



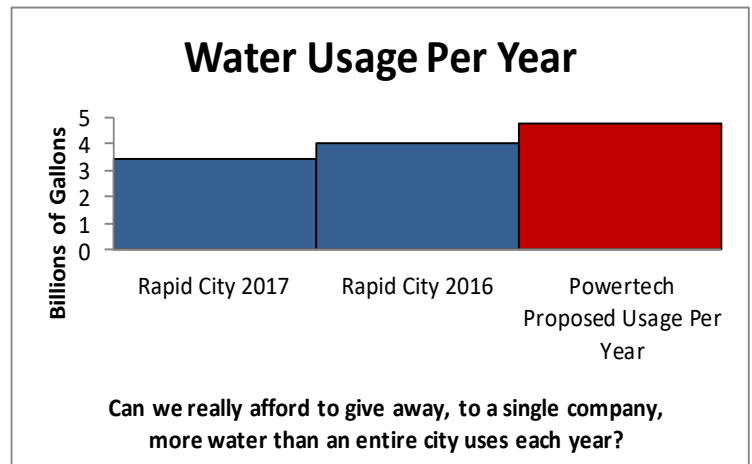
## Black Hills Uranium Mining: Not Worth the Risks

A transnational company incorporated in Canada, Azarga Uranium Corp. has tasked its wholly owned subsidiary Powertech (USA) Inc. with obtaining state permits and federal licenses for what would be South Dakota's first-ever in situ leach (ISL) mining for uranium in our underground water tables -- and for on-site milling of radioactive material for nuclear power plants and weapons. They propose taking vast amounts of water out of the ground, mixing it with chemicals, injecting it back into to the aquifer to dissolve and extract the uranium, then concentrating the radioactive material (yellow cake), trucking it over the road, and disposing the wastewater either on the land or in another aquifer.

### Water Quantity & Quality

Azarga is seeking South Dakota permits for 551 gallons of water/minute from the Madison Aquifer and 8,500 gallons/minute from the Inyan Kara Formation. That's 12.96 million gallons per day for 20 years.<sup>1</sup> In 2017, Rapid City used 10.75 million gallons per day.<sup>2</sup>

- If Azarga bought the water from Rapid City, it would have to pay at least \$1 million dollars a year for the amount it seeks, but the company expects to get it for free.
- Azarga is requesting an exemption from the EPA Safe Drinking Water Act so it can dispose of mining waste water in and above our sources of drinking water.
- South Dakota remains in a long-term drought. "Because the project is presently expected to operate for between 7 and 20 years...it will result in losses of significantly greater quantities of water via evaporation."<sup>3</sup>
- Despite lacking adequate, long-term aquifer test data, in 2009 Powertech presented predictions of significant water level declines in other aquifers even 3 miles away. For example, the Fall River Aquifer is predicted to drop up to 42 feet. Those who get their water from a well know the significance of this kind of depletion.<sup>3</sup>



### It's Just Not Safe

Among other hazards, radon emissions, toxic heavy metals and other pollutants, including chloride, sulfate, sodium, radium, arsenic and iron, are in ISL wastewater ponds. Accidents and leaks in this kind of operation are inevitable, raising concerns about runoff into the Cheyenne River and Angostura Reservoir. It is a big deal! We're not just talking about some inert solution. The most serious radiation release in the US came from a tailings pond spill at a uranium mine in New Mexico.

**"The groundwater chemistry of this aquifer will have been greatly disturbed. It's like walking by a hornet nest. The hornets are in there. And we just kicked the nest."**  
Perry Rahn, Ph.D.

- Containment is not possible due to natural fissures and fractures in the geology of this region.<sup>4</sup>
- In response to Powertech's lobbying, in 2011, the state abdicated responsibility for underground water regulation, leaving that in jurisdiction of the EPA, which has no offices in South Dakota. This means monitoring and enforcement would be inadequate.<sup>5</sup>

## Economics: Too much is at stake. Protect what we have.

Uranium mining is a boom-and-bust business, prioritizing short-term extraction and exploitation for foreign gain over the sustainable income source offered to local people by tourism and agriculture.



**Annual Tourism Sales in the Black Hills: \$1.4 billion in 2012, growing at a rate of 5% per year.**<sup>6</sup> This accounts for 72% of South Dakota's total tourism dollars. South Dakota depends on tourism for 27,000 jobs and 19% of its tax revenue. We don't need new uranium mining to tarnish SD's status as a world-class tourist destination, for a handful of risky, temporary mining construction jobs. Too much long-term damage to land, water, air, and cultural resources is at stake. When uranium companies recently tried to reopen mines around the Grand Canyon, the federal government moved to protect the natural heritage by banning uranium mining in a 1 million-acre area around the scenic visitors' attraction. "Mining is a boom-and-bust industry that harms tourism and robs local economies of long-term benefits."<sup>7</sup>

### Market Value of Agricultural Products Sold in Fall River, Custer and pay at least \$1 million Oglala Lakota, Fall River, and Custer counties: \$175.2 Million in 2012 (latest census data)<sup>8</sup>

Clean, potable water is critical for agriculture in this semi-arid state in the midst of serious drought. It's obvious that our water needs to be protected and conserved. ISL uranium mining will result in contamination of ground and surface water with radioactive materials and heavy metals harmful to humans, wildlife and livestock. These three counties will be the most immediately affected.



**"To date, no remediation of an ISR [in-situ recovery] operation in the U.S. has successfully returned the aquifer to baseline conditions. Often at the end of monitoring, contaminants continue to increase."**

**-US Geological Survey**

### Other Concerns:

- The water and land have never been restored.
- There are more than 100 archaeological sites that date from pre-history on the 10,000-acre proposed permit area.
- The uranium-bearing rock formation circles the outer edge of the Black Hills. Exploration has been done from Sturgis to Buffalo Gap and from Hulett south and east to Hot Springs. If Azarga's proposed project goes through, the entire Black Hills is an open door to uranium mining.

## What You Can Do

### 1) Join DRA and the Black Hills Chapter.

Let us know you want to get involved. Participate in our Radiation Monitoring Project. Learn more and connect with others who are taking action. [www.dakotaruralblackhills.org](http://www.dakotaruralblackhills.org)

### 2) Learn more: [SDCleanWaterAlliance.org](http://SDCleanWaterAlliance.org); [PowerTechExposed.com](http://PowerTechExposed.com); [WiseUranium.com](http://WiseUranium.com)

### 3) Contact your elected officials and ask them to oppose uranium mining.

### 4) Send Comments to: Valois Shea at [shea.valois@epa.gov](mailto:shea.valois@epa.gov), fax: 303-312-6741, or Valois Shea at [shea.valois@epa.gov](mailto:shea.valois@epa.gov), fax: 303-312-6741, or U.S. EPA Region 8, Mail Code 8WP-SUI, 1595 Wynkoop St., Denver, CO 80202-1129.

### 5) Contact the South Dakota Department of Environment & Natural Resources, DENR, Steven M. Pirner, P.E., Department Secretary Phone (605) 773-5559 Fax (605) 773-6035 Joe Foss Building 523 E Capitol Pierre, SD 57501

### Sources

1. South Dakota Department of Environment and Natural Resources (DENR), <http://denr.sd.gov/PowerTech.aspx>
2. City of Rapid City Water Division, based on 2017 total annual water consumption
3. Robert E. Moran, Ph.D., SUPPLEMENTAL DECLARATION OF DR. ROBERT E. MORAN, response to NRC DEIS
4. Hannon E. LaGarry, Ph.D. Geologist
5. 2011 South Dakota Senate Bill 158
6. 2012 South Dakota Department of Tourism Annual Report
7. Roger Clark, The Grand Canyon Trust
8. 2012 USDA Census of Agriculture



Dakota Rural Action is a grassroots, non-profit organization in South Dakota dedicated to community organizing. Through member driven efforts, DRA works on a range of issues important to family farming and ranching in the state. The Black Hills Chapter is working on a campaign to stop uranium mining as it threatens natural resources, health, local economy and progressive energy alternatives. It's just not safe. **Join us.**

West River Office  
2650 Jackson Blvd., Ste 8  
Rapid City, SD 57702  
**605-697-5204 x 270**

[www.dakotaruralblackhills.org](http://www.dakotaruralblackhills.org)