

Solutions

2.1 Chlorine, ozone, ultraviolet light.

2.2 Sedimentation.

2.3 Phytomining and bioleaching.

3.1 Choose a fresh source with low dissolved solids – ground, lake or river water; pass it through filter beds to remove solids and debris; sterilise with chlorine/ozone/UV to kill microbes; the result has sufficiently low salts and microbes – potable.

3.2 Distillation – boil the water and condense the vapour, leaving salts behind; reverse osmosis – pressure pushes water through a membrane the salts cannot pass; both require large amounts of energy, making the water expensive.

3.3 Grow plants that absorb copper compounds from the low-grade ore soil; harvest and burn the plants; the ash contains the copper compounds; dissolve and displace/electrolyse to obtain the copper metal.