



# Oregon

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May 26, 2006

Mr. Chris Field  
U.S. EPA Region 10  
1200 Sixth Avenue, M/S ECL-116  
Seattle, WA 98101

**Re: DEQ Request for EPA Removal at  
Black Butte Mine – Lane County, OR**

Dear Chris:

The Oregon Department of Environmental Quality (DEQ) requests that EPA Region 10 conduct a removal action at Black Butte Mine (CERCLIS # OR0000515759). EPA conducted a removal assessment in September 2005 which recommended several removal actions. Due to limited funding in the DEQ Orphan Account, which traditionally was the source of state funding for remedial actions at this site, DEQ requests that EPA conduct the recommended actions.

The attached memo provides details about the site, results of the Removal Assessment, and a summary of a site visit made by EPA and their removal contractors on May 15, 2006. We appreciate EPA's work at the site to date and look forward to your continued assistance.

Please call me at (541) 687-7328 if you need more information about DEQ's request, or have other questions about this letter.

Sincerely,

For

Kerri L. Nelson  
Western Region Administrator

Enc.

cc: Carl Kitz, EPA Region 10 On-Scene Coordinator  
Ken Marcy, EPA Region 10  
Gil Wistar, DEQ HQ  
Jeff Christensen, DEQ HQ  
Max Rosenberg, DEQ-WR Eugene

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Environmental Cleanup Office



Date: May 26, 2006

To: Chris Field, EPA Region 10 Removal Program Manager

From: Bryn Thoms, R.G. Western Region Cleanup Program *BET*

Through: Paul S. (Max) Rosenberg, RG, Manager, DEQ Western Region Cleanup Program *PSR*

Subject: Request for Additional EPA Removal Support – Black Butte Mine, Lane County, Oregon CERCLIS # 0000515759, ECSI #1657

The purpose of this memorandum is to request action by EPA's Removal Program at the Black Butte Mine site in Lane County to implement measures outlined in the 2006 Black Butte Mine Removal Assessment report. The site has significant quantities of mercury-laden tailings, and is upstream of Cottage Grove Reservoir, which is used for recreation and where high levels of mercury have been found in fish. Black Butte Mine is thought to be a significant source of mercury loading in the reservoir. DEQ declared the site an Orphan Site in 2002, and has taken investigative actions consistent with our available resources. DEQ acknowledges existing EPA support for this site, in the form of a past PA/SI investigation, a \$60,000 competitive grant (EPA HQ money) awarded in 2005, and current interest by EPA to conduct a removal. EPA's START contractor conducted a removal assessment using the grant money in September 2005 and finalized the report in the spring of 2006. The Assessment indicated that a removal action is necessary to protect human health and the environment.

### Site Orientation

Extraction and processing of mercury-containing rock from Black Butte Mine occurred at various times from the late 1800s until 1969, when the mine was permanently abandoned. At one time during its operation, the mine was the second largest producer of mercury in the U.S. Extracted mercury was sold for use in certain products, and it was also used to amalgamate gold from gold and silver mines in the nearby Bohemia Mining District east of Black Butte.

Although Black Butte Mine is abandoned, remnants from past mining activity are still readily visible. Site features include: 1) remnants of mining equipment, such as two mercury-extraction furnaces, tramway, and ore crusher; 2) tailings piles; and 3) mine openings (adits and stopes).

### Environmental Investigations

In a 1996 Preliminary Assessment, DEQ identified potential public health and environmental threats related to contamination from this mine. Mercury contamination in nearby streams and in Cottage Grove Reservoir was linked to the Black Butte Mine area, including surface water runoff of contaminated soil from an estimated 300,000 cubic yards of mine tailings. EPA's 1999 Site

Investigation documented unsafe levels of mercury, as well as arsenic, in mine tailings and soil, confirming that the mine posed serious, ongoing threats to public and environmental health.

In the spring of 2004, in conjunction with Oregon State University (OSU), DEQ used about \$50,000 in orphan funds to complete a reconnaissance-level soil sampling study of the mine, leading to a better understanding of the distribution of mercury in and around the site and associated risks. This work complements earlier studies made over the past 14 years at Black Butte Mine and nearby Cottage Grove Reservoir by various other state and federal organizations (i.e., OSU, EPA, the U.S. Army Corps of Engineers, the U.S. Geological Survey, and the U.S. Fish & Wildlife Service).

The EPA-funded removal assessment completed this spring was designed to provide data necessary to estimate volumes of contaminated material that threaten the environment, and to evaluate alternatives for a removal action(s). Specifically, the Assessment comprised the following: 1) horizontal and to some extent vertical delineation of mercury and arsenic contamination; 2) speciation and leaching analyses to determine the mobility and main transport mechanism of contaminants; and 3) recommendations for specific removal actions for the various sources.

### **Removal Action Site Visit**

On May 15, 2006 DEQ personnel met at the site with an EPA On-Scene Coordinator, and EPA's Removal Contractors (EQM and Ecology & Environment), to discuss potential removal actions. The following is a summary of recommendations provided by EPA's contractors:

1. Remove or cover the highest levels of mercury-contaminated soil around the two furnaces. If the soil were removed, it would be placed in an on-site repository near the middle of the main tailings pile and capped. Off-site disposal was determined to be too costly.
2. Remove mercury-contaminated soil from the Furnace Creek riparian zone below the old furnace area. This soil would either be placed in the repository or simply placed in an upland area away from Furnace Creek.
3. Reduce the slope of the unvegetated portions of the tailings pile on Dennis Creek and vegetate. A soil layer and/or biomat may be used to reduce erosion of the tailings pile and to support vegetation.

DEQ agrees with these recommendations and requests that EPA move forward to implement the recommended removal actions.