Acid Mine Drainage

Industries for this invention

- Mining Industry
- Property developers

Innovation Status

TRL 7
Pilot system demonstrated

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Invention

Using a metallurgical waste product, the invention consists of a method to treat acidic water from mining sites. The treated water can be used for industrial application or with additional steps be treated for potable usage.

Problem Solved

Water is currently a scarce resource in South Africa and the depletion rate threatens our water sources. Acid mine drainage, in particular, causes environmental damage long after mining operations have ended. The mines spend significant amounts of money to manage acid mine drainage and have also resorted to paying punitive fines for non-compliance to environmental regulations. An innovative water treatment solution is required to rehabilitate the environment through pollution remediation of the waste material and increasing potable water capacity.

Application

By treating the acid mine drainage, mines can become less dependent on municipalities and reduce their drinking water as well as industrial water usage costs. This will increase the municipalities' water capacity which will subsequently increase South Africa's water footprint.

Advantages/Value proposition

- Using a waste product to treat water
- Environmental remediation and pollution prevention
- Recovery of saleable minerals
- Job creation
- Cost reduction by reusing treated water