

Mining industry

Exxaro Belfast – remineralisation for drinking water



Problem Statement

Exxaro Belfast coal mine is currently discharging 1.6 MLD of Reverse Osmosis (RO) water to a nearby river. Watericon and Exxaro have seen the opportunity to reuse the water for drinking and fire water purposes. Instead of discharging the water, 0.9 MLD of the water is to be repurposed for drinking. The water has a low TDS and can be remineralised to SANS 241 drinking water standards.



Process

- Remineralisation
- Disinfection

Solution

Watericon will supply, install and commission media vessels filled with Aquastab (calcium carbonate) that will dissolve in the RO water to remineralise it. The Aquastab will provide the required salt content needed for sustained consumption. A disinfection chemical (sodium hypochlorite) will be dosed after the remineralisation for a residual disinfection effect. This will keep the water tank free of bacteria.



Result

By enabling the reuse of approximately 0.9 MLD of mine water, Exxaro effectively saves over 328 million litres of municipal water annually. This significantly reduces reliance on external water supply, enhancing water security and lowering operational costs, while supporting sustainability goals.