

The LOGBOOK of CSP²

The Journal for the CENTER for SCIENCE in PUBLIC PARTICIPATION

"Technical Support for Grassroots Public Interest Groups"

CSP²/CSP²/CSP²/CSP²/CSP²/CSP²/CSP²/CSP²/ **SUMMER 1997** /CSP²/CSP²/CSP²/CSP²/CSP²/CSP²/CSP²

MONTANA

The Little Rocky Mountains are one of several isolated mountain ranges that rise out of the plains in northeast Montana. Called the "Island Mountains" because of their relative isolation from the main chain of the Rockies, the mountains were



A new seepage collection facility to intercept contaminated groundwater from a waste rock pile at the Zortman Mine

originally included in the Fort Belknap Reservation. However, in 1884 gold was discovered, and the mountains were ceded from the Reservation and opened to mining.

In 1978 Pegasus Gold Corporation built the Zortman and Landusky mines, the first major heap leach gold operations in the U.S. Original projections by Pegasus, the Bureau of Land Management, and Montana's Department of Environmental Quality stated that the probability of having Acid Rock Drainage (low pH water accompanied by dissolved heavy metals) was "low." However, by 1990 it became apparent that ARD would be a significant problem at Zortman-Landusky. In addition, cyanide was detected in some monitoring wells downgradient from the heap leach pads.

The Fort Belknap Reservation, near Harlem, Montana, is downstream from the mine. The Gros Ventre-Assiniboine Tribal Council, the elected government on the Fort Belknap Reservation, and to the Island Mountain Protectors, a local environmental group on the Reservation, filed a Clean Water Act

citizens suit. After prolonged negotiations, the Tribal Council and IMP entered into an agreement with Pegasus to build water collection and treatment facilities at the mines, and to monitor the effectiveness of these systems.

In October 1996 CSP² began providing technical support by monitoring water quality data and reviewing the implementation of the treatment system construction and groundwater studies. The Center is working with the Tribal Council's Department of Environmental Protection and faculty from the Fort Belknap College to attempt to define the extent of the contamination from mining on the Reservation. In a related project, we are working with EPA to locate funding to clean up historic tailings that have flushed down from the minesite onto the reservation, and to restore a beaver dam-wetland complex that was washed away by stormflows that mobilized the easily erodible tailings.

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SOUTHEAST ALASKA

A-J Mine: For 10 years the environmental and fishing organizations in Juneau have been working to force Echo Bay Mines to make major changes to its proposal to reopen the Alaska-Juneau Mine, a gold mine located within the city of Juneau. Echo Bay had originally proposed using Sheep Creek Valley, near downtown, as a tailings disposal site. The prospect of effluent discharge containing cyanide, and the loss of the recreational resource of the valley caused stiff community opposition to this project. After years of analysis and debate, the EPA ruled that a tailings pond in Sheep Creek Valley would not meet water quality discharge standards.

Echo Bay then altered its proposal to eliminate cyanide in the processing, and to dispose of the new tailings in the marine waters of Stephens Passage west of Juneau. Marine tailings disposal is presently prohibited by the EPA, but an exception was contemplated for this mine. CSP² assisted local environmental groups by participating in the design of research surveys to study marine tailings disposal for the A-J, and in reviewing the technical data that came from this research.

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Southeast Alaska (continued)

However, in January of this year Echo Bay announced its decision to abandon the project, based on reevaluated economic considerations. Echo Bay is now attempting to sell the A-J project, so the issue of the viability of using the marine environment to dispose of tailings is still pending.

Kensington Mine: Located at the foot of Lion's Head mountain, halfway between the southeast Alaska towns of Juneau and Haines, the Kensington Mine Project is rapidly moving through the permit process.

CSP² has been providing support to local fishing and environmental groups in reviewing the technical adequacy of the mine proposal as it moves through this process. The mine is located at the most important salmon fishing spot in Lynn Canal, so is of great concern to the commercial fishing community.

Suggestions for changes to the mine have been well received by Coeur d'Alene Mines, the owner of the project. Major changes to the mine have resulted. Mine design has changed from use of a large tailings pond in Sherman Creek, to use of a dry tailings facility located on a hillside above the creek. The company also agreed not to use cyanide in its processing. As a result of these changes, the amount of effluent discharged from the mine has decreased by a factor of ten, and the effluent will now meet water quality criteria for all toxic constituents without a mixing zone. (A mixing zone is a dilution zone in a water body where water quality standards are not met. They are used by all states.)

The Kensington Mine Project is still very controversial, partially because of its location in a sensitive area of the Tongass National Forest, and the prospect that mine development will lead to other commercial use of the area. CSP² is continuing its involvement with this project.

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From the Executive Director

Welcome to CSP²

The Center for Science in Public Participation was founded in late 1996 to provide grassroots public interest groups with affordable, or free, technical expertise.



*Dave Chambers is the
Executive Director of CSP²*

There are a number of national organizations that retain scientific experts as core members of their staffs (e.g. EDF, NRDC, NWF), but there is no national or regional organization that provides scientific and technical expertise to grassroots groups to deal with project-specific issues. Without qualified technical assistance, it is often very difficult for grassroots groups to make reasonable and credible comments on development proposals from industry, which has the resources to hire a team of technical representatives, often backed by legal counsel.

The Center will concentrate initially on providing technical support in the area of mining and water quality. It is difficult for public interest groups to find help from the consulting firms on mining, because most consultants work for the industry and would find it impracticable to consult for both industry and public interest groups.

We eventually hope to expand the scope of our work to other technical disciplines, like forestry, where it is difficult for public interest groups to find qualified, affordable, technical analysis and advice.

If you have ideas on how CSP² can improve its technical support services, please let me know.

Sincerely;



Tailings Pond and Dam (Foreground) and Pit and Mill at the Thompson Creek Mine, a molybdenum mine near Clayton, Idaho. Streaks on the dam face are tailings being deposited on the dam face to raise the level of the dam.

IDAHO

Can Acid Mine Drainage contamination to the Salmon River be prevented?

The Thompson Creek Mine is a large open pit molybdenum mine located in central Idaho 5 miles from the Salmon River. The mine has a tailings pond with a dam, constructed of sorted mine tailings, that will be over 500 feet tall when mining is completed. There has already been acid generated from pyrite contained in the tailings that have been used to construct the dam.

At present the waste rock dumps, i.e. material that is removed before the ore can be mined and is stacked in large piles next to the pit, are not generating acid drainage. But the warning signs are there. Sulfate levels, a precursor to acid rock drainage, have been steadily rising for several years. Selenium levels already exceed federal water quality limits at several points in the discharges from the waste rock dumps.

There are two major land-use efforts in process for the mine. The mine has applied to the Forest Service, the federal agency with regulatory authority over mine operations, for a permit to separate pyrite from the tailings in order to eliminate acid generation problems that have occurred when building the tailings dam. Pyrite separation is a sound proposal. On the other hand, Thompson Creek wants to put the separated pyrite back into the tailings impoundment. This could lead to problems.

As long as the pyrite concentrate remains buried below a layer of tailings, it will probably be safe. But if there were to be a dam failure – remember the 500-plus foot dam is constructed of tailings – and the pyritic material was exposed to air, a large amount of acid could be generated. It would be safer to put the pyrite into a separate impoundment where it could be moved if the seal on the impoundment were to fail. Or better yet, the pyrite could be used to make sulfuric acid, effectively neutralizing it. However, both these options are more expensive than putting it in the tailings pond.

The second land-use issue is an application by the mine to patent - that is take title to the land from the federal government - all its mining claims. This would mean that the Forest Service would no longer have regulatory authority over the mine, and there would be no requirement to conduct an Environmental Impact Statement for major changes to the mine - like the pyrite separation and disposal plan. The State of Idaho would be the only agency with regulatory authority over general mine operations, and Idaho has no requirement for an EIS.

CSP² has been assisting the Boulder-White Clouds Council, Ketchum, Idaho, by analyzing the technical merits of the pyrite disposal plan, the potential for acid generation from the waste rock storage piles, and the long-term seismic stability of the tailings dam itself.

Work is continuing on this issue.

CSP²

Become a Donor to the **Center for Science in Public Participation**.

You can help us in our work to provide local public interest organizations with technical analysis and policy support. CSP² is the only organization focusing on providing technical support to local groups on local issues. Our focus is on natural resource issues, water quality and mining in particular.

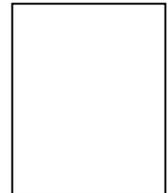
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