

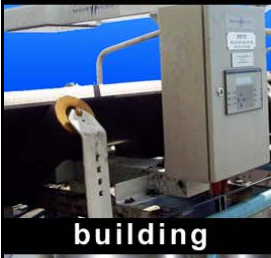
INDUSTRIES



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MEASURING MOISTURE IN NICKEL CONCENTRATE

Customer

The customer is a major nickel ore producer and refiner in Northern America. Ore from a range of mines is sent to one of a number of mills where it is ground to a fine powder and passed through a froth floatation circuit to produce a wet nickel concentrate. The concentrate is then piped from the various mills to the centralised smelter complex. The nickel concentrate is dewatered and filtered using batteries of rotary disc filters to produce a fine concentrate with moisture between 8% and 10% moisture. This concentrate is then balled and roasted to produce an enriched nickel matte. The nickel matte is then sent to the refinery to produce a high-purity nickel product.

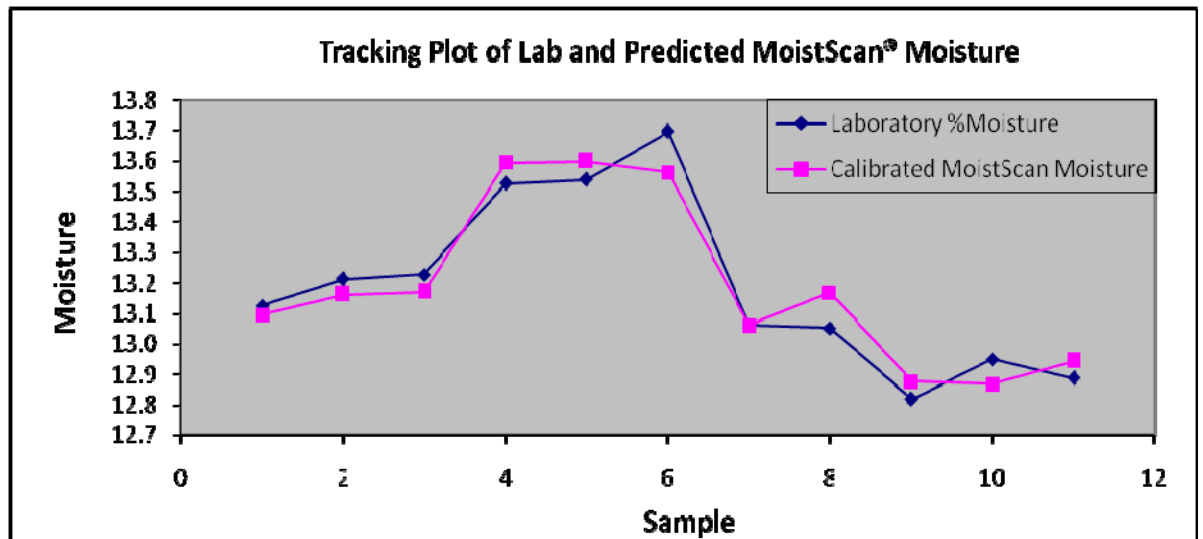
Installation

A Moistscan[®] MA600 is mounted on a rotary disc filter, just prior to a baller in a smelter complex. The unit is mounted just prior to the blow-off point enabling accurate continuous moisture measurement of the filtrate that is sent to the dryer.

Benefit

The customer is using the instantaneous moisture output from the MA600 to control the vertical disk filter so as to reduce the moisture variation. In addition, the output from the moisture analysers is combined with a tonnage output from a belt-weigher to calculate dry tonnage feed to the baller.

Application Note



Application Summary

Material	Nickel Concentrate
Instrument	MA-600 VDF
Location	On Rotary Disk Filter
Bed Depth	3- 15 mm
Particle Size	<1 mm

Moisture	8 - 10%
Belt Speed	0.5 rpm
Temperature	20 - 30°C
Precision	0.26% (1SD)
Use	PID Control of VDF