

Camera Investigation of Explosive Weight per Blast Hole Overload



Background

DYNOCONSULT SETS OUT TO DETERMINE CAUSE OF CONSISTENT OVERLOADING OF BLAST HOLES

Dyno Nobel is providing shot service to a Limestone Quarry in Southern Ontario.

It was observed during the loading of emulsion that each blast hole was consistently overloaded by 10-20 kg of what the calculated explosive weight should be per blast hole.

Technology Applied

APPLIED TECHNOLOGY

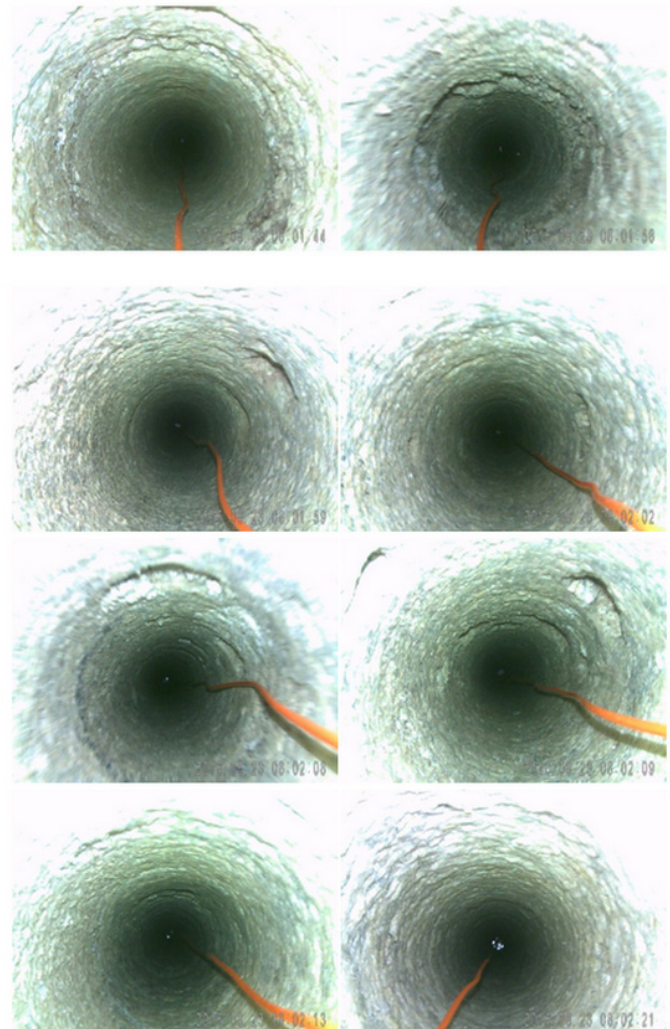
The mine uses top and bottom primed NONEL[®] detonators and TITAN[®] XL 1000 gassed emulsion. The target average density for the blasts was typically 1.2 g/cc.

The integrity of the blast hole was investigated with a special blast hole camera to determine if the additional emulsion was a result of seams or voids.

Results

HIGH NUMBER OF VOID AND/OR BREAKOUTS FOUND

The blast hole camera did show a high number of voids and/or breakouts on the walls of the blast holes which could account for the additional explosives added to the hole.



Next Steps

CONTINUED MONITORING

To ensure the explosive will not reach critical density at the toe the average density was reduced to 1.15 g/cc.

The weight of explosives and the density will continue to be monitored during loading of the blasts.