

Major International Mining Company approves MoistScan® for use on Copper

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Online moisture analysis specialists Callidan Instruments recently had their MoistScan® MA-500HD subject to arduous tests to prove its capability of meeting a minimum performance standard for accuracy and reliability on copper ore by a large international mining company.

The company had previously trialled near infrared moisture analysers (NIR); however this technology failed to meet the minimum performance. This consequently led to a decision by the company to test microwave technology.

Proposals from three online microwave moisture analyser manufacturers were considered and after rigorous technical and economic evaluation the company chose the MoistScan® MA-500HD. The MA-500HD, manufactured by Callidan Instruments, was chosen to be tested due to its impressive historical performance in mineral ore applications throughout the world.

In this company's case, the primary reason for measuring moisture online is for metallurgical accounting.

The MoistScan® MA-500HD was installed on the feed conveyor to the SAG mill where information from the MoistScan® was combined with beltscale data to derive a dry tonnes per hour feed to the Mill.

Calibration of the analyser involved collecting a suite of samples from the belt and having these analysed by a laboratory for moisture. Sample results were compared with the raw microwave data from the MoistScan® and a calibration was determined. To maximise accuracy all year round dual calibrations were developed, one for the wet season and the other for the dry season. The client can switch between calibrations depending on the level of moisture.

The conclusions of the trial were:

- The calibration of MA-500HD was rigorous and effective
- The equipment can be adapted to the climatic conditions prevalent at the plant
- The HD is capable of achieving a relative accuracy of 8% of the laboratory reported moisture on copper ore feed to the SAG Mill (e.g. if the lab moisture is 3% the MA-500HD will read $\pm 0.24\%$)
- The manufacturer was very quick to solve problems and showed high technical knowledge about operation of equipment and the mineral beneficiation process
- It is recommended that testing with this equipment in other units of the mine for similar applications.

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