

rock: A solid aggregation of minerals.

mineral: a naturally occurring solid element or inorganic compound with a crystal structure, a specific chemical composition, and distinct physical properties.

mining: (1) in the broad sense, the extraction of any resource that is nonrenewable on the timescale of our society (such as fossil fuels or groundwater). (2) In relation to mineral resources, the systematic removal of rock, soil, or other material for the purpose of extracting minerals of economic interest.

metal: A type of chemical element, or a mass of such an element, that typically is lustrous, opaque, and malleable and that can conduct heat and electricity.

smelting: A process in which ore is heated beyond its melting point and combined with other metals or chemicals to form metal with desired characteristics.

tailings: Portions of ore left over after metals have been extracted in mining.

surface impoundments: (1) A disposal method for hazardous waste or mining waste in which waste in liquid or slurry form is placed into a shallow depression lined with impervious material such as clay and allowed to evaporate leaving a solid residue on the bottom. (2) The site of such disposal.

strip mining: The use of heavy machinery to remove huge amounts of earth to expose coal or minerals, which are mined out directly.

acid mine drainage: A process in which sulfide minerals in newly exposed rock surfaces react with oxygen and rainwater to produce sulfuric acid, which causes chemical runoff as it leaches metals from the rocks. It is a natural phenomenon, but mining greatly accelerates it by exposing many new surfaces.

subsurface mining: Method of mining underground deposits of coal, minerals, or fuels, in which shafts are dug deeply into the ground and networks of tunnels are dug or blasted out to follow coal seams.

open pit mining: A mining technique that involves digging a gigantic hole and removing the desired ore, along with waste rock that surrounds the ore.

mountaintop removal mining: A large-scale form of coal mining in which entire mountaintops are blasted away in order to extract the resource. While economically efficient, large volumes of rock and soil generally slide downhill, causing extensive impacts on surrounding ecosystems and human residents

placer mining: A mining technique that involves sifting through material in modern or ancient riverbed deposits, generally using running water to separate lightweight mud and gravel from heavier minerals of value.

solution mining: A mining technique in which a narrow borehole is drilled deep into the ground to reach a mineral deposit, and water, acid, or another liquid is injected down the borehole to leach the resource from the surrounding rock and dissolve it in the liquid. The resulting solution is then sucked out, and the desired resource is isolated.

reclamation: The act of restoring a mining site to an approximation of its pre-mining condition. To reclaim a site, companies are required to remove all mining structures, replace overburden, fill in mine shafts, and replant the area with vegetation.

General Mining Act of 1872: U.S. law that legalized and promoted mining by private individuals on public lands for just \$5 per acre, subject to local customs, with no government oversight.