

DYNO 42™ Used for Vibration Control



Background

PRIMARY MINE CONCERNS ADDRESSED BY DYNOCONSULT®

In the process of converting to electronic detonator business at a large, Western coal operation, the mine had implemented timing sequences for cast shots based on material throw. However, primary concern at the mine is vibration control at nearby gas wells and electrical substations, as well as vibration induced highwall damage that could pose safety issues to mine employees working below the highwall.

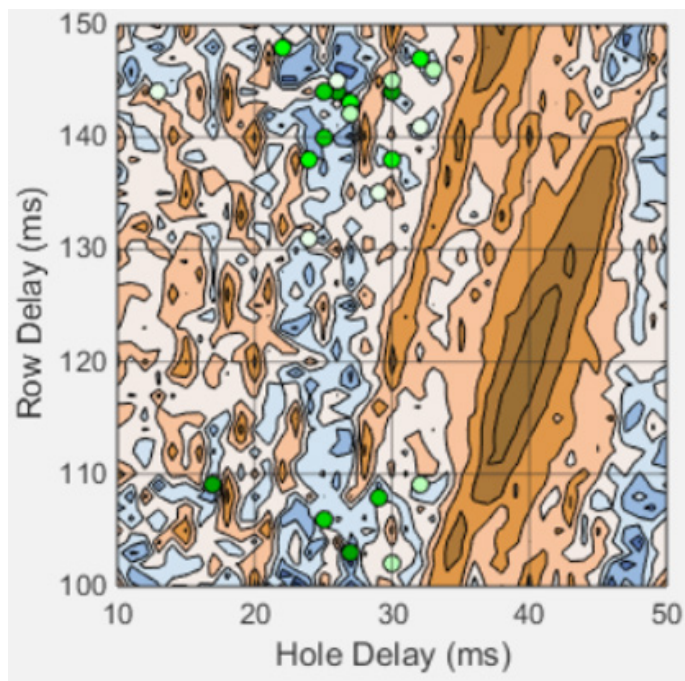
There was a need to prove that the Dyno Nobel/JV approach provides needed vibration benefits.

A side by side test was arranged by the JV to determine the feasibility of the competitor approach.

Technology Applied

DYNO 42 USED TO PINPOINT BEST DELAY SEQUENCE FOR VIBRATION REDUCTION

DynoConsult provided a required vibration training session for the JV and on-site training on the DYNO 42 software platform. Timing analysis was performed for a cast blast adjacent to a shot timed by the competitor. Seismographs were deployed by the JV technical staff for both shots, at similar locations, behind each blast for comparison.



Results

SIGNIFICANT VIBRATION REDUCTION ACCOMPLISHED WITH DYNO 42 ANALYSIS.

A review of seismic data from both blasts showed a twenty percent (20%) reduction in vibration using the timing solution developed using DYNO 42 compared to competitor timing sequence.

Next Steps

CONTINUED DIALOG, SIDE BY SIDE TESTING PLANNED

With positive side by side testing, this JV, with continued support by DynoConsult, will push for additional testing and discussion over the importance of reduced vibration—even when no structure is in danger. A quantitative study of highwall stability based on p-wave attenuation hole to hole is planned, pending customer approval to acquire needed monitoring equipment.



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