

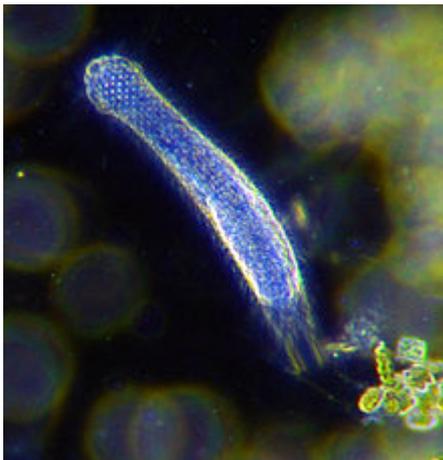
Ammonia Removal – Bio-Remove 5825

Nitrifying

Nitrifying bacteria can be difficult to maintain, especially in plants with a high sludge load. High sludge loads are caused by irregular levels of Oxygen, pH, Temperature and Organic Material. Ammonia discharge consents are becoming tighter so it is becoming even more important to remove most, if not all of the ammonia.

Bio-Remove 5825

This is a unique nitrification liquid bacteria which releases extremely effective nitrifying bacteria into the Activated Sludge. These are called Nitrosomonas and Nitrobacter species, which are much more susceptible to shock movements in pH, Temperature and Oxygen levels.



Above: A *Gasterotrichs*, an extremely excellent nitrifying Protozoa

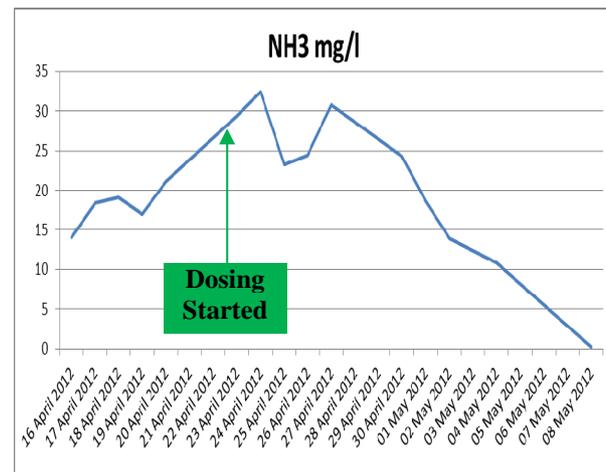
Method

Vistec were asked by a large Potato Processor to help them with removing high ammonia levels in a plant which usually has 0.3 mg/l, but was going through a tough production and loading period, forcing the Ammonia almost as high as 35 mg/l. This was worryingly close to their 50 mg/l consent limit, which is discharged into the nearby river used for fishing by the local community including many of its own employees.

Process

Bio-Remove 5825 needs to be rehydrated with water first and then aerated for a few hours to wake the bugs up and get them ready to be dosed into the aeration tank. In this scenario, each day we used 5 litres of Bio-Remove 5825 along with 300 litres of water. We preferred to use final effluent because it already has Ammonia in it which gets the bugs working straight away, however if the Ammonia levels were over 20 mg/l then we would water down the final effluent half and half with normal tap water.

The results were as follows:



As you can see the ammonia levels at the plant were getting worryingly high, once the Bio-Remove 5825 was dosed in, it had a positive impact within 6 days and within 2 weeks brought the plant back down to its usual Ammonia removal levels. The dosing could then be stopped because the Bio-Remove 5825 had helped get the plant back to normal, this shows that Bio-Remove 5825 is an excellent tool for a Nitrification upset and isn't something you have to spend great expense on dosing 365 days a year. In plants where the Ammonia levels are higher than this we would recommend a low daily dose, in previous years we have helped a chicken factory which dosed 1 litre per day.