

Conclusion: Jackpile Mine toxic legacy

Written by Elizabeth Miller New Mexico In Depth
Friday, 04 February 2022 05:30



Ongoing community concerns prompt Superfund listing

[Part One of the Jackpile Mine toxic legacy story looks at what happened before there were environmental standards for reclaiming the land.]

The EPA-run Superfund program, established by Congress in 1980, was relatively new when the BLM and BIA plan was approved in 1985, [Paul] Robinson [of Southwest Research and

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Information Center] said, and the plan was not evaluated on whether or not it met the EPA's regulations for contaminants like uranium in the water. Further complicating cleanup is that mines aren't covered by the Atomic Energy Act, which oversees the cleanup of former uranium mill sites.

"This little glitch is a major defect that has resulted in all the uranium mines over the Navajo Nation and around the West being left as orphan mines," Robinson said. Orphans are abandoned mines for which no financially responsible party can be found. "It's a very unfortunate gap that's been unable to be filled, so the Superfund remedy is the only remedy that's been identified for the Navajo sites, as well as Jackpile."

Interior Secretary Deb Haaland, who is a member of the Laguna Pueblo, testified in 2019 before Congress when she was a U.S. Representative about the health risks posed by the Jackpile Mine, and the need for more compensation for communities affected by cancer and other illnesses.

"At the Jackpile Mine, these poisons were dumped in an open pit without any lining to protect the ground and the groundwater because that was the standard at the time," she told her congressional colleagues. "I know it's difficult for us to comprehend this today. In fact, it's been 45 years since cleanup of the uranium tailings began, and it's still not done. That is a responsibility of the federal government."

As Interior Secretary, she now oversees both the BLM and BIA. Her press office referred questions for this story to the EPA.

In time, the Pueblo's leadership became convinced the problems went beyond the visible damage to the landscape.

"Health issues started to come up decades later," June Lorenzo of the village of Pagate, who has also become a community organizer and advocate for human rights, said. "People didn't know it would turn up decades after the mine closed. ... The Pueblo was just like, you know, this is bigger than we ever thought."

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Lorenzo worked as in-house attorney for Laguna from 2007 to 2010 and began urging the EPA to visit the site at the Pueblo's behest. When the EPA took a closer look, planes scanned for radiation and found hotspots at the mine, as well as along the Mesita Dam, a marshy, tamarisk-lined area and reservoir that once watered farms.

The EPA's investigations went on to confirm releases of hazardous substances from the mine area. Uranium, radium, and heavy metals were all poised to affect streams and reservoirs. The EPA concluded mine reclamation still was not complete. Water now visibly pools in the buried open-pit mine.

The water sample credited with landing Jackpile on the Superfund list was taken from the Rio Paguete, an intermittent stream. It measured a concentration of uranium at 500 micrograms per liter, more than 16 times the level considered safe by the U.S. Environmental Protection Agency. Since then, concentrations of uranium from water samples from the Rio Paguete have sometimes approached 800 micrograms per liter.

In essence, decades after mining had ceased and the initial clean-up was completed, runoff from the mine still appears to be contaminating the Rio Paguete much as it had been before any clean-up work was done.

Research in an *"Environmental Science: Process and Impacts"* paper found water and sediment samples from the Rio Paguete and Paguete Reservoir's wetlands, behind Mesita Dam, with traces of uranium from the ore and mine wastes that matched findings from the 1970s. Almost every sample taken of runoff after summer monsoon rainstorms from 2014 to 2016 exceeded the EPA's maximum contaminant level for uranium.

Kyle Swimmer has lived in Laguna his entire life and works as community liaison for the Pueblo with the University of New Mexico Metal Exposures on Tribal Lands in the Arid Southwest Superfund Research Program. He's convinced the question is not whether uranium has drifted downstream of the mine, but how far it has traveled. Swimmer, trained as an environmental engineer, said the water in the Pueblo should have been continuously monitored and wasn't.

"Just this year is the first year they started drilling new wells to do water monitoring," he said. "They let us go for 40 years and this is the first time they're going to test the waters."

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The EPA, meanwhile, is working to determine the extent of the contamination, the first phase of a Superfund clean-up likely to last decades.

This year, agency staff has repaired fences on the northern, southeastern, and western site boundaries to deter cattle and wild horses from entering the mine. They've also reviewed Atlantic Richfield's groundwater field sampling plan and gamma radiation screening reports, and experimented with techniques for tracking how potentially contaminated groundwater is affecting surface water. Air monitoring stations are also on the site, collecting samples. EPA Region 6 officials failed to respond to repeated requests for an interview for this story.

The longer these contaminants are left, the more problems they can create, Shuey pointed out.

"We have multiple generations exposed, and those generations are passing the effects down," he said. "So how long is this going to take place? How many generations are yet to go forward with no end in sight, other than continued exposures for vulnerable people tied to the land?"

Atlantic Richfield, meanwhile, is still in court, fighting to avoid the financial burdens that come with the site's Superfund status. The company's lawsuit argues the Pueblo accepted liability for the site when it took the \$45 million settlement. The company has also sued the federal government as a potentially responsible party because much of the uranium ore was purchased by the federal government.

Citing the litigation around the clean-up, the BLM declined an interview request for this story.

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GAO REPORT CAUTIONS OF A FUTURE IN WHICH REMEDIES AT NUCLEAR WASTE SITES COULD FAIL

What's happening at Jackpile suggests other legacy clean-ups could fall behind, either weathered down over the decades in unanticipated ways or perhaps having always fallen short of standards that would protect public health and the environment. In a 2020 report, the Government Accountability Office pointed to challenges coming for the Department of Energy's Legacy Management office.

The report said, “Hey, you know, there's an anticipation of climate change,” Greg Kuntz, spokesperson with the Legacy Management office, said. “What are you doing to look at that?”

Already, heavy rain, tornadoes, and hurricanes — all extreme weather events expected to increase as the climate changes — are happening around the country near hazardous waste storage sites. Legacy Management has commissioned several national laboratories to help evaluate that risk and plan for that future, but a final report is not expected until September 2022.

“The biggest limitation is the unknown,” Kuntz said. “We can plan the best that we can, but we have to kind of be flexible in the way of, you know, what is coming with climate change?”

That means doing —and paying for — preparatory work for a future that may never materialize.

After the GAO report, Legacy Management evaluated how well human health and the environment were protected at these sites, identifying “numerous ‘big picture’ ” improvements that could help reduce future risk, Kuntz wrote in an email follow-up.

National laboratories will help prioritize the highest-risk sites, and already the agency is beginning to budget for projects. The GAO report also sparked conversations between Legacy Management and the Office of Environmental Management and the Nuclear Regulatory Commission on how to identify and evaluate new cleanup work, and how to respond when cleanups, like at Jackpile, don't protect public health and the environment.

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Sites under the DOE's legacy management oversight in New Mexico including Ambrosia Lake, Bluewater, L-Bar Mill, and Shiprock; Homestake, Rio Algom, and Church Rock are expected to join that list. Many are near Indigenous populations. When the remediation work at Jackpile is finished and needs only long-term monitoring, the mine could fit the criteria for Legacy Management's oversight, but if and when it might join that program is unknown.

The contaminated soil and groundwater at these sites will require ongoing surveillance and maintenance.

The GAO report specifically mentioned the L-Bar site, where 2.1 million tons of radioactive mill tailings are permanently stored, as an example of challenges with cleanups. A photo in the report shows the wire mesh-wrapped layer of rock, designed to prevent the spread of those radioactive tailings, crumbling.

THOSE WHO PAY THE PRICE

To this day, when people at Paguete sicken, among the first questions asked is, did he work at the mine? Or did a family member come home with dust on his clothes? Despite Laguna villagers' awareness of the connections between uranium mining activity and cancer deaths among miners and those exposed to dust from blasting, there's been no comprehensive monitoring of health impacts.

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A federal agency that completes public health assessments related to Superfund sites largely concluded that they did not have enough information to know whether health at Laguna had been or would be harmed. Possible exposure included radiation in homes, consuming fish, animals, or plants near or downstream of the site, or living in the former mine housing area. Wading or swimming in contaminated water was not expected to pose risk. When UNM METALS asked the community members what they wanted to see researched, a health study topped the list.

“They’re really worried about not only themselves, but their grandkids, their kids,” Swimmer said. “In Laguna, you grew up with these mines being, like, this very terrible thing, and you could never go into it, they were blocked off, with signs that say “Do not enter.”

“So it’s this shadowy place, kind of like a demon that’s always behind us, in the back of our heads. And especially the people living directly next to the mine, they have to look at it every day and wonder if that’s the reason why they’re dying, or that’s why they have these health problems.”

There’s an interest, now, in reviving some traditional practices, like farming. But in Mesita, one of Laguna’s villages, their irrigation supply would come from the reservoir contaminated with uranium. Even where there isn’t evidence of contamination, Swimmer said, there’s fear of it.

“The legacy issues are really serious and I’d really like to see a seriousness about it by EPA and other bodies that are responsible for this,” Lorenzo said. “Because, this community, they really sacrificed a lot, first for nuclear fuel for other people, and there are no nuclear reactors around Laguna. They won’t ever experience nuclear energy — this so-called clean energy. So I think there’s a lot of sacrifice of the people at Laguna and Navajo Nation and other places, and other people benefited.”

Elizabeth Miller is an independent journalist based in Santa Fe, N.M. who writes about energy, the environment, the outdoors, and a range of public policy issues. She can be reached at elizabethmiller@gmail.com

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