

HPM

STEELBACK BREWERY

HYDRO PROCESSING'S AERATORS SAVE BREWING COMPANY \$1.4 MILLION

Background

Steelback Brewery was located in Tiverton Ontario on the shores of Lake Ontario. As part of a re-launch in 2008, Steelback felt it was important to pay tribute to its roots in the area of Bruce County by emphasizing environmental responsibility. Packaging went from clear plastic bottles to traditional brown bottles in an effort to show the company was dedicated to “green” technologies. Similarly, they needed to clean their wastewater.

Challenge

Steelback Brewery's wastewater emptied into a public lagoon which required a BOD (Biological Oxygen Demand) of less than 300 ppm (parts per million).

Beer is produced using barley, wheat and the malting process which produces high sugars resulting in high BOD of up to 9,000 ppm in the wastewater stream. Treating this water would usually require a full wastewater treatment plant.

As the company was promoting its “green” image, the dumping of contaminated wastewater was seen by them and the pristine surrounding vacation country as a significant problem. High cost wastewater treatment systems were researched in order to fix the problem.

Solution

Hydro Processing's Aerators were used as a successful alternative to high cost wastewater treatment systems.

The process was as follows:

- The four (4) 20,000 gallon tanks, (picture left below) were each fitted with Hydro Processing's 100gpm Aerator (picture right below).



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- Each tank was then aerated for 24 hours while liquid caustic was added to bring the ph. balance to neutral in order and oxygen levels increased so bacteria could live.
- Bacteria were then added and within 3 to 5 days, depending on initial concentrations, the water's BOD was reduced to below 200ppm.
- This water was then placed into the holding lagoon (see picture below) and mixed with other, sometimes less, contaminated water. This lagoon was aerated by Hydro Processing's 250 gpm Aerator.
- As total BODs of the wastewater reached below 300ppm the water was released into the public lagoon.



Holding Lagoon – green & brown hoses are input & output of the 250gpm Aerator

• **Results:**

The cost of the 5 Hydro Processing Aerators was \$157,500. The annual operating cost was \$23,400. The quoted price for installing a wastewater treatment plant to do the same job was \$1,400,000 with an annual operating cost of approximately \$100,000.

The savings provided by using Hydro Processing's Aerators were:

- (1) \$1,243,000 in capital expenditures
- (2) Approximately \$77,000 in operating costs
- (3) Interest on the capital expenditures at 7% is \$87,010

This resulted in the total savings of \$1,407,010 in the first year of operation using the Hydro Processing's Aerators.