



## CASE STUDY:

### Thompson Creek Mine

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## MAKING MINING SAFER

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#### MANAGING A 70,000 TONNE FAILURE WITHOUT INJURIES OR DAMAGES

In order to better understand and monitor a wedge failure in their open pit molybdenum mine, Thompson Creek Mining Company leased GroundProbe's Slope Stability Radar (SSR) in July 2008.

Thompson Creek Mine (located in central Idaho) is owned by the Thompson Creek Metals Company Inc., which is one of the largest publicly listed, pure molybdenum producers in the world. The Company also owns a metallurgical roasting facility in Langeloth, Pennsylvania and a 75% share of the Endako open-pit mine, mill and roasting facility in northern British Columbia.

The open-pit Thompson Creek Mine has produced molybdenum since 1982. The mine has an estimated minimum 10-year mine life based upon proven and probable mineral reserves as per estimates of September 30, 2007.

The mill has the capacity to process 27,000 tonnes of ore per day to produce molybdenum sulphide concentrate. Use of the SSR at Thompson Creek has led to the detection of several slope acceleration events within their wedge failure. When these events are detected, mine operations is notified and the area is cleared.

Not all detected acceleration events as indicated by the SSR data led to slope failures. This is because Thompson Creek's policy is to employ a conservative approach when



accelerations are detected, and therefore this is reflected on the alarming thresholds set by the company. This philosophy has created a safer work environment for Thompson Creek personnel.

*“Thompson Creek is proud of its slope monitoring network, of which GroundProbe's SSR-X is the cornerstone.”*

#### Dave Bates, Geologist, Thompson Creek Mine.

This case study highlights a slope failure that was predicted with GroundProbe's SSR unit (prior to the arrival of the SSR-X). A significant acceleration event was detected on October 30, 2008. Thompson Creek decided to clear the area of personnel and equipment at that time. The area within the wedge failure began to ravel over the next few days, and culminated in the main failure on November 3, 2008. No personnel were injured and no equipment was damaged during the failure, which resulted in the discharge of about 70,000 tons of material.

The SSR-X's ability to define the entire wedge failure was a great boom to Thompson Creek's comprehension of the failure mechanism. Moreover, the ability of the SSR-X to predict failures within the wedge increased the mine's ability to operate safely and efficiently. Thompson Creek is proud of its slope monitoring network, of which now GroundProbe's SSR-X is the cornerstone.