



KEEP THE BAN ON URANIUM!

Protect our heritage, our health and our future

How is Uranium Mined and Processed?

Virginia has a nearly 30-year ban on uranium mining. Foreign-backed interests are trying to lift the ban so they can mine and process uranium, starting in Southside Virginia. Drinking water, human health, farmland, property values, wildlife and tourism across Virginia are at risk.

Uranium Mining

There are three main ways uranium ore can be extracted. All forms of mining create health risks for mine workers and the general public and may permanently damage the environment.

Open Pit Mining

Open pit mining is used to remove near-surface deposits and requires the removal of rock and soil to access the uranium ore. Open pit mining generates 40 tons of waste for each ton of ore. Mining companies are not required by law to contain and treat waste rock. Seepage from waste rock may contain traces of uranium, uranium by-products, heavy metals, and acids. Rainwater runoffs from open pit mines require the development of large evaporation ponds for storage and expensive treatment facilities for processing. Open pit mining also releases dust and emits radon gas, which can cause lung cancer if inhaled. These radioactive and toxic particulates can end up in waterways.

Underground Mining

Underground mines are created using a series of shafts and tunnels. Miners must go underground to build machinery and access the uranium ore. This exposes workers to high levels of radon. When water is present in large quantities, such as in the wet climate of Southside Virginia, the release of radon can be exacerbated, and surrounding rock can become unstable. Underground mining also causes soil subsidence and erosion that may affect neighboring properties.

In-Situ leaching (ISL)

ISL is a combined mining and processing technology. A mix of chemicals is injected into the earth through a series of patterned holes. These chemicals separate the uranium ore from surrounding rock, and the mixture is recovered for further processing¹. Once underground, this chemical solution can leach into surrounding groundwater. A long, expensive process is necessary to restore the aquifer.

Uranium Processing (Milling)

Once uranium ore is extracted from the ground, it must be processed into a usable form called yellowcake. Processing is commonly referred to as 'milling'. The uranium ore is crushed and infused with a liquid chemical solution that requires large quantities of water. The chemical solution separates the usable element of uranium from the unusable waste. The usable element is sent to an enrichment facility to be turned into fuel pellets. There are no enrichment facilities in Virginia.

Uranium mined in Virginia will be shipped out of state to be enriched. What will be left behind is radioactive waste that will have to be disposed of and managed for centuries.

¹ Edward T. Habib, Jr. In Situ Leaching of Uranium. Mobil Oil Co., assignee. Patent. 4,185,872. 29, Jan, 1980.