Case Study

Mining Industry

7m³/h and 2m³/h potable water treatment plants

nordgold

Problem Statement

Potable water was needed at two mining camps – Base Vie and Fayalala camp. Analysis of boreholes near the camps showed high TDS, conductivity, hardness, and high turbidity. These parameters needed to be reduced to meet drinking water quality standards. Camp Fayalala will use 128.4 m³/d at full capacity and Camp Base Vie will use 30.1 m³/d at full capacity for the foreseeable future.

Solution

Two ultrafiltration (UF) systems, with media filtration pre-treatment, were supplied, installed, and commissioned by Watericon. The systems are designed to improve water quality by reducing turbidity, suspended solids, and microbial contaminants to meet drinking water standards. The Fayalala camp plant has been sized to produce 7 m³/h of product water, while the Base Vie camp plant produces 2 m³/h. At Fayalala camp, a clarifier was also installed as an additional pre-treatment step to manage high turbidity levels, enhancing overall system performance and reliability.

Performance target

- Clean drinking water within SANS241 regulations
- 18 hours per day operation

Process

- Clarifier
- Media filtration
- Ultra-filtration
- Disinfectant dosing

Result

- Water security: reliable on-site supply
- Health & safety: safe drinking water
- Efficiency: lower maintenance, better water management