# dataTaker

## Case Details

For the safety of miners and machinery, it is essential that any potentially dangerous situations are identified early. A monitoring and logging solution was required to detect ground movement or subsidence around a copper mine which is generally unstable. This solution primarily required a large number of inputs and support for long-distance wired communications.

## Key Requirements

Connectivity (medium range - wired)
Rugged solution
Reliability
Expandable

### dataTaker Data Logging Products

1. Cost effective data logging solutions

2. Capable of measuring and logging DC voltage, current and resistance sources in addition to digital signals

3. Suitable for small to large scale applications

4. Rugged design and construction provides reliable operation under extreme conditions

5. Designed and manufactured in Australia to the highest quality standards

**Copper Mine:** The structure of the mine must be monitored for safety

## dataTaker Solution

### Equipment

*dataTaker* DT515 data loggers
Channel Expansion Modules

### Sensors

Full Bridge Extensometers
Hollow Inclusion Cells

### Implementation Notes

*dataTaker* DT515 data loggers with two Channel Expansion Modules were arranged in three groups, giving a total of 90 differential channels. The three groups are spread out through the mine, and are linked together by the DT515 built-in network.

The data loggers collect information from an array of extensometers and Hollow inclusion cells, and periodically transmit the data to a PC on the surface for analysis.

The monitoring system was located 3 km from the installation, and so a RS485 communications link from the *dataTaker* network was installed. This gave the user the ability to send commands, view real time data and retrieve logged data from each of the loggers on the network.

Analysis was performed using custom software developed by the client.

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CS-0007-B0