

Rio Branco mine finds way to cut costs



THE POWERFUL PARTNER IN PARANÁ

One high pressure DTH drill rig has taken over from two old, low pressure rigs at the Saivá open pit mine in Brazil. The Result? Same production, lower cost.



João Wilson (left) and Cassio Schittini: "The performance of the ROC L8 rig more than meets our expectations."



In the same state as the Saivá mine is the Iguazu Falls, one of the world's most spectacular sights attracting thousands of visitors each year. The horseshoe-shaped falls, 82 m high and 4 km wide, is four times the width of Niagara Falls in the USA.

Wooded islands divide the torrent into 275 waterfalls and, during the rainy season, the flow rate can rise to an amazing 12,750 m³ per second.

The Saivá mine in Brazil is one of several open pit mines supplying the Cimento Rio Branco cement factory with limestone from sites in the southern part of the country, near the small city of Rio Branco do Sul in the state of Paraná.

In a recent project to reduce costs, the mine replaced two large DTH rigs of rotary design and found that it could cut costs but still sustain productivity.

For Cassio Schittini, Production Manager at Cimento Rio Branco, that was more than enough to meet the company's demands.

He says: "We made a comparison between the performances of the new ROC L8 drill rig from Atlas Copco and the two rigs from a different supplier. The comparison shows that the Atlas Copco



equipment has a huge advantage.

“At first we could not believe that such a light machine as the ROC L8 could produce such a high performance. But its capability proved to be very high indeed and it provides all our production.”

Innovative partnership

The Saivá mine – which belongs to the Votorantim Group, the largest cement producer in the country – has a current production of 7 million tonnes per year.

Atlas Copco is providing labour, spare parts and drilling consumables, which include the rock drill, according to a cost-per-metre contract.

Quarry Supervisor João Wilson says: “We like the continuous after-sales service and plan to extend it to other quarries in the group. Atlas Copco’s positive attitude

in helping us to solve our problems has created a genuine innovative partnership.”

Now the Votorantim Group has purchased a second ROC L8 unit to use in another mine in the state of São Paulo.

The Saivá mine formerly drilled 6¹/₂-inch (165 mm) diameter holes with low pressure, but now, with the new, high pressure ROC L8, it drills 5¹/₂-inch (140 mm) holes. The drilling pattern is 36 m², compared to 46.5 m² for the old rigs.

Advantage high pressure

The ROC L8 rig is operational for two 8-hour shifts per day, 300 days per year. It uses a COP 54 QHD down-the-hole hammer from Secoroc with an average life of 12,000 drill metres. The 5.5-inch ballistic bits, which last for some 5,000 metres, are also supplied by Secoroc.

The drilling pattern in operation at the site is 4.8 m x 8.0 m. The benches are 15 m high and the drill holes are 15.5 m deep. Hole inclination is 15 degrees and some 7,000 m are drilled each month.

Data shows that changing from 6¹/₂-inch to 5¹/₂-inch percussive DTH drilling resulted in a saving of some 30% and reduced the consumption of explosives by 6%. This, in turn, resulted in an annual cost reduction of USD 91,000.

Concludes Cassio Schittini: “Atlas Copco is always concerned about every problem we face and thanks to the service contract we can now plan our production accurately.

“This means that the high availability and constant level of drill metres per month keep our costs stable and predictable.”

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