

Montana State Legislature

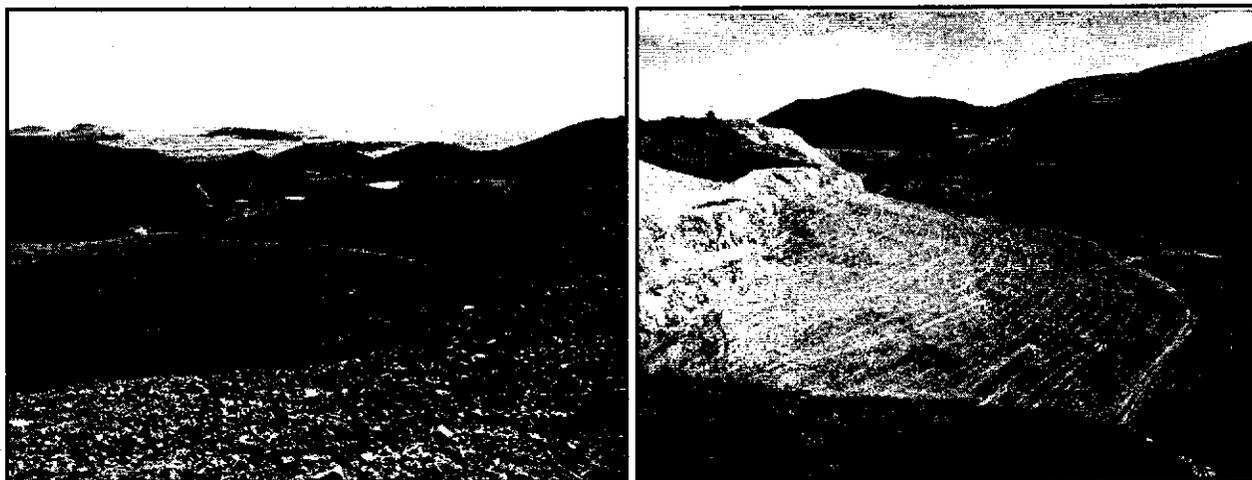
Exhibit Number: 5

The following exhibit is several assorted documents that exceeds the 10-page limit therefore it cannot be scanned.

A small portion has been scanned to aid in your research for information. The exhibit is on file at the Montana Historical Society and can be viewed there.

SEARCH FEES AND CLAIMS
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Zortman & Landusky Mines



HJR 43 Water Quality Impacts

A staff paper presented to the Environmental Quality Council
October 2004
by Larry D. Mitchell

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Introduction

House Joint Resolution 43

The preamble of HJR 43, enacted by the 2003 Montana Legislature, describes in general terms the status of the reclamation efforts that have been conducted at the Zortman and Landusky mines by the Montana Department of Environmental Quality (DEQ) and the federal Bureau of Land Management (BLM) following the bankruptcy of Pegasus Gold Corporation (Pegasus) and the abandonment of the mines by its operator, Zortman Mining Incorporated (ZMI). HJR 43 asks an appropriate interim committee to review how those efforts are addressing water quality issues at the mines and whether additional reclamation efforts are necessary. The mines are being reclaimed by the DEQ and its contractors with mine bond proceeds made available following a settlement agreement with the sureties, with supplemental funds from the bankruptcy settlement, and with state and federal funds.

Specifically, HJR 43 asks the interim committee to:

- (1) identify the impacts on surface water and ground water, including the recent degradation of Swift Gulch, attributable to past or present activities at the mine sites;
- (2) determine if there are identifiable downstream impacts on the Milk and Missouri River drainages attributable to past or present activities at the mine sites;
- (3) determine whether the surface water and ground water resources in the watersheds affected by the mine operations are being protected by the current or proposed state reclamation; and
- (4) determine the potential impacts to surface water and ground water resources if additional funding for water treatment and reclamation does not become available.

Response

The Legislative Council assigned HJR 43 to the Environmental Quality Council (EQC), and the EQC decided to combine a review of the issues in HJR 43 with a review of the current status of metal mine bonding in Montana (see *Metal Mine Bonding in Montana - Status and Policy Considerations*, Montana EQC staff report, Larry D. Mitchell, October 2004). The EQC decided that both topics would be reported in separate staff

B ackground

The mines were granted a series of permit amendments that expanded the size of the operations until Pegasus applied for a major permit expansion in 1992, which was eventually not implemented. Discovery of significant acid rock drainage problems at both mines resulted in a need for a major revision of the existing mine reclamation plans and a review of existing bond amounts. It was determined that the proposed 1992 mine expansion would require a detailed analysis through the preparation of an environmental impact statement (EIS).

Between 1993 and 1995, litigation under the Water Quality Act was initiated in state and federal courts alleging unpermitted mine discharges to state waters. Settlement discussions resulted in the signing of a Consent Decree between Pegasus, the DEQ, the Environmental Protection Agency (EPA), a citizen's group, and the Fort Belknap Tribes effective in September 1996.² The Consent



Landusky Mine, 1993. BLM Photo.

Decree obligated Pegasus to construct water collection systems and water treatment plants, bond for the immediate operation of the water treatment plants, and establish a trust reserve for their long-term operation and maintenance. It also provided for a penalty and required the company to perform ground water, aquatic, and health studies, implement monitoring programs, and provide improvements to drinking water systems on the reservation. The Consent Decree established temporary water quality standards and obligated the company to obtain Montana Pollution Discharge Elimination System (MPDES) permits for each discharge to state waters based on more stringent water quality standards once the water treatment plants and water discharge capture systems were in place and operational. The Consent Decree did not address surface reclamation of the mines because the decree was a settlement of alleged violations of the Water Quality Act, which did not include jurisdiction over surface reclamation requirements.

The BLM and the DEQ completed an EIS for the proposed mine expansion, which included a revised land reclamation plan, and the agencies issued a Record of Decision approving the expansion in October 1996. The BLM's decision to expand the mine was appealed to the federal Interior Board of Land Appeals (IBLA) by citizen groups and the Fort Belknap Tribes in late 1996. The state's decision to approve the mine expansion was challenged in state court by citizens' groups and the Fort Belknap Tribes in early 1997. The IBLA issued an order in June 1997 to stay the mine expansion approval pending further administrative review of the BLM decision. In January 1998, Pegasus and ZMI filed for bankruptcy protection before the IBLA issued a ruling, and in March 1998, the companies announced their decision to not proceed with the mine expansion but to close and reclaim the mines instead.

The agencies voided the now-moot 1996 mine expansion decision in June 1998, issued a new Record of Decision, and attempted to increase the surface reclamation bond based on the revised reclamation plan reviewed in the 1996 EIS, acknowledging at that time that the existing bonds were an estimated \$8.5 million less than what was needed to implement the agencies' preferred reclamation alternative. Pegasus objected to the BLM's June 1998 selection of reclamation alternatives, which would have increased the bond amount and appealed the decision to the IBLA. The additional bonds were not provided as the bankruptcy actions moved forward.

In November 1998, the DEQ signed a settlement agreement with Pegasus' sureties, National Union Fire Insurance Company and the United States Fidelity and Guarantee Company, that made available to the state the balance of the unspent reclamation bonds and water treatment bonds required under the previously approved reclamation plan and the Consent Decree. The bond funds available to the DEQ for the Zortman and Landusky mines are as follows:

\$10,024,000	Zortman reclamation bond
\$19,600,000	Landusky reclamation bond
\$ 2,040,970	Construction assurance - for water capture and treatment plants (bond was \$10,100,000 but Pegasus had built much of the infrastructure)
\$13,895,101	Water treatment bond for 20-year operation and maintenance (bond was \$14,626,422 but Pegasus had paid for 1 of the 20 years prior to settlement)
\$ 389,000	Exploration permit reclamation bond
\$ 295,485	Open-cut mine reclamation bond for an offsite clay pit.

Tribes filed an appeal of the Record of Decision with the IBLA on several grounds, including that failure to reclaim the sites in accordance with at least the selected alternatives, Z6 and L4, would violate the BLM's obligation to protect the Tribes' resources.³ In July 2002, the Fort Belknap Tribes and three citizens' groups also filed suit in state District Court challenging the Record of Decision alleging that failure to implement alternatives Z6 and L4 would violate the Montana Constitution and the state Metal Mine Reclamation Act.⁴ Both actions are currently pending. Through various cost-saving measures and the procurement of additional reclamation funds, the DEQ has been able to implement most of the components of alternatives Z6 and L4.

Impacts on Surface Water and Ground Water

HJR 43 asks the interim committee to identify the impacts on surface and ground water, including the recent degradation of Swift Gulch, attributable to past or present activities at the mine sites. A review of only a selection of the many documents prepared on this subject cannot help but lead to the conclusion that there have been impacts to both the surface water and ground water at the mine sites from both historic and more recent mining activities. However, the current, future, and long-term extent, severity, and effect of those impacts is more difficult to describe or predict with any certainty. It is clear that in the absence of continued water capture and treatment operations, there will be significant adverse impacts to surface and ground water quality, at least in the vicinity of the mines.

The 1993 and 1995 federal and state water quality complaints that resulted in the Consent Decree also resulted in a \$2 million fine against Pegasus for alleged unlawful discharges to surface and ground waters. A review of agency files between 1977 and 1995 documented acid mine drainage from historic and contemporary mine workings, multiple releases of cyanide to surface and ground water from leaks, spills, overflows, and emergency cyanide solution disposals, and elevated metals in surface and ground water samples in many areas of the Zortman and Landusky mines.⁵ In a recent case in which federal District Court Judge Donald Molloy declined to rule on whether the federal government broke its trust obligations to the Fort Belknap Tribes in its oversight of the mines, pending a decision by the IBLA in the Tribes' June 2002 appeal, Judge Molloy stated, without citing specifics, that "It is undisputed that the Zortman-Landusky mines have devastated portions of the Little Rockies, and will have effects on the surrounding area, including the Fort Belknap Reservation for generations. That

Landusky mine, and Lodgepole is downstream from the Zortman mine. The EPA is not aware of any violations of chemical standards in any of these community water supplies based on periodically required reporting requirements.¹³

The DEQ has stated that there have been no exceedences of water quality standards on the Fort Belknap Reservation,¹⁴ but sampling data from DEQ's contractors show exceedences in water quality standards for iron, and sometimes arsenic, nickel, and zinc, in surface water upstream from the reservation boundary.¹⁵

Some conflicting information regarding water quality violations exists because there is a dispute over which water quality standards apply. The 1996 Consent Decree provided for temporary technology-based water quality standards that Pegasus was required to meet pending the completion of the ground water and surface water collection systems and the construction of the water treatment plants at Zortman and Landusky. Following construction of the systems, DEQ intended to issue Montana Pollution Discharge Elimination System (MPDES) permits to Pegasus that would have included more stringent effluent standards. Pegasus constructed the water collection and treatment systems, but the 1998 bankruptcy eliminated the existence of Pegasus as a MPDES permit applicant. Since then, the DEQ has been maintaining and operating the water collection and treatment systems under the Consent Decree standards. This is one of the complaints being argued in the Tribes' Clean Water Act lawsuit.

Some conflicting information regarding water quality violations exists because there is a dispute over which water quality standards apply.

In June 2004, the BLM prepared and signed an Action Memorandum stating that it considers the mines to be abandoned following the completion of the Pegasus bankruptcy and that it intends to use its authority under the federal Superfund Program (CERCLA) as a federal land management agency to maintain the mine water capture and treatment systems. A CERCLA designation negates the need for a National Pollution Discharge Elimination System (NPDES) or MPDES permit to be issued for mine discharges. CERCLA still obligates the agency and the DEQ to attain applicable or relevant and appropriate requirements (ARARS) of federal and state laws, including water quality requirements, to the extent practicable.

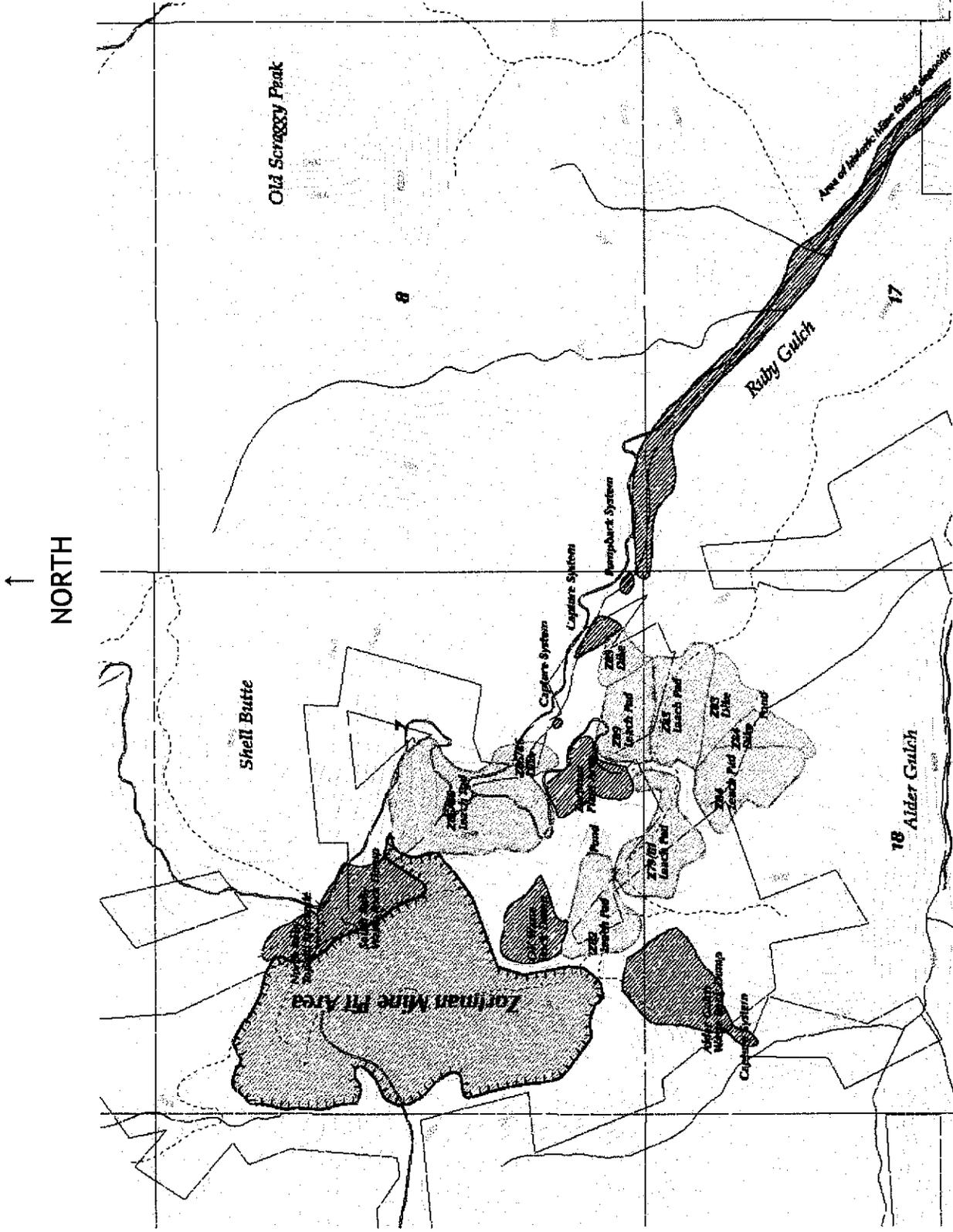
Gulch. There is also some geologic evidence of historic iron staining in the canyon, so there may be a natural component to some of the contamination.¹⁹ The water quality situation in Swift Gulch is acknowledged by the agencies to be an issue that requires further study and analysis.



Swift Gulch Drainage, 2001. BLM Photo.

Pegasus partially backfilled the north end of the Landusky pit in 1995-1996 with rock that produced low pH acid. In 2002, the DEQ attempted to further isolate the area with additional nonacid-producing rock backfill, which was then covered with an impermeable barrier in an effort to limit the infiltration of precipitation to the area, including infiltration through the sheer zone. It was not anticipated that this effort would produce any immediate positive results if, in fact, this was the source of the contaminated water that was appearing in the seeps along the upper reaches of Swift Gulch. To date, the situation has not improved. There are several monitoring sites along Swift Gulch and the South Fork of Bighorn Creek that are monitored routinely. Although Swift Gulch is clearly impacted, as yet there have been no exceedences of the Consent Decree or draft MPDES water quality limits at the reservation boundary monitoring site designated as L-48.²⁰

Figure 3: Zortman Mine. Facilities and Land Status Map



Source: BLM Action Memorandum, June 2004

Current Reclamation Efforts and Water Quality Status

With the exception of Swift Gulch, the DEQ believes that the surface and ground water resources in the area are being protected by the current and proposed mine reclamation and water treatment efforts. The purpose of the mine reclamation is spelled out in the SEIS and in the Record of Decision. Essentially, the reclamation of the mines has two primary components, both intended to address the protection of surface and ground water quality. The first is the physical reclamation of the mine pits, roads, waste rock dumps, and leach pads. This effort is designed to improve the long-term stability of mine excavation features, isolate and cover acid-producing materials, provide for proper drainage, reduce infiltration by precipitation and runoff, reestablish vegetation, and improve aesthetics. The second effort is to capture and treat surface and shallow ground water and leach pad drainage until contaminants can be reduced to acceptable levels. The magnitude and duration of the water treatment effort is largely dependent on the success of the land reclamation effort. But in no case short of the physical encapsulation of the mine facilities will the need for long-term water treatment be unnecessary.

The mine operations, particularly the larger and deeper Landusky mine, exposed sulfide rock that produces acid rock drainage when it is exposed to air and water. This acid rock drainage, or ARD, in the presence of the exposed surfaces of mineralized rocks, can mobilize metals in the rock and contaminate surface and ground water. The reclamation plans focus on identifying the sources of acid-generating materials and isolating them from surface and ground water infiltration to control the source of contaminated water and reduce the amount that needs to be treated.

Before the 1998 bankruptcy and in partial fulfillment of the requirements of the Consent Decree, Pegasus was required to capture all surface and shallow ground water at each discharge and construct a water treatment plant at each mine. Buried capture systems collect water from beneath the leach pads and below the waste rock dumps before it flows offsite and routes it to either the water treatment plant at the Zortman mine or the one at Landusky. These plants use lime to treat the acidity and precipitate metals out of the water collected by the capture systems. Since 1999, these plants have captured and treated over a billion gallons of mine drainage.²⁷