

## US Brewer Selects Anaerobic ADI-BVF® Technology for Enhanced Wastewater Treatment

ADI Systems Inc. was selected by Coors Brewing Company to design-build the patented\* anaerobic ADI-BVF® system at its Elkton, VA, facility.

Increasing production demands hastened the need to expand the wastewater treatment plant in order to prepare for future growth. Plant personnel fine-tuned the existing aerobic process into a high-rate system but were convinced that the problems of treating high-carbohydrate, nutrient-deficient brewery wastewater were unique and required an alternative technology.



Compared to the UASB technology, the most intriguing aspects of the BVF® technology are its simplicity of design and operation and the ability to digest waste activated sludge from the secondary system. While the most obvious disadvantage of the BVF reactor is the amount of physical space required, this was not a problem for the large Shenandoah facility.

ADI performed a bench-scale pilot study designed to determine the treatability of normal and abnormal "shock" loadings from a typical brewery operation. The design COD and BOD removal rate estimates for a full-scale BVF reactor with a 7-day hydraulic retention time were 85 percent and 90 percent, respectively. Shock-loading the pilot plant yielded performance results quite similar to the normal loading results. It was concluded that a full-scale BVF digester could successfully treat brewery waste at the average operating temperature of 25°C.

The combination of the need to further expand operations, reduce VOC emissions, reduce bio-waste solids generation, reduce settling and chemical/coagulant costs, and reduce wastewater treatment energy costs prompted Coors to install a full-scale BVF reactor. In August 1994, Coors

contracted ADI to design-build a 6 million gallon in-ground, double geomembrane-lined reactor.

Presently, the BVF reactor is at full loading and receiving all the waste activated sludge generated in the aerobic polishing system; the reactor performance is at those levels obtained in the pilot study. Initial projections are for an 80 percent decrease in overall waste sludge generation.

Prior to final process selection, Coors concluded that the BVF reactor offered significant advantages including substantial equalization capacity to stabilize flow to secondary systems, lower capital costs, and simplicity of operation.

### **ADI Systems Inc.**

1133 Regent Street, Suite 300  
Fredericton, NB E3B 3Z2 Canada  
Tel: (506) 452-7307 Fax: (506) 452-7308  
In Canada and USA: 1-800-561-BVF1 (2831)  
E-mail: systems@adi.ca  
Internet: www.adisystemsinc.com

\* US Patent Nos. 5,505,848; 5,587,080; Canada Patent Nos. 1253266; 2,096,852