mine site. Preliminary results indicate the metals of greatest concern are mercury, arsenic and antimony.



Fish Contaminant Study

The middle Kuskokwim River in Alaska runs through a highly mineralized region with mercury deposits. The potential for transfer of mercury to fish through erosion from mined and unmined areas along the Kuskokwim River has led to numerous contaminants

Alaska Department of Fish and Game biologist Brian Collyard and Mike Thalhauser of the Kuskokwim Native Association Fisheries Department tag lush in the Kuskokwim River to track movement of the fish.

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studies in the region. The BLM's fish tissue project, initiated in 2010, is the most comprehensive study of its kind ever undertaken in Alaska. This study has resulted in hundreds of tissue samples taken from non-salmon subsistence fish throughout a 73-mile section of the middle Kuskokwim River, in addition to multiple tributaries.

In 2010, tissue samples were collected from adult northern pike, sheefish, lush (burbot), Dolly Varden and arctic grayling in the Kuskokwim River, the lower stretches of the George and Holitna rivers, and eight other tributaries, including Red Devil Creek. The samples were analyzed for 19 different metals, including mercury.

The 2010 results showed mercury concentrations similar to those observed in an earlier study on the lower Kuskokwim River in the Yukon Delta National Wildlife Refuge. That study prompted the Alaska Department of Health and Social Services (DHSS) to issue fish consumption guidance for the lower river. Based on the BLM study results, the DHSS issued similar guidance for the middle Kuskokwim in June 2011. Both guidance documents can be found at <http://www.epi.alaska.gov/eh/fish> and recommend that pregnant women and young children limit their intake of certain fish species taken in the lower and middle section of the Kuskokwim River.

A report summarizing the 2010 data and analysis (http://www.blm.gov/ak/st/en/prog/fisheries/rdm_fish.html) confirms that fish species such as sculpin and juvenile Dolly Varden in Red Devil Creek have elevated levels of mercury compared to samples from these species collected in other Kuskokwim River tributaries. The report also found elevated levels of mercury in long-lived predatory fish, such as northern pike and lush, throughout the study area. Northern pike from the George River had significantly greater mercury concentrations than northern pike from the Kuskokwim and Holitna rivers. This report also highlighted the complexity of mercury chemistry within the aquatic food ecosystem, which includes fish species that seasonally migrate within the Kuskokwim and its tributaries.

In 2011, the BLM and the Alaska Department of Fish and Game initiated a two-year radio tracking project to better understand the movements of northern pike and lush in the middle Kuskokwim River. This effort involved tagging 300 fish from the George, Holitna and Kuskokwim rivers, and collecting tissue samples for metals analysis. Fish tissue samples were also collected from several tributaries, including Red Devil Creek, and analyzed for metals. The data from this phase of the study will improve our understanding of the interaction between mercury sources and seasonal fish movement in the larger Kuskokwim basin. An updated report will be posted at the Web address above in March 2012.



Next Steps

The Red Devil Mine draft *Remedial Investigation* report will be available for review in late March 2012. The BLM will contact tribes and communities along the middle and lower Kuskokwim River at that time. We would like to schedule tribal consultations and community meetings with interested tribes and communities to discuss the report.

The draft *Feasibility Study*, scheduled for release in the fall of 2012, will address cleanup alternatives. The BLM welcomes your comments, questions and suggestions, including how we can provide information helpful to your community throughout this investigation.

You Are Invited...

The BLM will host “**What’s Happening at Red Devil Mine? A Talking Circle for Interested Kuskokwim Communities**” Feb. 9, 3:30 – 4:45 p.m., at the 2012 Alaska Forum for the Environment, to be held at the Dena’ina Center in Anchorage.

The Talking Circle is an informal gathering to discuss the site investigation, seek input about future community meetings and tribal consultations, and invite comments and concerns about the Red Devil Mine project. Please join us!

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