



EARTHWORKS

## EARTHWORKS FACTSHEET

# Modern Mining Needs a Modern Mining Law

### **Pollution and Taxpayer Liability at Modern Mines Demonstrate that the Existing Patchwork of Laws Does not Adequately Protect Communities and their Water**

The hardrock mining industry argues that pollution from mines result almost entirely from historic operations. Modern mines (post-1976), the industry argues, are governed by numerous statutes and regulations and are environmentally responsible, problem-free operations.<sup>1</sup>

Unfortunately, the assertion that that all modern mines are clean, is simply not true. Consider:

- A 2006 peer-reviewed study of modern mines revealed that more than 75% of the mines reviewed exceeded water quality standards.<sup>2</sup>
- At least 14 mines have gone bankrupt since 1976.<sup>3</sup>
- Unfunded taxpayer liability at currently operating mines probably exceeds \$12 billion.<sup>4</sup>

It is true that historic mining polluted and continues to pollute rivers, streams and aquifers. Until 1976, there were no federal regulations written specifically to govern hardrock mining operations on publicly owned land. But, it is also clear from the issues at modern mines that the patchwork of laws that govern hardrock mining operations are not enough to ensure that western watersheds and communities are protected.

Mines that began operations in the past three decades – three decades in which the mining industry was governed by modern environmental laws – have spilled cyanide, killed aquatic life, caused pollution that will require treatment in perpetuity and burdened the taxpayers with enormous liabilities.

### **75% of Modern Mines Exceed Current Water Quality Standards**

In order to be permitted, a proposed mine must predict that it will comply with applicable environmental standards. At the time they are permitted, all modern mining operations predict that they will comply with applicable standards during and after mining operations.

However, in 2006 an unprecedented, scientific, peer-reviewed survey of modern mines discovered that more than 75% of the major mines surveyed exceed water quality standards.<sup>5</sup>

### **Potential Taxpayer Cleanup Liability Exceeds \$12 Billion at Modern Mines**

According to a 2003 report, current laws leave taxpayers potentially liable for more than \$12 billion in mine cleanup costs at currently operating mines.<sup>6</sup> Modern mines are required to post financial

<sup>1</sup>[http://resourcescommittee.house.gov/images/Documents/20070726/testimony\\_champion.pdf](http://resourcescommittee.house.gov/images/Documents/20070726/testimony_champion.pdf)

<sup>2</sup> <http://www.earthworksaction.org/pubs/ComparisonsReportFinal.pdf>

<sup>3</sup> [http://www.unr.edu/mines/mlc/presentations\\_pub/NV\\_bonding.asp](http://www.unr.edu/mines/mlc/presentations_pub/NV_bonding.asp)

UBWC Upper Cow Creek Watershed Assessment and Action Plan,  
[http://ir.library.oregonstate.edu/dspace/bitstream/1957/872/1/Upper\\_Cow\\_Creek\\_WAAP.pdf](http://ir.library.oregonstate.edu/dspace/bitstream/1957/872/1/Upper_Cow_Creek_WAAP.pdf)

<sup>4</sup> <http://www.earthworksaction.org/publications.cfm?pubID=8>

<sup>5</sup> <http://www.earthworksaction.org/pubs/ComparisonsReportFinal.pdf>

<sup>6</sup> <http://www.earthworksaction.org/publications.cfm?pubID=8>

assurances to prevent just such taxpayer liability. However, this financial exposure still exists in part because existing mining laws largely do not specify how (or how much) a mine should be cleaned up.

### **Modern Mining Bankruptcies**

The underbonding of current operations is a serious problem, because modern mines regularly go bankrupt. In the past twenty years, at least 15 modern mines have gone bankrupt.<sup>7</sup>

<b>Mine Name</b>	<b>Owner</b>	<b>Location</b>	<b>Year Operations Began</b>	<b>Year Bankruptcy Declared</b>
Illinois Creek Mine	USMX/Dakota Mining	Alaska	1997	1999
Black Pine Mine	Pegasus Gold	Idaho	1992	1998
Beal Mountain Mine	Pegasus Gold	Montana	1988	1998
Zortman-Landusky Mine	Pegasus Gold	Montana	1979	1998
Basin Creek Mine	Pegasus Gold	Montana	1988	1998
Paradise Peak Mine	Arimetco International	Nevada	1989	1997
Aurora Partnership Mine	Nevada Goldfields	Nevada	1987	1999
Gold Bar Mine	Atlas Gold Mining	Nevada	1989	1999
Mount Hamilton Mine	Rea Gold Corporation	Nevada	1994	1998
Easy Junior Mine	Alta Gold	Nevada	1994	1999
Kinsley Mountain Mine	Alta Gold	Nevada	1995	1999
Griffon Mine	Alta Gold	Nevada	1997	1999
Olinghouse Mine	Alta Gold	Nevada	1999	1999
Formosa Mine	Formosa Exploration	Oregon	1990	1997
Gilt Edge Mine	Dakota Mining	South Dakota	1986	1999

### **Modern Mining Gone Awry – 5 Case Studies:**

#### **Idaho: Grouse Creek Mine**

The Grouse Creek mine, located adjacent to the largest wilderness complex in the lower 48 states, was heralded as a "state-of-the-art" mine when it began operations in 1994. Just three years later, the mine shut its doors -- producing no profits and leaving behind a legacy of long-term water pollution. The Grouse Creek mine was permitted as a "zero discharge facility."<sup>8</sup> Yet, soon after mining began, the tailings impoundment began to leak cyanide . As a result of on-going violations, the Forest Service

<sup>7</sup> <http://www.earthworksaction.org/pubs/ComparisonsReportFinal.pdf>

[http://www.unr.edu/mines/mlc/presentations\\_pub/NV\\_bonding.asp](http://www.unr.edu/mines/mlc/presentations_pub/NV_bonding.asp)

<sup>8</sup> Record of Decision and Final Supplemental Environmental Impact Statement - Volume 1, Grouse Creek Project, USDA Forest Service Challis National Forest, May 1992

posted signs which warned, "Caution, do not drink this water."<sup>9</sup> In 2003, the Forest Service declared the mine site an "imminent and substantial endangerment."<sup>10</sup> Cleanup activities are on-going.

### **Oregon: Formosa Mine**

In 1991, during a period of high metal prices, Canadian start-up Formosa Exploration Inc. launched a copper zinc mine on 76 acres of federal (BLM) and private land near the town of Riddle in southwest Oregon. The mine folded 2 1/2 years later in 1994 as prices slumped. According to the State of Oregon, the mine has contaminated 18 miles of the Oregon's Umpqua watershed (Middle Creek and South Fork of Middle Creek and Cow Creek) - eliminating prime habitat for the threatened Oregon coast Coho salmon and steelhead.<sup>11</sup> So severe is the pollution that even insect life is gone in the upper reaches of the creeks, along with any chance of supporting fisheries.

### **Montana: Beal Mountain Mine**

The Beal Mountain Mine, located on the Beaverhead Deerlodge National Forest, operated from 1989-1998. When the mine was permitted, the Environmental Analysis concluded that the operation of the mine would have no impacts to water quality, because "there will be no discharge of mine or process water to surface waters."<sup>12</sup> The agencies were wrong. Although the mine ceased operating years ago, it has continued to pollute neighboring streams with cyanide, selenium and copper at levels that harm aquatic life.<sup>13</sup> Scientists have also determined that trout in water downstream of the mine are contaminated with harmful amounts of selenium caused by mining activities.<sup>14</sup> Warren McCullough, who is responsible for enforcing state mine permit laws for Montana DEQ, told the Montana Standard in July 2003 that the aftermath of the closed Beal Mountain Mine is "not going to be something that we're ever going to be able to walk away from."

### **Montana: Kendall Mine**

The Kendall Mine, an open pit, cyanide-leach mine located northwest of Lewistown, Montana, was permitted in 1989. The mine caused extensive water quality and quantity problems including numerous cyanide spills.<sup>15</sup> In addition, precipitation flowing through the waste rock piles caused extensive contamination of groundwater and surface water. In 1998, the State of Montana ordered Canyon Resources, the owner of the mine, to pay \$300,000 for polluting downstream waters with cyanide, selenium, arsenic and thallium.<sup>16</sup> Canyon Resources claimed it did not have the financial resources to pay the fine. In 2002, Canyon finally paid the State a reduced penalty of \$132,000 – with only \$13,000 in cash and the balance in mineral rights transferred from the company to the state. In October, 2001, six families who live downstream of the mine filed suit against the company for damages to their water supplies and private property. State officials have determined that long-term water treatment will be required at the mine.<sup>17</sup>

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<sup>9</sup> Associated Press, "Mine processing waste still entering Jordan Creek," September 8, 1999; see also, "Idaho Fines Open-Pit Gold Mine \$210,000 for Polluting Local Creek," Salt Lake Tribune, October 2, 1999

<sup>10</sup> Forest Service and Environmental Protection Agency, "Removal Action Memorandum," May 21, 2003

<sup>11</sup> State of Oregon, Department of Environmental Quality, Fact Sheet: Oregon's Abandoned Mine Cleanups Complicated by High Cost and Lack of Funding. March 13, 2006.

<sup>12</sup> "Beal Mountain Reclamation Under Fire," Montana Standard, July 14, 2002

<sup>13</sup> Action Memorandum for Beal Mountain Mine Time Critical Removal. Beaverhead-Deerlodge National Forest, Silver Bow County, Montana, July 2003.

<sup>14</sup> Aquatic Hazard Assessment for Selenium in the German Gulch subwatershed, Based on 2001 and 2002 Data. Prepared January 2003 by Tim LaMarr, Reviewed by Dennis Lemly.

<sup>15</sup> <http://www.epa.gov/epaoswer/other/mining/techdocs/gold.pdf>

<sup>16</sup> The Associated Press, October 29, 1998, "State: Another \$ 4 million may be needed to clean up Kendall mine"

<sup>17</sup> <http://www.deq.state.mt.us/eis/CRKendall/Scoping.pdf>

## **Nevada: Jerritt Canyon**

The Jerritt Canyon Mine in northern Nevada, which was permitted in 1980, is a significant source of mercury air pollution. Emissions data, obtained from the Nevada Department of Environmental Protection (NDEP) and made public in June of 2007, indicates that the mine may have released significantly more mercury into the air than it reported to state and federal agencies.<sup>18</sup> Gold mines are the fifth largest source of mercury air emissions in the U.S, producing 25% of all the mercury air emissions west of Texas.<sup>19</sup> Yet there are no federal regulations requiring gold mines to reduce their mercury emissions, and to ensure that public health and fisheries are protected. Mercury is considered the most dangerous heavy metal because it is toxic to humans and moves freely through the environment.

## **Modern Mines Need a Modern Mining Law**

Unlike other extractive industries, there is no environmental law written specifically to govern hardrock mining. Instead, a patchwork of federal and state laws and regulations attempts to fill in the holes.

As modern mining problems have demonstrated, the current legal and regulatory system fails to protect western water resources. Reform of the 1872 Mining Law should include clear operational standards for hardrock mining, to prevent future spills and contamination. These standards should include:

- “Bad Actor” provisions to ensure that companies that have caused serious environmental harm in the past to not receive a permit for a new mining operation;
- The ability to deny mining operations that would cause undue degradation to human health, water resources, wildlife habitat, and other natural resources;
- A provision that ensures that mining operations will not continue to pollute after mining has ceased;
- The requirement that mining activities minimize negative effects on water quality and quantity.

Reform of the 1872 Mining Law should also include explicit reclamation standards, with bond requirements tied to those standards. Reclamation standards should include:

- A requirement to restore the hydrologic balance of a the area after mining has ceased;
- Restoration of the surface and revegetation;
- A requirement that, for pits that do not require backfilling, water in pit lakes comply with Federal, State and local government water quality standards;
- Tailings impoundments designed to minimize leaks and prevent the release of toxic materials, and waste rock piles that are stabilized.

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<sup>18</sup> The Idaho Statesman, June 10, 2007, “Toxic Mercury Blows North Into Idaho”

<sup>19</sup> [www.epa.gov/triexplorer](http://www.epa.gov/triexplorer)