



## Algae control success at Philippines mining operation

Phil Gold Processing & Refining Corp. (PGPRC) was plagued by significant algae growth clogging filters in their water treatment plant tailing dams and needed a solution. The gold mining corporation, based in the Philippines, faced high OPEX costs at their joint operation, the Masbate Gold Project (MGP), because the filters needed to be cleaned on a daily basis to deal with the algae. The Masbate Gold Project is a collaboration between PGPRC and Filminera Resources Corporation (FRC). PGPRC provides raw water treatment and tailing dams at the mining site, whereas FRC owns the mining rights to the project and the Environmental Compliance Certificate (EEC)

### Mining & water

Tailing dams are needed in gold mining operations to collect the byproducts produced during the process. Some of this water is pumped back into the mine during mining, and the rest is treated before being discharged into Port Barrera. Because of the metallic content in the water, tailing dams frequently have high pH levels and salinity. As a result, they pose a risk to the environment.

Algal growth in the tailing dam clogged the water treatment plant's sand filters, making water reuse and treatment expensive. With the need to ensure that mining operations continued uninterrupted, daily maintenance operations were required to control algal growth.



### Preventing filters clogging

As costs continued to rise and time passed, PGGPRC was in desperate need of a solution at their Masbate mining site. PGPRC installed six MPC-buoy systems at the site in February 2021 to reduce maintenance activities and lower the tailing dam's operational costs, which were in the millions at the time.

Six months after installing the ultrasonic algae treatment, chlorophyll-a levels remained stable at 1.2 mg/L. This was a significant decrease from the

baseline of 200mg/L recorded when PGPRC began using the treatment in February 2021. As a result of the algal management, water quality improved both before and after discharge treatment, and filter cleaning maintenance was reduced.

- ✔ Since installation Chlorophyll-a levels have been reduced from 200 mg/l to 1.2 mg/l
- ✔ Filter cleaning maintenance has been reduced due to algae control success