

# OLD MINES

UNDERGROUND

CAN

# UNDERMINE

# HIGHWALL STABILITY

AT SURFACE MINES

On November 20, 2004, a miner was fatally injured while operating an excavator close to a highwall. While the operator's cab was positioned on the highwall side, the highwall collapsed crushing the cab. Subsidence resulting from the pillar mining performed in an abandoned underground mine caused instability in the highwall. The ground control plan did not provide for safe control of the highwall and safe working conditions in such areas.



On April 17, 2007, two miners were fatally injured while operating equipment beneath a highwall. One miner was operating an excavator and the other miner was operating a bulldozer when the highwall collapsed and crushed both vehicles. Subsidence resulting from an abandoned underground mine may have contributed to instability in the highwall.

## Best Practices

- Establish ground control plans that require the angle, height, benches, etc. of highwalls to be designed to provide stability when adverse conditions are encountered.
- Perform complete and thorough examinations of highwalls at a frequency consistent with the conditions.
- Be aware of changing highwall conditions.
- Train examiners to recognize adverse conditions and environmental factors that can decrease stability.