

Fort Belknap backs state in bad actor case over Zortman-Landsky pollution

SINCE 1999, \$77 MILLION HAS BEEN POURED INTO HEALING THIS INJURED LANDSCAPE, ALMOST \$50 MILLION COMING IN PUBLIC MONEY.

Karl Puckett, Great Falls Tribune

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Bad actor or bad rap?

In March, following an investigation, the state Department of Environmental Quality notified Hecla Mining Co. it was in violation of the "bad actor" provision in the state's Metal Mine Reclamation Act because Hecla CEO Phillips Baker Jr. was once an executive with Pegasus Gold, the owner of the Zortman and Landusky mines.

In July, the Gros Ventre and Assiniboine tribes asked the court for permission to intervene on the state's side. A decision on the request is pending.

"I can't believe there are people out there trying to do this mining again," said Werk, adding the principals of Pegasus should not be allowed to profit from new mines "while our community continues to struggle with the mining pollution Pegasus left behind at Zortman and Landusky sites."

Idaho-based Hecla is proposing two silver and copper projects in northwestern Montana, Rock Creek near Noxon and Montanore by Libby.

Tying the new mine projects up in litigation will delay valuable economic benefits, with the projects expected to bring some 600 jobs to one of the most economically depressed regions in the state, Hecla argues.

The bad actor provision in the Metal Mine Reclamation Act prevents former mining companies and executives from pursuing new projects in Montana if they have outstanding cleanup obligations to the state.

"The state of Montana has spent millions in taxpayer funds for reclamation cost at these sites that weren't covered by Pegasus companies," the DEQ said in a statement when it enforced the bad actor provision.

Hecla and Baker say the bad actor charge is a bad rap because decisions affecting reclamation at Zortman-Landusky, including the Pegasus bankruptcy settlement and the decision to cease mining operations were made after Baker's departure.

They've filed for a motion in Lewis and Clark County District Court to dismiss the state's case.

A hearing is scheduled Monday.

"In the violation letter the DEQ asserted that I was a principal or controlling member of Pegasus when DEQ received proceeds from the Pegasus Entities' surety to perform reclamation," Baker said in a statement issued in March when the DEQ took the enforcement action, "and I was not."

DEQ Director Tom Livers, who has since been named state budget director, said in guest editorial penned for state newspapers that the agency has taken no action to revoke the Rock Creek and Montanore site permits.



Andrew Werk Jr., president of the Fort Belknap Indian Community Council, talks with Wayne Jepson of the Montana Department of Environmental Quality at the Landusky Biological Treatment Plant where bugs eat selenium and nitrate in mine waste.

(Photo: Karl Puckett)



The Swift Gulch Water Treatment Plant, located in the Little Rocky Mountains, treats acid rock drainage from the Landusky mine.

(Photo: Karl Puckett)

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actor provision bar Mr. Baker from Montana?" Livers wrote. "Once the court makes a determination on this issue, it will be up to Hecla and the DEQ to pursue a course of action in line with that ruling."
Hecla may come into compliance, the DEQ said, by paying the necessary expenses incurred by the DEQ in reclaiming Zortman-Landusky and also the Basin Creek and Beal Mountain mine sites.

Another option, the DEQ said, is demonstrating that Baker is no longer mining or conducting exploration activities in Montana.

The Fort Belknap Indian Community, which has raised concerns about the neighboring Zortman-Landusky mines' impact on reservation water quality for years, says water pollution has now migrated into a popular recreation area that also carries cultural and spiritual significance for the Assiniboine and Gros Ventre tribes.

The boundary of the Fort Belknap Reservation, home to 4,000 residents, is less than a mile from the Landusky mine in the Little Rocky Mountains, which are considered sacred by tribal members.

Besides water, the mountains continue to be used for hunting, fishing and cultural purposes.

Pegasus Gold Corp., through a subsidiary called Zortman Mining Inc., operated two open-pit cyanide heap leach gold mines on BLM lands and private claims from 1979 to 1996 and later filed for bankruptcy in early 1998.

In terms of cleanup costs, it's one of the largest hard-rock reclamation sites in Montana.

Story continues below

"Basically, there's one large open pit at each of the two mine sites where they extracted gold-bearing rock," said Wayne Jepson, DEQ project officer for Zortman-Landusky reclamation and water treatment, said during last month's mine tour.

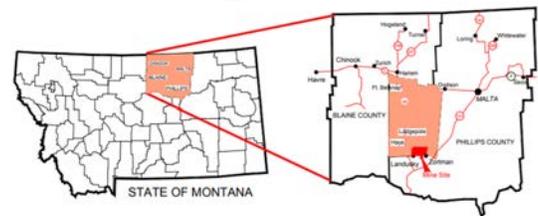
Over 17 years, 2.5 million ounces of gold was extracted from the two mines using cyanide heap leaching.

Through that process, leach pads were constructed in which 1 to 2 feet of compacted clay was placed over the land, with gold ore then "heaped" onto the pads. Liners were placed over the clay layer, before the ore was "heaped" onto the pads. A solution containing 200 parts per million of cyanide was used to dissolve the gold out of the rock.

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The Landusky gold mine pit.
(Photo: Karl Puckett)



Location of the Zortman-Landusky gold mines.
(Photo: Spectrum Engineering)



Wayne Jepson of the state Department of Environmental Quality explains how the Swift Gulch Water Treatment Plant works during a tour.
(Photo: Karl Puckett)

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'Nasty' acid rock drainage persists

The open pits have been reclaimed and bighorn sheep now scramble around on the ridges but lopping off the mountaintops exposed minerals, once hundreds of feet below the surface, to oxygen and water for the first time, Jepson said.

As a result, acid rock drainage is the main problem that persists at the site today.

The bedrock is high in pyrite, an iron sulfide that breaks down into sulfuric acid and dissolved iron when it comes into contact with water and oxygen, creating the acid rock drainage.

MORE: [Initiative targets mine pollution; industry says jobs at stake](#)



The Zortman and Landsky gold mines have been reclaimed but water in the area will need to be treated forever because of acid mine drainage.

(Photo: Karl Puckett)

(<https://www.greatfallstribune.com/story/news/2018/04/10/initiative-targets-mine-pollution-industry-says-jobs-stake/505153002/>)

The mines are located near the headwaters of several streams.

To limit the flows of the polluted water, waste and leach rock was reshaped to promote stormwater runoff, restore the landscape to a more natural appearance and allow for placement of soil. In some areas, compacted clay and/or liners was placed over the re-shaped waste. In other areas, 2 to 3 feet of soil cover was revegetated with grasses.

"Water still gets in and any water that gets in does become contaminated," Jepson said.

That water is intercepted and rerouted to one of four water treatment plants that run around the clock.

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"That's the nasty acid mine drainage water," Bill Maehl of Spectrum Engineering said at the Landusky Biological Treatment Plant, where liquid the color of bean-and-bacon soup is churning in a 10,000-gallon tank.

A November ballot initiative will ask voters whether to toughen up mine permitting requiring industry to prove mines won't require perpetual water treatment.

Backers of that initiative cite Zortman-Landusky as one example of why the measure is needed.

YES for Responsible Mining is behind I-186.

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It would require DEQ to deny a permit for any new hard rock mines in Montana unless the reclamation plan provides evidence it will not require perpetual treatment of acid mine drainage.

I-186 is opposed by Stop I-186 to protect Miners and Jobs.

Montana has struck a balance between agriculture, industry, and protecting the environment that has allowed preservation of the environment while providing good-paying, the group says.



I-186 threatens to upend that balance and, if passed, would add ambiguity to state law resulting in additional lawsuits that would effectively kill future mines from being permitted, the group says, noting mining is a \$2.7 billion industry in the state creating 12,304 year-round jobs.

The election is Nov. 6.

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Bacteria battles pollution

Copper and silver mined at Rock Creek and Montanore would be underground mines in which ore would be brought out and processed at a mill with relatively benign chemicals as opposed to cyanide used Zortman-Landusky open pit mines.

In 2017, the four Zortman-Landusky plants treated 393 million gallons of acid rock drainage.

The Landusky Biological Treatment Plant, which became operational in 2002 after being constructed for \$2.3 million, treats the worst water on the entire mine site.

"This is one of our nightmares," Jepson says.

The water is pumped from a nearby 200-acre leach pad a few hundred feet below the surface. That leach pad, which has 100 million tons of ore on it, holds close to 250 million gallons of water when it's full.

"Imagine you have a bathtub and you fill the bathtub with gravel, then you fill it with water," Jepson said. "It's between the gravel cobbles in the tub. There's space between the rocks so that space fills up with water."

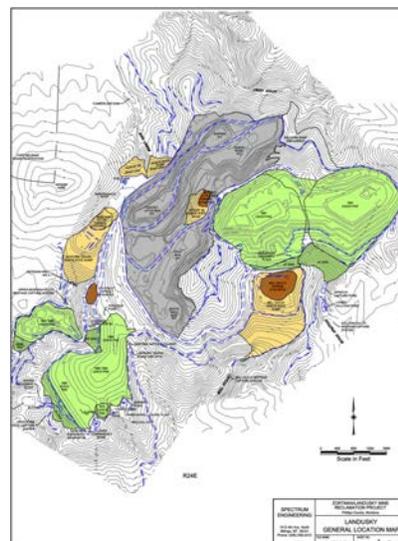
To begin with, the water, which has a pH of about 2.5 (normal is 6.5 to 8.5), is treated for acidity. The water also contains 150 ppm of nitrate. The drinking water standard for that contaminate is 10 ppm.

Millions of specialized bacteria held in large tanks in the water treatment plant break down the nitrate converting it to harmless nitrogen and oxygen gases. Another form of bacteria takes dissolved selenium out of the water and turns it into a solid.

As a result of the poor water quality, treatment costs from the single treatment plant account for half of the annual treatment costs for all four plants, which ranges from \$2 million to \$2.5 million.

One potential solution would be stripping off the soil layer of the leach pad and replacing it with a barrier cover then replacing the soil to protect it from rain and snowfall. But barrier covers sometimes leak, Jepson said.

"It's potentially a \$30 million solution — if it works," Jepson said.



Landusky mine site.
(Photo: Spectrum Engineering)



Michael Black Wolf, tribal historic preservation officer for Fort Belknap, snaps a photo of large ponds at Ruby Gulch that capture polluted water from the now-closed Landusky mine. The first evidence of acid mine drainage in the area was discovered here in the 1980s.
(Photo: Karl Puckett)

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Public agencies pay for treatment

The Zortman mine is located about 1.5 miles east of the larger Landusky mine, and both are located on the mountain divide that separates the Missouri River drainage to the south from the Milk River drainage to the north.

At \$350 an ounce, the price when the mines operated from 1979 to 1996, the 2.5 million ounces of gold mined at Zortman and Landusky would have generated \$875 million in revenue. Today's price is closer to \$1,300 an ounce.

Since Pegasus went bankrupt in 1998, \$77 million has been spent on reclaiming the mines and treating water including \$46.5 million in reclamation and water bonds posted by Pegasus. That \$46.5 million does not include what Pegasus spent on water treatment the previous 10 years prior to the bankruptcy.

After Pegasus went bankrupt it left the state of Montana and the Bureau of Land Management to fund ongoing water treatment and maintenance.

The state of Montana has invested \$32 million — \$12.2 million spent primarily on water treatment and another \$20 million placed in a long-term trust fund for ongoing water treatment.

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The Ruby Gulch historical mill as it deteriorates over time.

(Photo: Karl Puckett)

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\$46,518,735



\$32,348,510

State of Montana funding to date



\$17,139,312

Bureau of Land Management funding to date



\$340,000

Environmental Protection Agency funding to date

Source: Montana Department of Environmental Quality

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"The value of gold and silver substantially exceeded the cost of cleanup," Jepson said.

"The question is, 'Are we going to be working this 100 years or more? Beyond dollar value, it's a question of permanent alteration of a landscape. Certainly to the tribe, if not many others, it's more valuable than gold I think."

The Bureau of Land Management, which owns land in the mining areas, has contributed \$17 million to reclamation and water treatment as well.

Costs to continue

A trust fund set up by the legislature for future water treatment stands at \$34 million.

Those funds became available this year.

MORE: [Plant would treat coal mine water polluting Belt Creek](#)

(<https://www.greatfallstribune.com/story/news/local/2016/11/17/plant-treat-coal-mine-water-polluting-belt-creek/94038998/>)

The trust funds are projected to generate \$1 million a year in interest.

The average annual cost for water treatment and maintenance is \$2 to \$2.5 million a year

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"Somewhere between 400 years and several thousand years," Jepson said of how long water treatment will be required.

Some mines dug by the Romans 2,000 years ago still have acid drainage, he said.

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Migrating pollution

At the Swift Gulch Water Treatment Plant, in operation since 2008, treated water is pumped into three settling ponds where the remaining sludge, which looks like butterscotch pudding, is hauled to a trench in an old leach pad and buried.

Despite the treatment efforts at Swift Gulch, tribal officials and the DEQ say polluted water from the Landusky mine has reached the popular and spiritually significant Mission Canyon.

Swift Gulch, north of the Landusky mine, is a tributary of South Fork of Bighorn Creek, which crosses the reservation boundary and becomes a tributary of Little Peoples Creeks, which flows through the town of Hays and Mission Canyon, noted for its towering limestone walls, clear streams, powwow grounds and sun dance sites.

Members of the Assiniboine and Gros Ventre tribes swim, camp and worship along the scenic and remote stretch.

"We've got to do something," Werk, the Fort Belknap Indian Council president, told state, federal and tribal officials at the conclusion of the mine tour. "We've had concerns it's encroaching more and more on the reservation."



South Big Horn Creek crosses onto the Fort Belknap Indian Reservation. Water quality officials at Fort Belknap say pollution from the Landusky mine is polluting streams that are connected to tributaries that cross onto the reservation.

(Photo: Karl Puckett)

That's rust, not hip waders

It's ferric hydroxide, an iron oxide or rust, that's being flushed down the river toward the reservation causing rock staining.

Orange staining already has appeared in Peoples Creek in the powwow grounds, a picturesque spot in the shadow of mountains where families enjoy the same camping spot year after year during the annual powwow.

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In Mission Canyon, pools in the streams are popular swimming holes for kids.

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A third pond will be constructed above the Swift Creek treatment plant to retain higher flows so the iron-rich sediment can either settle before washing downstream or be processed in the treatment plant.



Water flows clear in the South Fork Little Peoples Creek on the Fort Belknap Indian Reservation north of Zortman mine. Fort Belknap water quality personnel say pollution from the mine is moving farther north where it threatens reservation waters. "It's getting pretty close to where everybody swims," said Mitchell Healy, water quality program coordinator at Fort Belknap.

(Photo: Karl Puckett)

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