

# Use of Dyno Nobel Blast Design, DigiShot® Detonators and DYNOSPLIT® C



## Project Summary

### HARD ROCK WITH SLIPS AND JOINTING MAKES IT DIFFICULT TO MAINTAIN CONSISTENT HIGHWALLS

In 2017, Dyno Nobel was providing shot service to a crushed stone quarry in the Eastern U.S. The quarry was relocating their primary crusher to the bottom of the pit and was constructing a conveyor system to bring the crushed rock up 6 levels to the secondary plant, located on the top level.

The igneous rock formation of was very hard, with slips and jointing running in various directions, making it difficult to maintain consistent highwalls. The decision was made to presplit the walls above the footings required for the conveyor system. A few of the footings were to be located on the floors below rather narrow benches, making presplitting difficult.

## Technology Applied

### DYNOSPLIT C CHOSEN FOR USE IN PRESPLIT HOLES

The mine was using DigiShot detonators and Signature Hole Analysis timings to control vibration so any presplit holes tied into a production blast would have to be timed in this manner.

Since the presplit holes would have to be fired first, behind a row or two of production holes, the blast would have to be initiated rather fast to prevent explosives column shift. DYNOSPLIT C was chosen to use in the presplit holes. The DYNOSPLIT C was initiated with 25 grain detonating cord tied into a surface detonating cord trunk line. The presplit holes were broken down to 10 to 12 holes per trunk line, with each trunk line initiated with a DigiShot detonator for accuracy.

## Results

### SAFER AREAS AFTER BLASTING



Even though some of the presplit walls were located in areas of intersecting jointing planes, the presplit held and provided a safer area below, once the walls were scaled.

## Next Stage

### PRESPLIT TO BE DONE INTO THE “DEAD FLOOR”

More presplit is to be done in the area of the primary crusher relocation. This will be done into the ‘dead floor’ so that the chances of successful presplit results are increased.