

# 3D Face Profiling



## Project Summary

### LIMITATIONS AND CHALLENGES OF THE MINE'S CURRENT PRACTICES

This quarry operation in Eastern Canada requested load and shoot services through Dyno Nobel to include face profiling in order to ensure safe and optimal control of the free face. Current techniques used include a laser profiler that measures a 2D burden that is taken perpendicular to the drilled hole.

2D laser profiling can provide accurate data but the measure only shows the points directly in front of the measured holes. When looking at the blast face the smallest actual burden may not be adequately measured when using 2D technology.

## Technology Applied

### PRECISE AND RAPID MEASUREMENT IN 3D

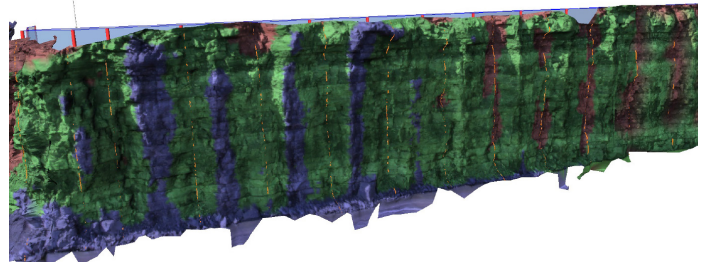
With the use of 3GSM ShapeMetrix photogrammetry technology, it's possible to precisely and rapidly measure the burden of the free face in 3D. This allows for confident and effective design, as well as loading a blast pattern with increased energy control and prevention of flyrock that might not have been detected with the simple profiler.

The report generated shows the minimum burden profiles as typically seen with a profiler, as well as the color coded face which makes it possible to quickly and visually locate areas of concern.

## Results

### GREATER DETAIL AND PRECISION

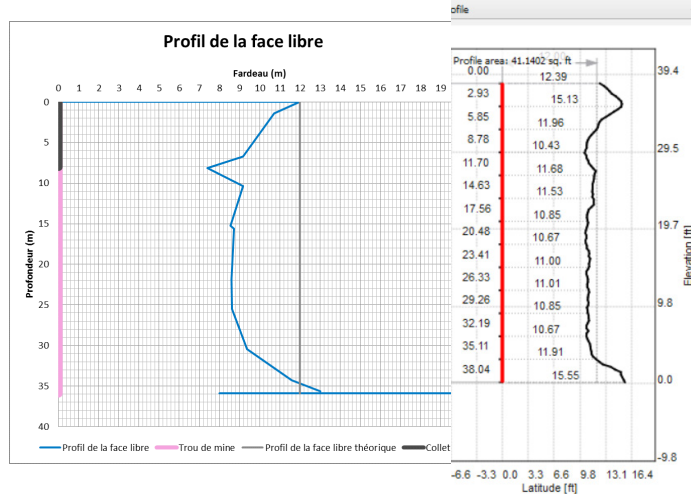
The technology was compared with previous methods which demonstrated similar results but with greater detail and precision.



## Next Steps

### UNDERGROUND SURVEY

The technology has been proven to be effective on surface. With the use of a lighting system, the camera can also be applied underground to survey drift advancements. Upcoming projects involving trials for DriftShot, an underground electronic detonator system, will require important data collection which could utilize this method of surveying.



Disclaimer This case study is provided for informational purposes only. No representation or warranty is made or intended by DYNOLAB INC. / DYNOLAB ASIA PACIFIC PTY LIMITED or its affiliates as to the applicability of any procedures to any particular situation or circumstance or as to the completeness or accuracy of any information contained herein. User assumes sole responsibility for all results and consequences.

