Movement & Surveying Radar NEWSLETTER

June 2008

INSIDE THIS ISSUE

Visit us at Electra Mining, the second largest mining show in the world!!

8-12 September 2008 Johannesburg, South Africa

MSR 300 unveiled

The most recent development from Reutech Radar Systems sees the unveiling of a modern long-range Movement and Surveying Radar; the MSR 300. Unrivalled in its class, the MSR 300 now offers continuous slope monitoring and surveying of rock surfaces up to a slant range of 2500m under all weather conditions.

The MSR 300 is capable of detecting sub-millimeter movement of the rock face at this range, whilst employing the most modern propriety technology which now eliminates the two major limitations experienced with radar-based displacement measurement systems to date. These limitations are caused by rapidly varying climatic conditions as well as slope movement that exceeds rates of more than 15mm from scan-to-scan. Both these conditions can lead to inaccurate measurements and consequently create false alarms that dramatically affect the performance of the system.

The MSR 300 offers the capability of tracking movements of up to 300mm from scan-to-scan as well as maintaining a high level of immunity to false alarms during sudden environmental changes such as rain, dust storms or mist formations.

The MSR 300 also offers significant improvement in the system's surveying capability. The system now offers a range accuracy of better than 50mm on any specific point target, thereby allowing continuous real-time surveying of the area of interest under all weather conditions.

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The MSR 300

...Safety and productivity through accuracy and reliability...

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"When we decided to improve the MSR 200's range performance, we did not want to exclude existing users from the new benefits. We achieved this by ensuring that any MSR 200 can be upgraded at the user's site within a day," says Jan de Beer, head of Reutech Mining. "By fitting a slightly larger antenna and replacing some of the sub-systems, an MSR 200 system achieves full MSR 300 status within a few hours. This advantage allows users to utilize the MSR 200 for applications of 1200m or less, and once their range requirements increase beyond this, they can easily upgrade to the extended-range MSR 300 configuration", continues de Beer.

"The MSR 200 and MSR 300 are well differentiated in price and performance and offer our clients the best value for money for their specific needs", says James Verster, CEO of Reutech Radar Systems.

The MSR 300 - Movement and Surveying Radar

MSR Paper presented at the Geotechnical Engineering Conference

At the recent Geotechnical Engineering for Open Pit Mines Conference, organized by the Australian Centre for Geomechanics (ACG), a paper was presented on the MSR 200. The ACG's aim is to ensure safer working environments for all resources (human and capital) and to add value to this most important of Australian industries.

MJ Campbell, from Sunrise Dam Gold Mine in Australia, presented the paper, entitled *Slope Monitoring at Sunrise Dam Gold Mine* - with special reference to the Movement and Surveying Radar (MSR) 200.

To obtain a complete copy of the Paper, contact ACG at www.acg.uwa.edu.au

Some extracts from the paper…

Towards the end of 2007, a series of alerts were received on prisms sited above the single lane ramp along the north wall. These suggested movement across a broad area, potentially threatening safe access and egress. The radar, however, showed no signs of movement and, after cleaning the prisms, alerts ceased. This event imbued a sense of confidence and trust in the MSR.

Given the geometry and marginal stability predicted for cutback slopes, it is sensible to retain the capability of a continuous, high resolution monitoring tool, such as the MSR.

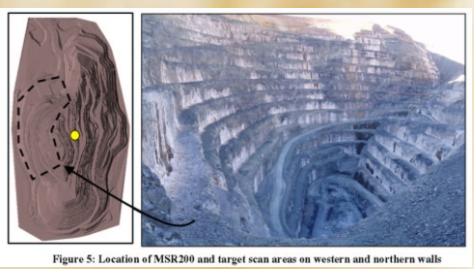


Figure 5: Location of MSR200 and target scan areas on western and northern walls

Taken from ACG Paper

MSR protects Andina mine (Chile)

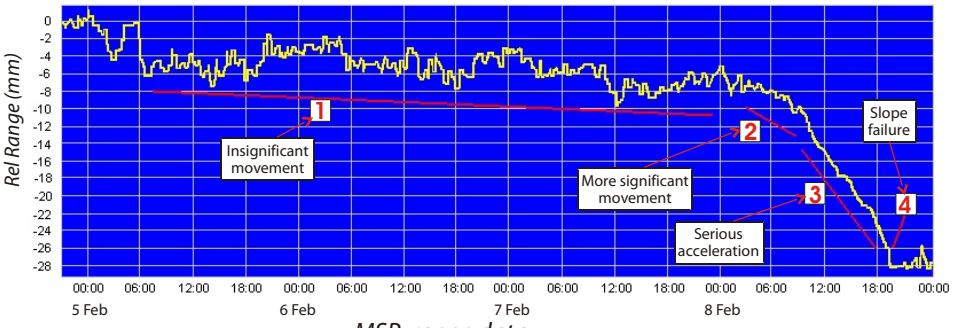
An MSR 200 (Movement & Surveying Radar) radar system was deployed in the Sur Sur open pit mine in Chile on 23 January 2008. The Sur Sur open pit is part of Codelco's Andina Division. The pit is located 80 km North-East of Santiago in Chile and is situated at an altitude of 4,200m above mean sea level. The Andina division produces more than 240 000 metric tons of fine copper and delivers more than 3,000 metric tons of Molybdenum per year. The Andina Division operates the Río Blanco deposit.

Operating the MSR 200

During the intial stages of monitoring, only minor movement was detected. On 7 February 2008, at around 19:00, the system indicated significant increase in the rate of movement of a portion of the slope. Slightly before 08:00 on 8 February 2008, the acceleration increased and subsequent slope failure occurred about 30 minutes later. There were neither injuries nor damage as a result of the failure.

At the time, the MSR was deployed at a range of 576m from the area of failure.

The slope after the failure



MSR range data

MSR - a growing family...

South America:
Chuquicamata
Minera Los Pelambres
La Coipa
Andina
El Tesoro
Mantos Blancos

Australia:
Sunrise Dam Gold Mine
Savage River
Superpit
Rock Engineering

South Africa:
New Vaal Colliery x 2
Klein Kopje Colliery
Landau Colliery
Isibonelo Colliery
Kriel Colliery

Tanzania:
Tuluwaka

Namibia:
Navachab

MSR Sites

AngloGold Ashanti's Navachab mine selects MSR 200

AngloGold Ashanti has selected the MSR 200 radar system as their preferred solution to improve operational safety and risk reduction in their Navachab open-pit mine in Namibia.

The mine is situated 10 kilometers southwest of the town of Karibib, which is 170 kilometers northwest of Windhoek. Its processing plant, with a production capacity of 110,000 tpm, includes mills, carbon-in-pulp (CIP) and electro-winning facilities.

The MSR 200 is a radar system that scans the selected open-pit wall on a continuous basis to detect movement of the rock surface. The system will generate slope-instability alarms once a predetermined threshold in movement and/or acceleration is detected. The MSR provides real-time complete coverage without the need to install any reflectors on the mine surface. All measurements are fully geo-referenced.

The MSR 200 exploits the latest radar technology available and has extremely high levels of reliability.

According to Jan de Beer, Reutech Mining is convinced that the MSR 200 system will contribute to mine safety as well as increasing productivity at Navachab. Navachab now joins a growing number of leading international mines that use the MSR with great success. The MSR system will be the first on Namibian soil.

A spokesperson for Navachab Gold Mine said, "We look forward to working together with Reutech to reduce our geotechnical risk and improve the safety of our employees within our mining environments".

Navachab Gold Mine is owned and operated by AngloGold Ashanti and produces over 102 000 ounces of gold per annum.

Reutech Radar Systems is a world-renowned radar company that has been involved in the mining industry for the past four years. MSR products are currently utilised with great success in South Africa, Tanzania, Chile and Australia.

The MSR 200 will reduce geotechnical risks and improve the safety of employees.

The MSR 200

ISO 9001 SABS

The company functions in accordance with international standards expected for the design, development, production and support of electronic products and systems in the IT, electrical and optical equipment sectors.

We're on the Web!

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