

Water Management at a Barley Brewery

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by

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SYNOPSIS

In order to manage and reduce water usage at traditionally high percentage water users like breweries, it is essential that comprehensive water balances be available to base educated decisions upon. In this thesis a water management investigation at the South African Breweries Rosslyn plant was completed to develop a suitable water balance for the plant. Literature studies, plant trials, analysis of historic and current plant data and consultations with brewery personnel were among the diagnostics used in the investigation. Detailed water balances were compiled for each process within the brewhouse, the cellars, packaging hall and general site water. (Schematic water flow diagrams were drawn up for each of these unit processes, culminating in an overall water balance for the plant.) Based on the overall water balance, it was found that 5 m³ of water was utilised to produce 1 m³ of beer at the Rosslyn plant.

Since the treatment and disposal of effluent forms a significant cost of production and their significance bound to increase, breweries need to optimise water usage at their relevant sites. The thesis also identified many opportunities to minimise water intake at the Rosslyn plant, and therefore effluent generated. All opportunities such identified should be consolidated into an integrated water management system to optimise water usage at the plant.

KEYWORDS : water management, barley brewery, water usage, water balance

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