

POWDER FACTOR VS. POWDER DISTRIBUTION

Douglas R. Burns
Austin Powder Company
Hopkinton, Massachusetts

ABSTRACT

In New England, an area of the country where 3 ½" holes are considered large diameter, we are starting to experiment with 5" and 6" holes. The results are excellent in some areas and poor in others. The geology of rock is the major consideration to account for the blasting results.

The predominant rock in the area is granite, which in many quarries is crushed for aggregate and also quarried for dimensional stone. The granite does not respond well to larger holes and larger patterns.

Blasting theory suggests that if rock breaks well at a certain powder factor it will break the same at a larger hole if the powder factor remains the same. This is not always the case and what we have determined is powder distribution is the key factor to breaking the rock to a desired size. The theory behind powder distribution is smaller holes with less powder in a tighter pattern.

The purpose of this paper is to discuss the theories we have been implementing in determining if certain quarries and site jobs can use larger holes, larger patterns and or bulk products. The impact these changes make on costs and production are so dramatic that these options should at least be considered.