MOIST SCAN®
the global leader in
online moisture analysis...

MoistScan® Online Moisture Analyser Case Study
Hog Fuel in Canada and Bagasse in Australia

The MoistScan® MA-500 series of on-line moisture meters are the ideal solution to address moisture-related inefficiencies in plant performance, product quality concerns and tonnage reconciliation anomalies.

ACCURATE...RELIABLE...DEPENDABLE

The pulp, bagasse, wood chip and paper industries pose plenty of challenges for on-line moisture analysis:

• Irregular shape and colour of material

• Different species of source wood

• High moisture content

• Wide particle size variations

• Extreme ambient temperatures

WOOD CHIP

The MoistScan® technology has been proven to work successfully, despite these challenges. The patented technology of the MoistScan® easily handles large and erratic variations in water content, particle size, material bed depth and conveyor speeds; capturing moisture data that can rely on and act on immediately.

Hog Fuel in Canada
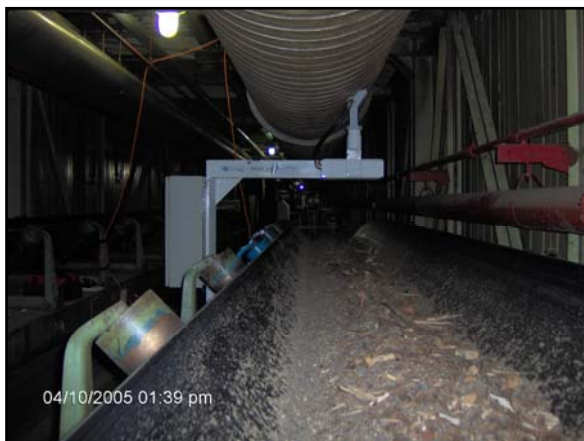
MA-500HD installed on conveyor measuring woodchip

In a move towards co-generation of energy and the reduction of waste by-products, pulp and paper mills are combusting non-viable "hog fuel" to produce process steam. Hog Fuel is a nondescript, poorly mixed blend of milled bark, woodchip, sawdust and an oil based sludge. A MoistScan® MA-500HD was commissioned on a conveyor carrying this "hog fuel" to a natural gas assisted boiler unit. Immediately upstream of the analyser, the bark is milled and mixed with saw dust, sludge.
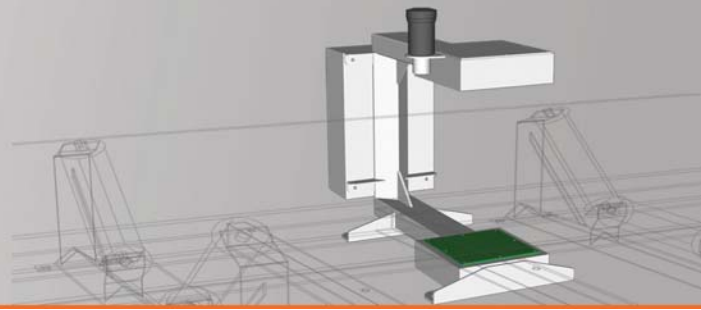
The moisture content of hog fuel is a critical parameter for this pulp and paper mill as it directly affects the output of steam from the boiler. In order to ensure efficient and steady production of steam from the boiler, the feed of natural gas used to assist the combustion of hog fuel must be increased or decreased to compensate for corresponding increases or decreases in non-combustible hog fuel moisture. Simply put, it takes more natural gas to burn wetter hog fuel. Ultimately the MoistScan® unit will be used to allow the process operators to effectively control the output of steam from the boiler, feeding forward prompt and accurate.

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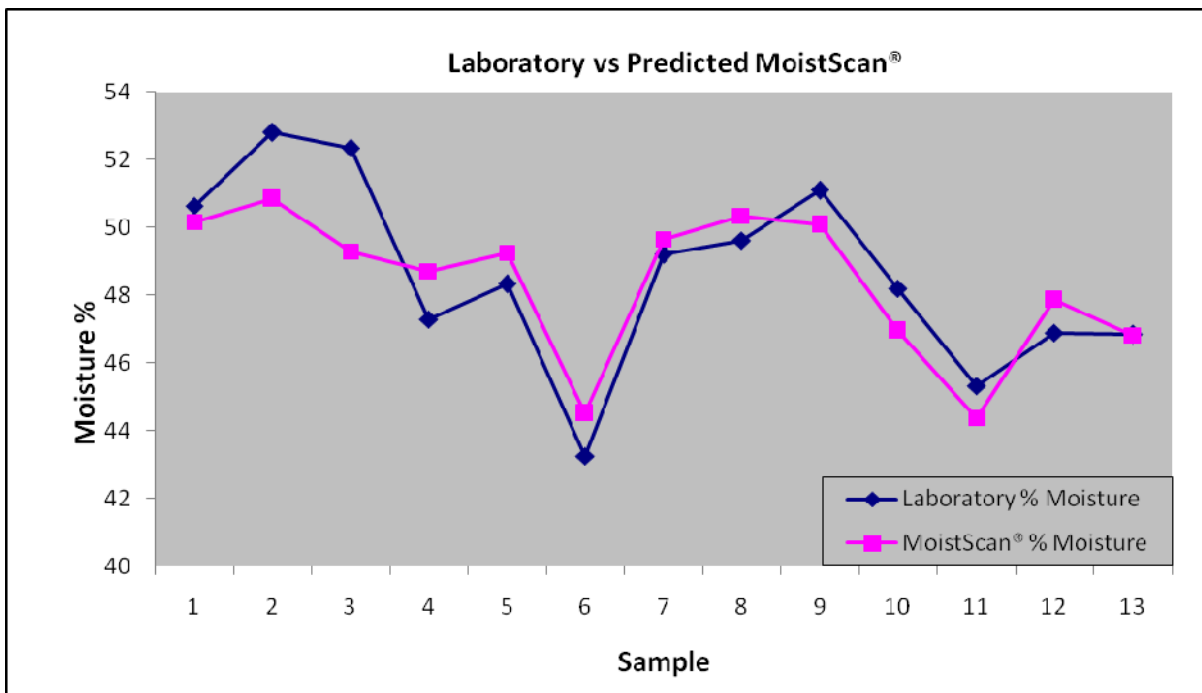
MoistScan® following closely with laboratory moisture readings

Bagasse in Australia

Sugar Mill Australia

A MoistScan® MA-500 was installed at a large Sugar Mill in Qld, Australia. The analyser was installed directly after the 6 stage-crushing mill, and prior to the feed of the powerhouse boiler. The MoistScan® was installed to test its performance in measuring moisture content upon the bagasse product. This bagasse product typically ranged in moisture from 45% to 60%. Prior to installing the analyser in an online situation, it was decided to test the technology under static conditions. This was simply done by placing 33 samples of bagasse between the antenna of the MoistScan® device and recording the MoistScan® response and comparing with the lab analysis moisture.

The results of the static testing indicated the MoistScan® would respond well with the large variations of moisture within the bagasse. Eighty data points were available for analysis after the sample collection and data logging process. Upon comparison of the laboratory result and the MoistScan® result a combined precision of better than 1.0% was obtained. This error factor includes the combined errors of the sampling, lab and analyser errors. For most bagasse applications this precision would far exceed the precision expected from conventional techniques of sampling from the conveyor and then preparing the sample for analysis.

MA-500 installed on conveyor measuring the moisture in bagasse
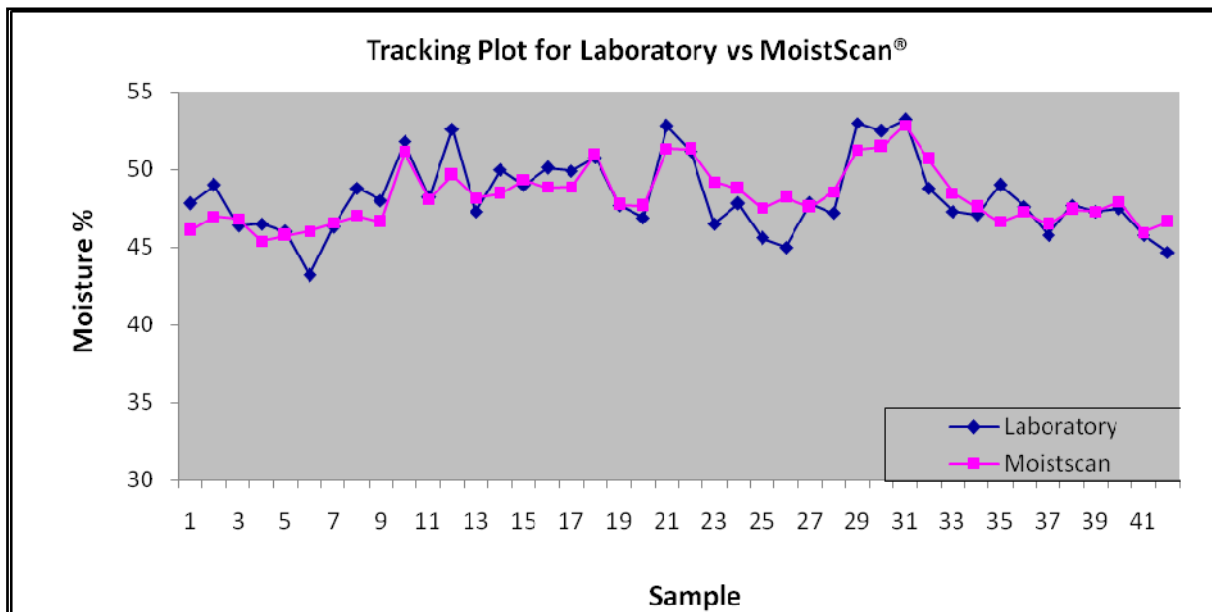
Tracking plot for Laboratory vs MoistScan® Moisture %