

Environment and Mining

November 23, 2015 2:20 PM

① Acid Rock Drainage

Problem: metal sulphide compounds oxidize (and release harmful metal ions) when left exposed to air and water both.

Solution:

- cover the pile with plastic or clay
- put rock at bottom of lake/ocean
- layer the rock with limestone

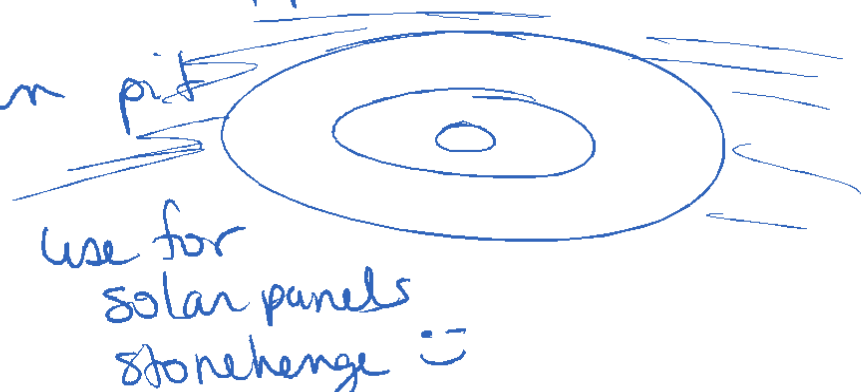
② Mine Site Reclamation

Problem: open pit and strip mines can cause huge scars on the land → making land unusable.

Solution:

- plant grasses, etc getting more complex as the soil is produced.
- build there, pave over

- open pit



garbage dump
lake.

③ Water Quality

Problem: chemicals used to process the rock can be harmful and are stored in tailings ponds. Don't want it to interact with environment around.

Solutions:

- treat the water to neutralize
- boil to remove H_2O leaving chemicals
- line pond with clay or other impermeable
- reuse the water
- constantly monitoring

④ Air Quality

Problem: During smelting processes (roasting the ore concentrate), ^{sulfur}gases are discharged into atmosphere causing acid rain.

Solution:

- filter air before releasing, then can use sulfur for good.
- constantly monitor air

Which one would be best to drink?

Mine Site Liquids

Liquid	Community A) Supply	Bottled water B	Tailings Pond. C	Coke D
pH	7	3	7.2	3
Copper	35	40	1	50
Iron	103	30	30	100
Zinc	5	5	7	5
Lead	<1	80	<1	1



Drink: C

Never drink: B