

Protect our sacred water!

Ben Whitford

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The curse of Uranium has fallen once again on the Black Hills of South Dakota, ancestral home to the Lakota Indians - now fighting a massive mining project that threatens land, rivers and groundwater. But this time, writes Ben Whitford, the Lakota are not alone ...

To the Lakota Indians of America's Great Plains, the Black Hills of South Dakota are sacred ground - the site, legend has it, where the first humans entered the world.

Today, the craggy, tree-lined mountains are known to the Lakota as "*the heart of everything that is*", and remain home to countless burial places and ancient ceremonial sites.

Unfortunately for the Lakota, however, the Black Hills are also peppered with valuable mineral deposits, including rich veins of uranium ore.

The miners are coming ...

In recent years, that's led a number of mining corporations to target the region, and tribal leaders fear that unless they can fend off the miners, the hills could soon be blighted by extractive operations and radioactive waste.

Leading the uranium industry's charge is Powertech, a Canadian-owned corporation, which is seeking permits for a 17,800-acre facility known as Dewey-Burdock in the southern foothills of the Black Hills.

In January, America's top nuclear watchdog, the Nuclear Regulatory Commission, completed its final environmental assessment, with regulators saying they saw no reason to block the project.

The NRC still has a few boxes to tick, and the Environmental Protection Agency and South Dakota regulators must also weigh in. Still, Powertech officials are bullish, saying they expect final approval within the next few months.

In-situ leaching - 'phenomenally safe'?

Dewey-Burdock aims to extract 8.4 million pounds of uranium, worth about \$546 million, using 'in situ leaching', or ISL. It's a relatively new technology that's theoretically cleaner than open-cast mining.

Rather than blasting and bulldozing huge holes in the ground, ISL mines use a fracking-style process to inject huge amounts of chemical-laced water deep underground. The water dissolves the uranium ore, and is then pumped back to the surface so that the metal can be extracted and refined.

That process is "*phenomenally safe*", and has won strong support from locals who hope to see a significant economic boost from the mine, says Dewey-Burdock project manager, Mark Hollenbeck, a lobbyist and former state director for the American Petroleum Institute.

Still, the proposal has also drawn fierce opposition, uniting Lakota activists, greens and local landowners, who say they fear both the damage the mine could cause, and the precedent it would set.

At least eight other uranium companies are known to be targeting the Black Hills, says Lillias Jarding of the Black Hills Clean Water Alliance. "*We're afraid that if this project goes through ... we'll end up with a ring of uranium mines around the Black Hills*", she says.

A sacred ecosystem

That would be a disaster, both for the Black Hills and for the Lakota, says Debra White Plume, an Oglala Lakota activist. "*The whole area of the Black Hills is part of our ancestry, part of our identity*", she says. "*We see that little piece of land as part of a sacred ecosystem.*"

The Black Hills' mineral wealth has been causing problems for the Lakota since 1874, when then-Lt. Col. George Custer - still two years from his fateful Last Stand - rode into the area and discovered gold.

The resultant gold rush drew thousands of prospectors to the region, and led the federal government to cancel treaties granting the land to the Lakota.

In 1980 the Supreme Court finally declared that land-grab illegal - but ordered Washington to pay reparations rather than relinquish the territory. The Lakota refused the payout - now worth more than \$1 billion - and continue to fight for the return of their land.

A dark history of mining in the Black Hills

The gold-rush ended long ago, but the Black Hills have remained firmly in mining corporations' sights. Over a period of two decades beginning in the early 1950s, about a thousand open-cast uranium mines were opened in and around the region.

The last mine closed in 1973, but to this day the Black Hills remain littered with radioactive rubble and other toxic detritus. And it's not just the toxic waste from previous mines that makes Native Americans wary of the uranium industry, White Plume says.

They also remember the post-war nuclear boom, when thousands of Indian labourers were employed in open-cast mines without being notified of the risks involved, and received lower pay for more hazardous work than their white counterparts.

The Indian miners subsequently suffered from radiation-related illnesses at 28 times the usual rate, but were refused compensation for their injuries.

Activists have also seen nuclear disasters on tribal land treated with casual disregard by government officials, in contrast to the well-funded relief efforts that follow incidents near non-Indian populations.

The Church Rock disaster of 1979, for instance, saw 1,100 tons of uranium-mill waste and 94 million gallons of contaminated wastewater dumped into New Mexico's Puerco River, releasing more than three times as much radioactivity as the Three Miles Island disaster.

Local Navajo communities were hard-hit, but officials refused to formally declare a state of emergency, preventing federal agencies from offering assistance.

A hugely thirsty process

ISL mining theoretically eliminates many of the problems seen in the past - but Jarding says Powertech is overstating the technology's safety. *"The fact that you can't see the open pit doesn't mean there aren't problems", she says. "It just means people can't see the damage that's being done."*

Powertech has sought permission to use about 9,000 gallons of water per minute for ISL injection at Dewey-Burdock, Jarding notes - more than is used by nearby Rapid City, pop. 70,000, where city councillors recently passed a resolution expressing their *"grave concern"* over the mine's water use.

Pumping that much contaminated water through poorly understood rock formations brings inevitable risks, Jarding says, especially since the site is already riddled with around 4,000 boreholes from past mining operations.

That's a big concern for both Indian and non-Indian communities, agrees White Plume. *"It's a very real threat", she says. "It'll have health impacts for everybody in the region - everybody who drinks the water."*

The nearby Pine Ridge reservation, where White Plume and most other Oglala Lakota live, is partly watered by creeks that run through the Dewey-Burdock site. Beyond that, White Plume notes, the creeks eventually flow into the vast Cheyenne and Missouri Rivers.

A hazard to groundwater

Local ranchers and some tourism-dependent businesses, including a wild horse sanctuary, are similarly concerned about uranium leaking into groundwater.

Paul Seamans, chairman of the Dakota Rural Action pressure group, owns a ranch 150 miles from the Dewey-Burdock project - but it's watered by the same aquifer, Seamans says, and could potentially be seriously impacted by any leaks.

That risk outweighs any economic boost the mine might bring, Seamans adds: *"I'm more concerned about our water than about a few extra tax dollars."*

Powertech's Hollenbeck waves off the activists' complaints: *"The people who are concerned with this project are basically anti-nuclear protestors from the 1970s who are using the environment as a guise."*

Even if mining stopped overnight, Hollenbeck says, any free uranium would simply be reabsorbed by underground rocks, without spreading beyond the project's boundaries.

He adds that Powertech will put millions of dollars into a dedicated fund to pay for remediation, so that even if the company went broke, the site would be restored to its former state.

Groundwater - the problem that won't go away

Similar claims have been made by uranium miners in the past, and it's true that dissolved uranium can reduce back into a stable form under certain conditions. In practice, however, things aren't so simple.

A case in point: the Kingsville Dome mine in Texas - developed in the 1980s by Uranium Resources Inc., where Powertech's CEO, Richard Clement, was SVP in charge of exploration - was decommissioned in 1999.

In 2006 - and again in 2011, after the mine was briefly reopened - geologists found that levels of uranium in the groundwater remained markedly higher than baseline levels, and was still at risk of migrating off-site.

In fact, says Robert Moran, a veteran geologist who studied the Dewey-Burdock proposal, it's just about impossible to point to a single ISL project anywhere in the world where miners have been able to restore groundwater to its original quality.

"You can't do this kind of uranium mining without causing some contamination of the groundwater", Moran says. "The reality of looking at these in-situ sites in the US and around the world is that they're contaminated post-closure."

Leaks and spills

And the problems often start long before the mines close. The Smith Ranch-Highland mine in Wyoming, built under the supervision of John M. Mays, now Powertech's vice president in charge of engineering, has had dozens of leaks and spills.

One of these saw the loss of thousands of gallons of mining solutions and uranium-laced fluids. A regulatory investigation later criticised the plant for its *"inordinate number of spills, leaks and other releases."*

Another of Mays' early projects, the Clay West mine in Texas, later drew criticism, along with a nearby sister-mine, after workers were found to have been exposed to high levels of uranium. The mines' operator blamed workers' poor personal hygiene, and sacked one miner.

But inspectors later learned that the company had been moving uranium slurry around the plant by dumping it onto a concrete floor, then ordering workers to shovel it back into processing machinery.

The list goes on. Near a Wyoming mine, a government geologist found uranium levels "over 70 times" the maximum allowed. At another, in Texas, a major leak seeped radioactive waste for more than a year before it was spotted.

Long after mining has ceased ...

And companies aren't always quick to admit their errors: Nebraska's Crow Butte ISL facility, which is still active, was fined after it emerged that the company had taken more than a month and a half to inform regulators that it had bored wells in areas likely to contaminate drinking-water supplies.

The problem, Moran says, is that mining corporations have little interest in paying to plug all the cracks and boreholes that can threaten aquifers' integrity, or in continuing to monitor and maintain their sites for decades after mining has ceased.

"Could it be done safely, in the best of all possible worlds? Theoretically you could, but it'd be so expensive that these companies simply wouldn't do it. That's the reality: the cheapest operation that they can get away with is what they'll try for."

South Dakota legislators led by the nose

Activists say that Powertech is already working to minimise oversight of its operations. The company's three lobbyists have proven adept at courting South Dakota lawmakers and dominating legislative committee meetings, says Jerry Wilson, political action chair for the South Dakota chapter of the Sierra Club.

That's led to a number of recent victories for the company. In 2011, Powertech secured the passage of legislation effectively barring South Dakota's Department of Environment and Natural Resources from regulating ISL projects, leaving the state with direct oversight only of water-use and waste-disposal issues.

The company has also defeated several measures aimed at increasing oversight, including, this year, a bill that would have required Powertech to demonstrate its ability to restore groundwater quality before opening the new mine.

Powertech's lobbying has sidelined state regulators, and there's little hope that federal regulators will step up to fill the gap, Wilson says. America's nuclear watchdogs have deep ties to the industry they oversee, Wilson says, and have accepted Powertech's own studies as evidence that Dewey-Burdock can be operated safely.

"We're not in a position to protect our water in South Dakota", Wilson says. "And depending on the EPA and the NRC to look out for us, it's not going to happen."

Tribal rights? What tribal rights?

Regulators have also dropped the ball when it comes to tribal cultural issues, says White Plume, the Lakota activist. The Dewey-Burdock area contains hundreds of sites of cultural significance to the Lakota, including sacred burial grounds, but regulators haven't made a good-faith effort to assess them, or to seek input from affected tribes.

White Plume says: *"We haven't been consulted according to their own rules. Any way you look at it, we haven't been given our voice."*

Powertech's Hollenbeck dismisses as *"ridiculous"* the notion that the company has cut corners, or that regulators haven't properly studied the area. *"We've spent almost twice as much time permitting this project as the US took to win World War II."*

Besides, Hollenbeck says, the cultural sites White Plume and her allies are seeking to protect amount to little more than *"a cookstove here, a campsite there."*

Powertech will do what it can to preserve the handful of genuinely significant Lakota sites in the Dewey-Burdock area, he says, but can't be expected to give the tribe veto-rights over the entire project. *"If all land is sacred and all water is sacred then we can't do anything."*

Bolldozing rock is one thing. Bullozing people, another ...

That sort of argument might have served to justify steamrolling Native American rights in the past, White Plume says, but this time will be different.

With ranchers, environmentalists, city councillors and Indian groups uniting against Dewey-Burdock, she says, Powertech will find it's bitten off more than it can chew.

Lakota activists fought off a [similar uranium-mining project](#) in 2007, and White Plume says she's determined to do the same with Dewey-Burdock.

"We're all standing together. This ain't just a handful of little Indians out on the prairies that you can run over ... this is a broad array of resistance to uranium mining."

That spirit of resistance won't end even if, as appears likely, regulators approve the Dewey-Burdock mine, White Plume says:

"If they close every door to us, then the only door open to us is direct action. You've got to walk through that door if you're serious about protecting yourself and Mother Earth."

Ben Whitford is The Ecologist's US correspondent. He can be reached at ben@theecologist.org, or on Twitter at [@ben_whitford](https://twitter.com/ben_whitford).

Action: [Petition](#) opposing uranium mining in the Black Hills.

More information:

[The Black Hills Clean Water Alliance](#)

[Defenders of the Black Hills](#)

[Dakota Rural Action](#)