CASE STUDY

DIFFERENTIAL ENERGY™ IN QUARRY BLASTING

PROJECT SUMMARY

QUARRY REDUCES NOX, VIBRATION AND OVERALL OPERATING COSTS

This Mid-West Quarry generally used MB sensitized emulsion blended with 30% ANFO. On occasion some high density TITAN® XL was used to match the density of the emulsion blend. Bench heights ranged from 40' up to 80' deep.

The ground a this quarry is seamy in places creating situations where blends can migrate into the cracks. In some areas the bottom of the face contains very hard material with very soft/easy to break material in the middle of the hole.

The quarry is in close proximity to neighbors so NOx and vibration are important considerations.

TECHNOLOGY APPLIED

DIFFERENTIAL ENERGY TECHNOLOGY INTRODUCED WITH TWO DIFFERENT LOADS

DIFFERENTIAL ENERGY was introduced to this property where they tested, recently demonstrating capabilities of the technology.

Two different loads were used. The first quarry bench was loaded utilizing three segments: a 1.25 g/cc toe density, a 1.10 g/cc mid density and a 1.25 g/cc top density.

The second bench was loaded using only two segments, a 20 foot bottom load with an average density of 1.25 g/cc and a 47 foot top load with an average density of 1.03 g/cc.
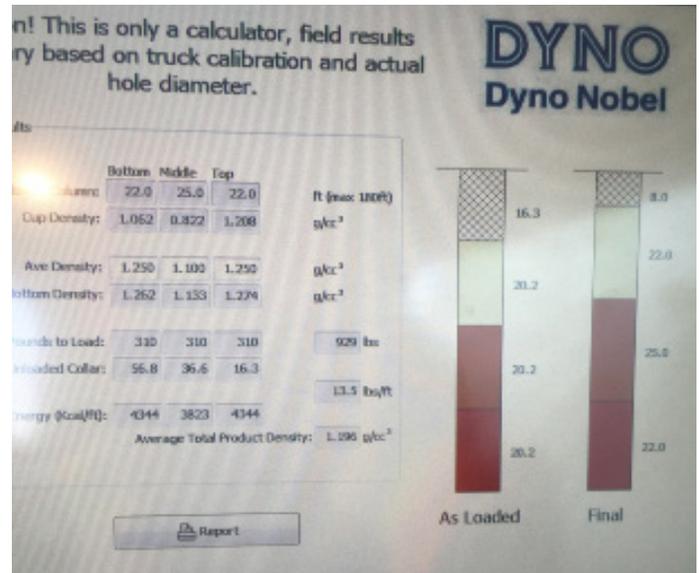
13% fewer pounds

RESULTS

GOOD RESULTS WHILE USING FEWER POUNDS OF EXPLOSIVES

Results of the blasts were very good. No NOx was visible, the blasts were well controlled and, with the homogenization capabilities of this product, very little slumpage was noticed. Digging results were also very good. Utilizing the two segment loading methodology, 13% fewer lbs were used to achieve the same or better results.

NEXT STEPS

MORE TESTING WITH OTHER CUSTOMERS

If all the testing results are positive, and with customer acceptance, the Dyno Nobel partner involved in this market area will begin retrofitting potential TITAN gassing trucks to this technology.

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