



Brewery saves costs and meets regulator requirements with s::can

Industrial waste water monitoring

s::can's spectro::lyser industrial monitors the effluent waste water quality for a well-known brewery in Vancouver, Canada. This allows the utility to catch product loss, save costs and meet regulator requirements.

Background

A Vancouver, Canada based brewery has an ongoing requirement to monitor effluent wastewater parameters in their sump pit prior to discharge to Metro Vancouver. In the past they had issues with not meeting their industrial sewer permit requirements and needed a method of monitoring key parameter including COD, pH and TSS.

Composite samples were sent out on a daily basis to an accredited lab. The sampling regime did not allow them to capture the ongoing events. The ongoing cost and the delay in receiving results presented an issue.

Challenge

Many challenges were encountered at this installation. The waste water was high in solids due to the use of diatomaceous earth in the process. The temperature and pH of the water changed radically during a week as part of the CIP cleaning process. The waste water was high in dissolved iron which can cause fouling with compressed air cleaning.

s::can's solution

s::can's sales partner Aquatic Life was approached about a solution for an ongoing requirement in monitoring waste water quality. The



installation included a con::stat terminal with a global calibration for brewery, ana::pro software, spectro::lyser industrial spectrometer probe and a pH::lyser pro sensor.

s::can prepared a special calibration accurately interpreting the spectral data, which proved to be very successful.

Benefits

The system provides ongoing 24-hour monitoring from which the client for example was able to see a 80 000 L of beer discharge which occurred over a ½-hour period. This would not have been caught with a 24-hour composite sample.

The cost savings through the reduction of the number of lab samples required is also a big advantage. In addition, the system gives insights into the overall operation especially at night. The client is able to adjust processes to ensure that it meets permit obligations.

“The brewery saves a lot of money on lower product loss, on the reduction of lab samples required and meets the sewer permit requirements.”

Jeff Simpson, Aquatic Life

Parameters monitored:

- COD
- TSS
- pH

Facts & Figures

Company:
Brewery

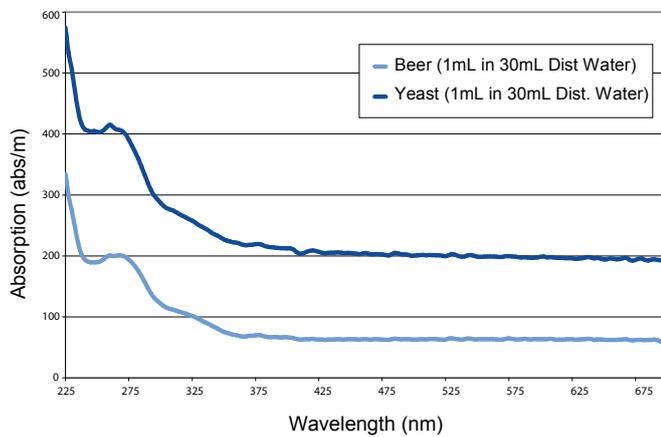
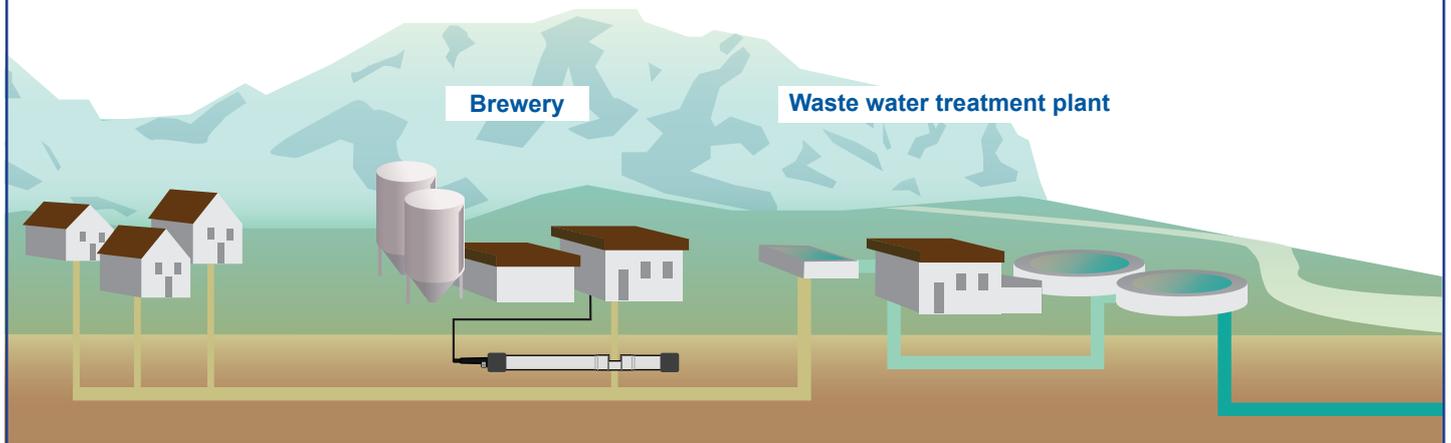
Location:
Vancouver, BC, Canada

Application:
Brewery Effluent

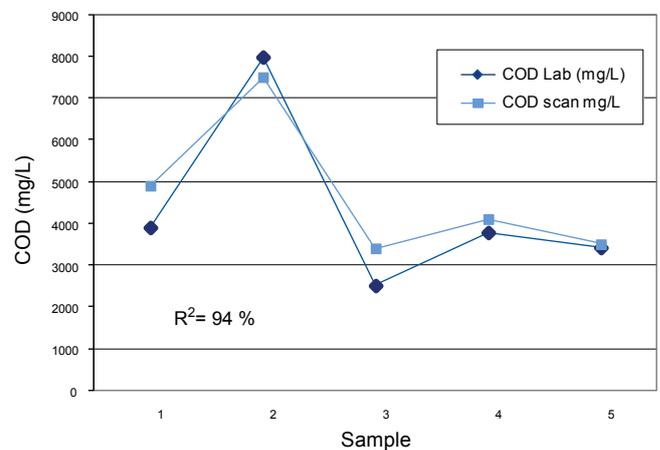
s::can Partner:
Aquatic Life Ltd

Key Products installed:
spectro::lyser industrial
con::stat
pH::lyser pro

Process Schematic



Absorption spectra of beer and yeast in distilled water. The absorbance signal observed was sufficiently strong and specific for the detection and quantification in the waste water matrix.



The spectrometric chemical oxygen demand (COD) measurement showed a high correlation with the samples analyzed in the laboratory.



The pH::lyser pro is a multi-parameter probe that measures the pH value and temperature directly in the water. The pH::lyser pro uses the temperature to correct the result of the pH measurement online. The non-porous, solid-state reference electrode ensures excellent pH readings and a long lifetime of the electrode especially in industrial environment.



The s::can spectro::lyser industrial is a fully submersible UV/Vis spectrophotometer that measures light absorbance between 190-750 nm. s::can's specialized proprietary algorithms analyze and decompose the spectral data to measurements for many wastewater parameters: NO₃-N, COD, COD_f & TSS. Its enhanced specifications make it ideal for industrial applications.



By monitoring the waste water stream of the brewery it is possible to detect product loss and monitor the overall operation of the production facility. In addition, the cost savings on the reduction of the number of lab samples required is also a big advantage.