



9. MINING: New phosphate mine proposed for southern Idaho (09/24/2009)

Eryn Gable, special to E&E

Monsanto Co. and several agricultural producers in Idaho are hopeful that the company's proposed mine could be the start of a new chapter on phosphate mining for the Blackfoot River, which has been plagued by selenium pollution for decades.

"We believe this will be the most environmentally advanced mine in North America," said Glen Kurowski, Monsanto's project manager for the mine.

The company's proposed Blackfoot Bridge Mine includes safeguards to prevent selenium from running off the mining site, including the use of a \$24 million laminated geosynthetic clay liner over selenium-containing rock. The liner, which consists of a layer of natural clay woven between two layers of synthetic cloth, has been used in landfills and agricultural operations, but this will be the first time it is used in a Western phosphate mine.

The company also plans to place layers of topsoil, clay and gravel above the liner as additional protection for local water sources. Altogether, Monsanto contends that the system will limit water movement to the selenium-containing rock to a small fraction of what would otherwise occur and protect the Blackfoot River from any detectable increases in selenium.

Additionally, Monsanto plans to capture and analyze any water that runs off from the mine site. If the levels of selenium are too high, the water can be pumped into two large, lined ponds on the mine site, where it will be contained until it evaporates.

Only water meeting all appropriate water quality standards will be allowed to leave the mine site, Monsanto officials said.

Agricultural groups in the area welcome the mine, in part because it would provide elemental phosphorus, which is used in making the agricultural herbicide Roundup.

Travis Jones, executive director of the Idaho Grain Producers Association, said his organization is not concerned about potential selenium from the Blackfoot Bridge Mine. "Monsanto is taking unprecedented steps to [make] sure that does not happen," he said.

Selenium in trace amounts is a valuable mineral for many mammals, but at higher concentrations, it can trigger toxic effects in fish, livestock, wildlife and humans, including reproductive failure, severe deformations and death.

Phosphate mining exposes rocks rich in selenium, which, under the influence of rainfall and snowmelt, begins to weep to surface and ground water. Once in the water, selenium can move up the food chain from phytoplankton to fish to birds, livestock and people. Selenium toxicity from phosphate mining has also been considered a threat to cutthroat trout, according to research funded by the Greater Yellowstone Coalition ([Land Letter](#), Jan. 18, 2007).

Marv Hoyt, Idaho director for the Greater Yellowstone Coalition, noted that 40 percent of the perennial stream miles in the Blackfoot drainage are on U.S. EPA's list of impaired waters. The contamination originates from phosphate mining, he said.

"Every phosphate mine developed to date has had water quality problems and violations," Hoyt said.

Hoyt said his group is still evaluating Monsanto's proposal, but so far, it appears to be the best mining proposal it has seen for the area. Even so, the group is concerned that there may be some flaws in the company's water models, which could result in more selenium being released than predicted by the models.

"I'd like to think this [the liner] is going to work, and it may, but I think it's too early to say," Hoyt said.

Environmental groups blame three operating phosphate mines and as many as 28 closed mines for selenium pollution that is contaminating the Salt and Blackfoot rivers, resulting in more than 500 documented livestock deaths and the depletion of native populations of Yellowstone cutthroat trout from some streams. Fifteen mines have been named Superfund sites by U.S. EPA.

The three operational mines -- owned by Monsanto, J.R. Simplot Co. and Agrium Inc. -- produce nearly 6 million tons of phosphate ore annually.

But Monsanto expects its mine will run out of phosphorus in 2013. The Blackfoot Bridge Mine would ensure a stable supply for

the company's phosphate ore-processing plant, which has been in operation since 1952.

Monsanto hopes to begin mining in 2011

John Thompson of the Idaho Farm Bureau Federation said his group was concerned that Monsanto might turn to mines in China to supply phosphorus if the Blackfoot Bridge Mine was not approved, which could raise costs for farmers who rely on the Roundup herbicide and hurt the local economy.

The United States holds about 7 percent of global phosphate ore reserves. Phosphate mining companies are currently looking at large ore reserves in Africa and China as cost-effective sources for phosphorus.

Monsanto employs about 770 people in southeast Idaho and contributes about \$115 million directly to the local economy, as well as millions of dollars in taxes and royalty payments, according to company figures.

More than 95 percent of the phosphate ore rock mined in the United States is used to make fertilizers, herbicides and animal feed supplements. It is also used to make fire retardants, leavening agents, aviation fluid, carbonated beverages and other products.

Thompson noted that Roundup has environmental benefits because it reduces the amount of pesticides farmers need to protect their crops. "It reduces our environmental impact as farmers and ranchers by being able to use that technology," he said.

The Bureau of Land Management has released a draft environmental impact statement evaluating the proposal, which is open for public comment until Oct. 31. Monsanto expects the mine to be approved next year, which would allow it to begin mining in 2011.

The proposed mining site would cover about 739 acres, of which 10 percent is on public lands and is already near existing mines. The mine is expected to operate for about 15 years.

Gable is an independent energy and environmental writer in Woodland Park, Colo.

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