

The Power of Nature ...Working for You



Aeration & Bacterial Dosing Case Study: Transpacific

Transpacific is Australia's leading recycling, industrial services and waste management provider. They service clients from in excess of 300 sites and depots and have over 40 major processing plants across Australasia.



The Problem

Initial independent tests showed that this particular Transpacific green waste pond had high levels of sludge, low dissolved oxygen levels and high contaminant levels. This was delaying and impeding the degradation of the waste, as well as causing foul odours to emit from the pond.



The Solution

Environmental Technologies Group (ETG) met with Transpacific at the site and examined every aspect of the problem to ensure that they fully understood the situation, and were therefore better equipped to devise a solution specifically tailored to their needs and requirements.

After careful consideration, ETG designed a custom aeration and metered dosing system for the Transpacific site and concluded that their Ecogreen Pond Starter and Pond Maintainer would provide the most effective solution.

Aeration System Installation & Testing

Firstly, a custom aeration system was installed in the pond. This aeration system was designed to increase the dissolved oxygen levels within the pond and stir up the sludge from the bottom of the pond so that the solids could be broken down more effectively. This, in turn, would encourage and expedite the natural degradation process of the waste material.

Following the installation of the aeration system, we analysed two separate samples over a two-month period. These results showed that the dissolved oxygen had increased by approximately 8 times.

In turn, the suspended solids had also increased drastically over the initial period as the sludge was stirred throughout the pond. This then began to reduce as the natural degradation process took effect. Throughout this period there were significant changes; the total bacteria levels within the pond had risen significantly, as had the nitrate and TKN etc. The level of ammonia also rose slightly initially. This was all due to the aeration releasing all the contaminants trapped within the sludge itself.



These 3 pictures show the aeration system being installed, and then in working order.



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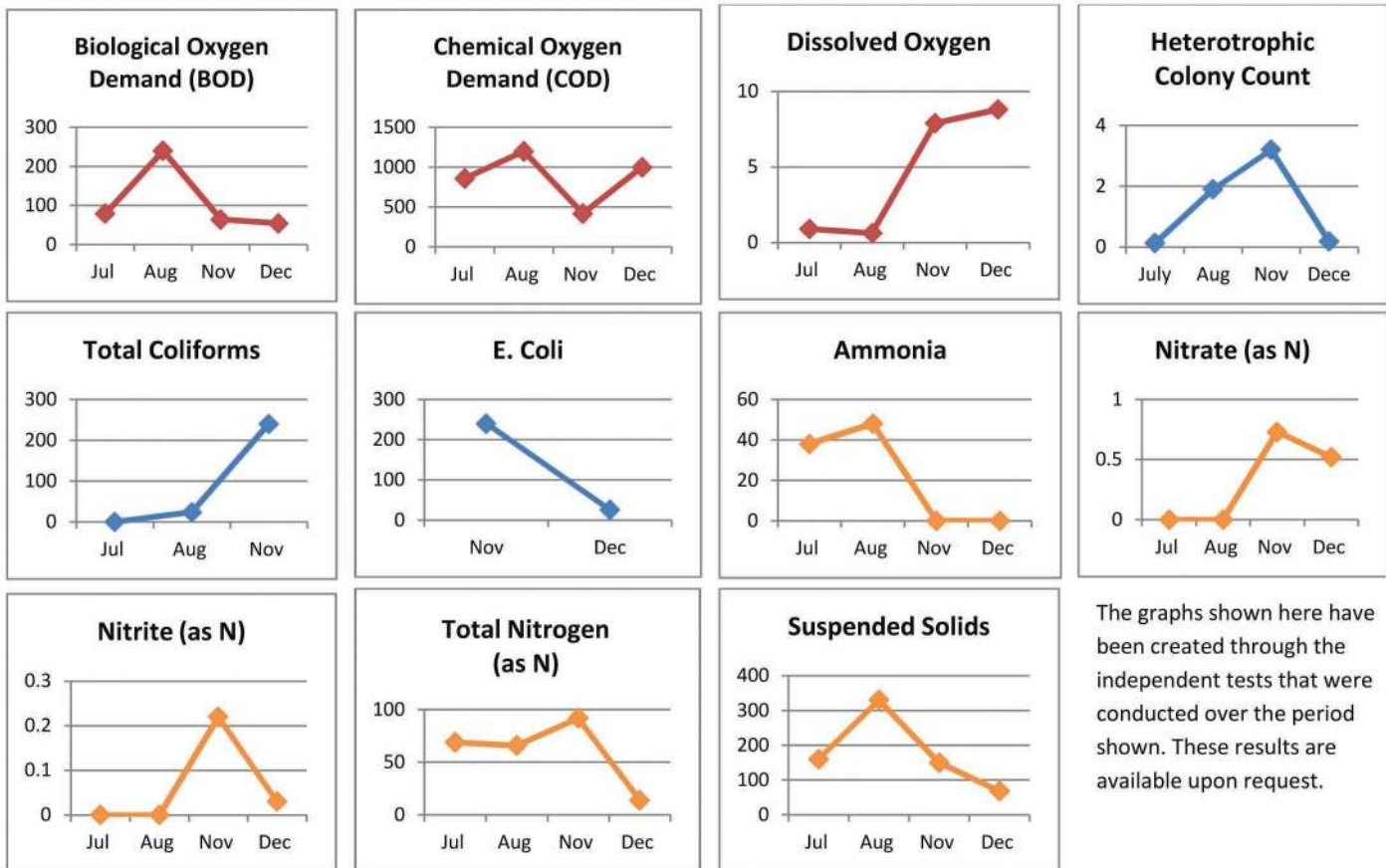


Dosing & Further Testing

Once these changes had taken place, the pond was ready to be dosed. ETG applied Ecogreen Pond Starter, along with some Ecogreen Industrial BioTabs, to increase the levels of beneficial bacteria and kick start the reduction in solids and unwanted contaminants within the pond.

Also, a metered dosing system was installed to regularly dispense a specified volume of Ecogreen Pond Maintainer into the pond thereafter, to maintain a high beneficial bacteria count at all times.

After dosing with Ecogreen Pond Maintainer for just 1 month, tests showed that the solids had reduced enormously and the sludge that had previously been resting on the bottom of the pond had cleared. Furthermore, the Ammonia levels had decreased considerably, as had the Nitrogen levels. Although the presence of E.coli was only examined in the final 2 tests, a drastic decline was visible after just 1 month.



The graphs shown here have been created through the independent tests that were conducted over the period shown. These results are available upon request.

Conclusion

As the above results indicate, ETG's Aeration & Bacterial Dosing System has been tremendously effective in accelerating waste remediation and, in turn, eliminating foul odours at the Transpacific waste site.

Furthermore, the aeration system and regular dosing will ensure that the dissolved oxygen levels remain high and the BOD levels continue to reduce, thus encouraging a healthy, odourless pond environment for years to come.

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