

# Proactive Risk Management Using Multiple Slope Stability Radars



▲ GroundProbe's Slope Stability Radar in use at a high altitude site.



▲ GroundProbe's SSR-X at a hard rock mine in the United States.



▲ GroundProbe's SSR-X system in use in Chile.



▲ GroundProbe's technology plays an important role in mining safely around the world.

**Multiple layers of monitoring enhance the management of slope stability risks.**

## Multiple Monitoring

In May 2004, an international Mining company began testing the Slope Stability Radar (SSR) at one of their US mines under FCC Special Temporary Authority grant for an experimental trial. After the initial trial success, the unit became a part of a critical warning system for slope movements and is licensed by the FCC.

SSR units provide critical warning by monitoring large wall areas of the pit and detecting very small changes in wall profile. Unlike other systems, the SSR units not only monitor with "real time" coverage of large wall areas, but also continue to operate in fog and dark conditions when visual observation is not possible.

The mining company now operates fifteen Slope Stability Radar units within its global operations. SSR has provided early warnings of accelerating wall movement.

The mining company's risk management strategy involves the use of multiple monitoring technologies including prisms, extensometers, GPS and SSR-X systems. Having multiple layers of monitoring enhances the management of slope stability risks.

## Prevention and Planning

In addition, SSR systems have been successfully used to monitor active and post-failure conditions to aid in risk assessment, and to verify success of mitigation efforts.

The use of the Slope Stability Radars has improved the management of geotechnical risks at all sites of this company.

Today, the 15 deployed slope stability radars provide coverage of critical areas where instability has occurred and where a potential for instability exists. The mining company has been proactive in using the SSR units for enhancing mine design, thus improving production and increasing profitability.



▲ One of the Slope Stability Radars in operation