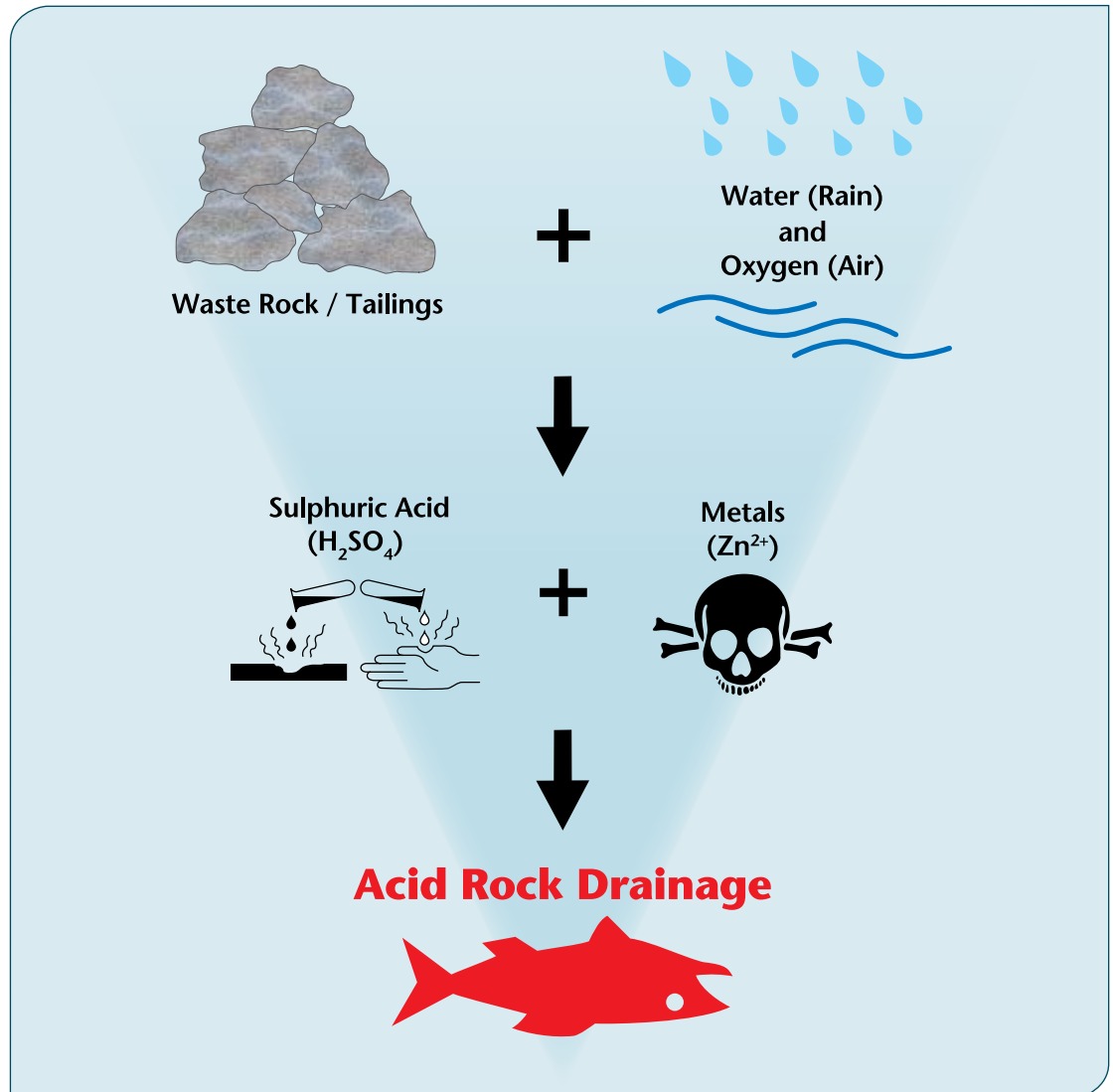




Acid Rock Drainage

Acid Rock Drainage is a term used to describe a set of chemical reactions. These reactions occur when sulphur-containing rock is exposed to water and oxygen. In many ways, the process is similar to other natural processes like weathering or rusting.

When oxygen and water come into contact with sulphur-containing rock, acid is produced. This acid can dissolve metals from the surrounding rocks and release them into ground and surface waters. High levels of metals and acid can be harmful to fish and other aquatic life.



The presence of naturally-occurring bacteria called *Thiobacillus ferrooxidans* can greatly increase the rate of acid rock drainage reactions. The bacteria uses sulphur present in rocks as a source of energy and, under the

right conditions, can accelerate the rate of acid rock drainage production. The *Thiobacillus ferrooxidans* bacteria is present and active at the Faro Mine Complex.

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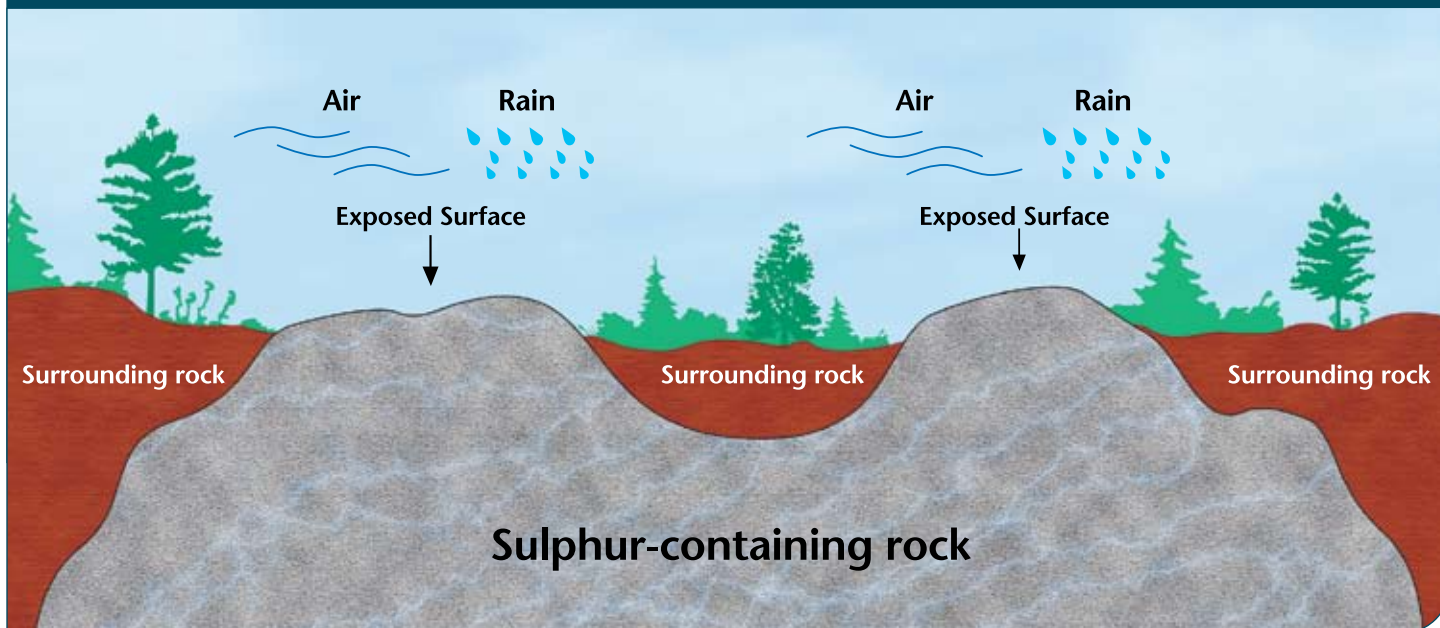
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Faro Mine Closure **FACT SHEET** #4

When **sulphur-containing rock** occurs within large rock formations, natural weathering occurs only on those surfaces that are exposed to the atmosphere. Oxygen and water present in the atmosphere react with the exposed

rock surfaces and produce relatively small amounts of acid. The natural environment is often able to neutralize and/or adapt to these small amounts.



During mining, **crushed sulphur-containing** rock increases the amount of acid rock drainage produced because more rock surfaces are exposed to oxygen and water present in the atmosphere. The processes

that create acid rock drainage have begun at the Faro Mine Complex, and scientists predict that the amount of metals released will continue to increase for the next 400 to 800 years.

Crushed sulphur-containing rock

Acid rock drainage is increased as more surfaces are exposed to oxygen and water.

