

# ABANDONED URANIUM MINES FACT SHEET

**There are more than 10,000 abandoned uranium mines (AUMs) in 15 western states.<sup>1</sup>**

The true number, location, existing hazard, and off-site migration potential for toxic and radioactive materials from these sites have not yet been adequately determined.

**10 million people are estimated to live within 50 miles of a recorded AUM.<sup>2</sup>**

That's about 1 in 7 people in the western US.

**75% of AUMs are located on federal and tribal lands.**

Most of those locations are found in Colorado, Utah, New Mexico, Arizona, and Wyoming.<sup>1</sup>

There are 3,272 abandoned uranium mines and prospects located in just five states; Montana, Wyoming, North Dakota, South Dakota, and Colorado. 169 AUMs are located 40 miles southwest of Mount Rushmore in the Black Hills.<sup>3</sup> More than 1,200 AUMs have been documented on Navajo Reservation.<sup>4</sup>

**No existing federal laws require clean up of these hazardous sites.**

The US Environmental Protection Agency states, "Unlike the uranium mill tailings cleanup program, there is no specific legislation to address abandoned uranium mines."<sup>5</sup> Most of these AUMs were established under the "General Mining Law of 1872," that does not require reclamation or remediation.<sup>6</sup>



**Corporations walk away while the public pays.**

Mining companies walked away from their clean up responsibilities after decades of mining, leaving the public to bear their toxic legacy. The costs for clean-up of these abandoned sites have been moved from the past uranium mining operators onto the general taxpayers, as have the public health and environmental costs of these toxic sites.

**AUMs remain dangerously radioactive for hundreds of thousands of years.**

99 percent or more of the rock extracted from a mine can wind up in the remaining pulverized rock debris, also known as tailings. That waste retains 85 percent of the radioactivity of the original underground deposit. (7) Quantities of radium and radon gas, which are potent human carcinogens(8), given off by AUMs will have diminished by only one-half in 80,000 years. (9) After about 1 million years, carcinogenic effects are limited to the continuous decay of thorium-230 in residual uranium which releases toxic alpha and gamma radiation. Both are dangerous and deadly to all living beings. (10)



Uranium Warning sign at Riley Pass Uranium Mine in NW South Dakota.



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169 abandoned uranium mines are 40 miles southwest of Mount Rushmore.

## AUMs pose an 'invisible threat'



Uranium radioactivity poses a hazard that cannot be smelled or tasted because radioactive dust looks just like regular dust. Without proper scientific instruments it is nearly impossible to identify a health threat. People who live near AUMs may drink from contaminated wells. Fields may also become contaminated, impacting livestock. (12) When uranium decays, it releases radon, an odorless gas that trails only tobacco as a cause of lung cancer in the United States. (13)

## There is no dose of radiation that is considered to be harmless.

There is no minimum threshold for radiation damage (no dose which is harmless). (14) Radioactivity from AUMs can cause cancer and other organ damage, especially during fetal development and in young children. Higher incidence rates of childhood leukemia, respiratory disease and kidney disease have been recorded in areas near uranium mine sites. Uranium in drinking water has been associated with increases in kidney disease. (15) Chronic exposure to radium in humans by inhalation has resulted in the death of blood cells, tissues and organs. Chronic exposure to radon in humans and animals via inhalation has resulted in respiratory, while animal studies have also reported effects on the blood and a decrease in body weights. (16) (17)



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## Contaminated water that enters municipal water supplies can threaten the health of large numbers of people.

Due to uranium contamination in the Colorado River, the drinking water supply for half of the population of the Western U.S. may already be radioactive.<sup>18</sup> Mining near the Colorado River, which flows through the Grand Canyon, threatens the drinking water supplies of millions of people in cities like Phoenix, Los Angeles, and Las Vegas.<sup>19</sup> Samples from 15 springs and 5 wells in the Grand Canyon exhibited dissolved uranium concentrations greater than the Environmental Protection Agency maximum for drinking water.<sup>20</sup>

## Toxic, radioactive substances from AUMs take the form of dust which travels with the wind for hundreds of miles.

Alpha and beta radiation—particles emitted from atomic nuclei—can cause severe damage to cells if they are released from within the body, which can happen after a person drinks contaminated water or inhales contaminated dust. If inhaled, that dust can increase the risk of lung cancer; it can also blow into streams or onto nearby ground, spreading radioactive contamination.<sup>21</sup>

# TAKE ACTION!

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