

Case Study - Malatech Bioaugmentation

230 m³/d Electrical Industry's industrial wastewater treatment ponds

Goals of bioaugmentation:

The factory releases its industrial wastewater into 2 ponds equipped with mixers. The operator of the WWTP has chosen bioaugmentation to address the following issues:

- 1) Odor complaints from city inhabitants since both ponds released odor, and the location was close to the suburbs of the city
- 2) Reduce the organic sediment layer in the ponds to prevent costly dredging
- 3) Reduce effluent COD concentration, and pH which was high in hot seasons due to massive algal activity



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Title: Electrical industrial effluent pond wastewater treatment plant optimization

The client is a global player in electrical industry. The factory releases organic loaded industrial wastewater streams thanks to organic chemicals used for production.

The facility operates 2 consecutive ponds outside the factory for natural treatment of wastewater. Ponds are not aerated, naturally occurring pond biology brings down effluent parameters.

The effluent is released into a freshwater canal, and the authority requests effluent COD below 75 mg/l, which the ponds hardly met with before bioaugmentation. pH has to be kept below 9.5, and during hot seasons due to algae blooming, occasionally it was above 9.5. Since high level of organic-rich sediment layer formed throughout the years in the bottom of the ponds, and Dissolved Oxygen concentration was poor, the ponds had serious odor emission. As they are located close to the suburbs of the city, complaints came from the inhabitants more often.

We applied BioGuarde I as a complex solution for all above listed problems with a shock dose into Pond 1 with 38 litres, Pond 2 with 38 litres. Maintenance dosage has been dosed to the raw inlet at the factory before reaching Pond 1 with 0.5 l/d.

Results:

Effluent parameters stabilized very quickly, COD fell way below the 75 mg/l authority limit. Odor has gone in 2 weeks, algae were kept under control, so pH has been kept in bay either. Sediment layer was nearly eliminated, and has never come back, the ponds have never been drained, and dredged for more than 10 years since the start of bioaugmentation.





