

Uranium is a relatively common metal, found in rocks and seawater. Uranium ore is recovered by excavation or by insitu leaching techniques. Excavation may be underground or open pit mining.

Underground Mining

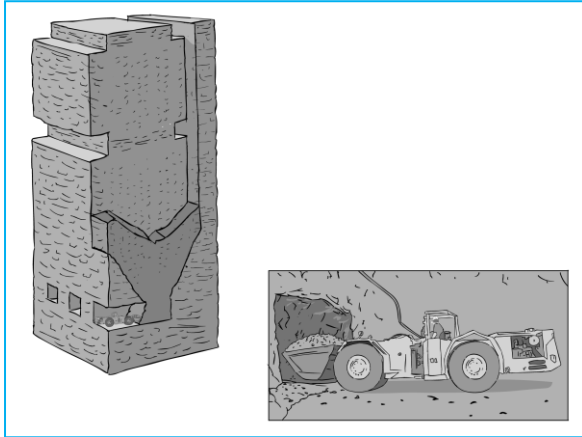


Image of underground mining

In underground mining the ore blocks that can be mined are known as stopes. A stope can be as high as 100m and as wide as 50m across!

Holes are drilled into the stope and then blasted in stages to create an open space or 'slot' at the end of the stope for rock to be blasted into. Blasted rock falls to the bottom of the stope where it is picked up by front-end loaders from 'draw points'. More ore can then be blasted into the opened slot.

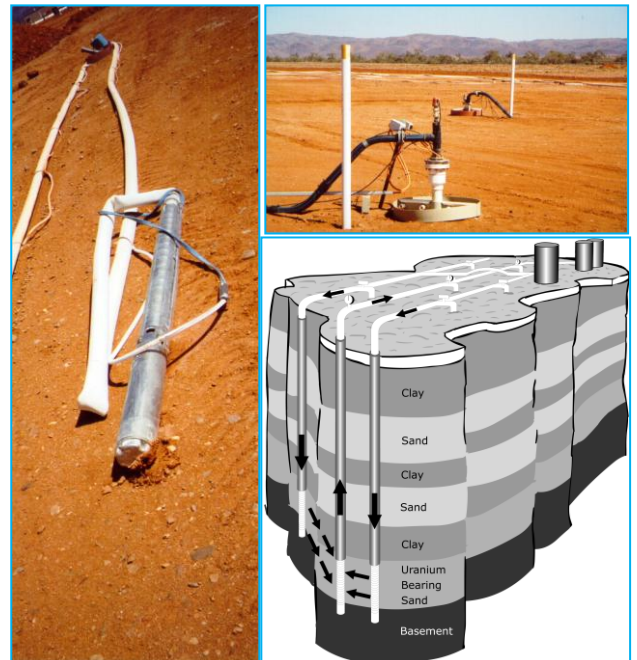
Ore is taken into an underground crusher and then hoisted up a shaft for further processing. Holes are drilled from the surface and the empty stope is filled with cement, flyash, crushed waste rock and waste from the plant.

In situ Leaching

Bore holes for 'injector' and 'production' wells are drilled from the surface into the orebody. A leach solution of weak sulphuric acid and oxygenated ground water is pumped through the injector wells into the orebody where it dissolves the uranium.

The uranium-rich solution is pumped back to the surface (through the production wells) for treatment.

After the uranium is separated from the leach solution the solution is recycled.



Images of in situ leaching



Image of open cut mining

Open cut Mining

Where the uranium ore body is found close to the surface it is mined by the open cut method. This method is used in the Northern Territory.

The South Australian Chamber of Mines and Energy is acknowledged as the provider of this resource.

