

## Wine Industry

Market segment  
Wine & Beverage

Commission date  
May 2000 to June 2001

Customer problem  
Customer not satisfied with existing wastewater treatment methods/approaches presently available to the wine industry for utilising wastewater for irrigation and storage purposes.

Water storage times in settling ponds used to receive winery effluent were limited due to serious odour problems during warmer months and vintage periods due to the characteristically high BOD of the wastewater.

Customer objective  
To increase water storage times and eliminate odour problems by significantly reducing BOD and suspended solids, and additionally remove other waste contributors such as lees, grape solids and diatomaceous earth (DE).

Conventional options available to the Customer  
Increased settling volumes or other treatment methodologies based on sedimentation.

Outcomes achieved with BALEEN  
In this application, the BALEEN Filter has been used on a two-stage screening process for the purpose of primary screening of raw wastewater, followed by secondary screening of return activated sludge from a biological reactor based on novel treatment concepts without chemical addition.

In brief, the treatment system involves the following process stages:

- Raw winery effluent pumped through BALEEN filter to remove ALL grape solids, DE and other larger waste debris with limited need for chemical addition for recovery in composting and return to the vineyard,
- Screened wastewater is then transferred for aerobic biological treatment to consume (soluble) BOD,
- Treated water is then batched through the BALEEN filter to remove waste bio-solids (activated sludge) from the effluent prior to ultimate transfer to a holding pond for irrigation storage.

The above system removes suspended solids and BOD (in suspension) from the effluent stream and substantially reduces the effluent load (BOD, COD, nitrogen and phosphorus) of treated water suitable for irrigation and storage. The treated wastewater has little, or no associated odour problems and can be readily re-used for irrigation. In addition, the handling of solids recovered from the waste stream is environmentally and economically sustainable when considering the likelihood of expansion of the customer. Monitoring trials are continuing to establish optimum performance parameters for winery outflows for the entire process.