

## Investigation of Effluent Treatment Options Synpac Pharmaceuticals

The effluent produced by the Synpac Pharmaceuticals site in Northumberland was being discharged untreated directly into the sea through a dedicated short outfall. Although the quality of the effluent was well within the required discharge consent limits, Synpac was concerned that future legislation would mean that the COD and suspended solids (SS) concentrations within their effluent would have to be dramatically reduced in order to continue being disposed via this route.

Synpac asked Entec to investigate the treatment options that would be appropriate for improving the quality of their discharged effluent. In order to do this Entec undertook a series of bench scale trials to determine the toxicity, settleability and treatability of the effluent. The biological treatability of the effluent was assessed using both aerobic and anaerobic bench scale processes.

The results of these bench scale trials indicated that an aerobic biological process with incoming flow balancing would be the most appropriate treatment technique for removal of both the COD and SS in the effluent. Therefore, a pilot scale trial was undertaken at the Synpac site to demonstrate that this was the case on a larger scale.

The results from the pilot trial were used by Entec, in conjunction with Northumbrian Water Limited (NWL), as the basis for a feasibility study. This feasibility study compared the cost of on-site treatment with other options available to Synpac, such as transfer of their effluent to the local NWL sewage treatment works.

The overall project has made Synpac aware of the options that are available to them so that they can make an informed choice should they need to improve the quality of their discharged effluent in the future.

### Facts and Figures

**Project**

Effluent Treatment Study

**Client**

Synpac Pharmaceuticals Limited/  
Northumbrian Water

**Location**

Northumberland, UK

**Entec Services**

- Toxicity Testing
- Settleability Testing
- Aerobic and Anaerobic Bench Scale Treatability Trials
- Aerobic Pilot Scale Trial
- Feasibility Study



*Helping Synpac  
select the most  
appropriate effluent  
disposal option*

