



Mining Industry

Emergency Mobile Water Treatment Plant



Problem Statement

Decant water from an old mine is high in Total Dissolved Solids (TDS) – so much so that when the water dries up in winter, salt is left on exposed rocks. The mine needed to urgently treat this water to comply with environmental regulations to safeguard the river catchment area.

Solution

A containerised modular plant was put down on site to treat a combination of feed water sources. The plant consists of three containers:

- 1 – Sand and AFM media filters
- 2 – RO 1
- 3 – RO 2

Watericon also laid pipes using earth moving machines, with pipe runs ranging from 1.7km to 5.2km. We used HDPE pipes for the long runs—each spanning 15 meters—joining them with flanges for a quicker installation compared to welding. The hilly terrain added to the challenge, requiring the pipeline to cross a river and pass beneath a national road to reach its destination.



Concentrate losses

- The recovery of the plant is roughly 60-65% - 20-25m3/h is lost in the process.



Performance Target

- 1MLD of RO Water



Process

- Media Filtration: three filters in parallel are sand, followed by two filters in parallel that are AFM
- Reverse Osmosis



Turnaround time

- The entire plant was installed in three weeks, from nothing on site to being able to start commissioning. We had the units in stock as part of our rental fleet which allowed for the short turn-around time.