Flow Measurement for a Copper Mine in the Jiangsu province, China.

Copper processing is a complicated process, that begins with mining of the ore that is found within the earth's crust, and ends with sheets of pure copper, which ultimately will be made into products for everyday use.

There are a few different techniques used to mine copper, and how it is mined depends on the country and its regulations of mining plants. However, all processes require instrumentation to monitor flows to prevent blockages or build-up in pipes, monitor equipment to ensure the mine is running at full capacity, and level measurement to ensure that stocks are at optimum levels.

A copper mine that is based and operates out of the Jiangsu Province in China required open channel flow measurement for 15% - 20% refined copper pulp. Meaning that there were a high number of solid particles flowing through the medium, these solid particles have a high concentration and can easily stick to the pipe wall.

Finding the right flow measurement solution

It was decided that the best place to monitor would be the U-shaped groove that flows into the thickener, as the mine did not have the space to install weirs and troughs and the conditions of the application were too harsh for doppler ultrasonic flow sensors.

After a few site visits and an analysis of the application, it was decided that the MicroFlow sensor would be the best choice. A set of MicroFlow non-contacting velocity sensors were installed over three years ago with a target of helping the mine to optimize its process flow.

"The flow data received from the MicroFlow velocity sensors provide flow readings that are consistent with the actual flow through field process verification."

Success with MicroFlow velocity sensors

The flow data received from the MicroFlow velocity sensors provide flow readings that are consistent with the actual flow through field process verification. Even with the high solid particles that flow through the liquid, the MicroFlow can provide information that helps the Copper Mine to optimize its process and ensure that things are running as smoothly as possible.

More Information

dBMACH3 Level Sensor: https://pulsarmeasurement.com/dbmach3-db3-with-sun-shield

MicroFlow Velocity Sensor: www.pulsarmeasurement.com/microflow

Delivering the Measure of Possibility

Pulsar Measurement offers worldwide professional support for all of our products, and our network of global partners all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia, allows us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

By taking a step forward in echo processing technology, Pulsar Measurement addresses applications previously thought to be beyond the scope of ultrasonic measurement. This technology improves signal processing at the transducer head which has made it possible to increase resistance to electrical noise, enabling the transducer to 'zone in' on the true echo.

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www.pulsarmeasurement.com

pulsar MEASUREMENT

INFO@PULSARMEASUREMENT.COM

United States
+1 888-473-9546

Canada
+1 855-300-9151

United Kingdom
+44 (0) 1684 891371

Asia
+60 102 591 332

Oceania
+61 428 692 274

pulsarmeasurement.com

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