

Reduced Protection in Blasting Due to Better Control of Loading



Project Summary

DYNOCONSULT® CALLED IN TO DETERMINE BEST COURSE OF ACTION FOR RESUMING OPERATIONS

Due to problems of vibrations and of stones being projected in the vicinity of this Eastern Canada limestone quarry, DynoConsult® was mandated to supervise blasting so that the quarry could resume operations.

Interest in the request also lay in ensuring enhanced productivity of blasting through changes to work methods. DynoConsult is in charge of blasting design, vibration control and the process, including application of DigiShot® electronic detonator technology.

Technology Applied

USE OF TECHNOLOGY

To enable blasting to resume at the quarry, the blasting parameters were analyzed. This analysis was used to determine the diameter and the load limit per unit of time that meet the region's established environmental requirements. Also, the drilling and collar pattern was re-evaluated to reduce the use of safety pads and thereby to improve control of blasting.

Software was used to assess the potential projection distance based on the blasting parameters used on site and to determine the collar best suited for blasting.

The site was tightly supervised to ensure that the changes complied with the planned blasting elements.



First Blast



Second Blast

REDUCED PROTECTION IN BLASTING DUE TO BETTER CONTROL OF LOADING

Results

VIBRATION CONTROL GOALS MET, COSTS REDUCED

Vibration control goals are being met. The estimated vibrations were 10 mm/sec. The results recorded by seismographs near homes considered to be potentially at risk were below 5 mm/sec.

Moreover, no projection was recorded outside the safety perimeter. Pads were used only in areas considered to face uncontrolled projection risk. Reducing the use of pads is having a positive monetary impact on blasting in terms of padding installation and removal time.

Next Stage

MAINTAINING A HIGH STANDARD

To uphold the client's goals, DynoConsult will be directly involved on site until the end of the project.