CASE STUDY

USING ELECTRONIC DETONATORS TO REDUCE CONTAMINATION AND IMPROVE PRODUCTIVITY

BACKGROUND

SEPARATING GEOLOGY WITH BLAST TIMING

The client, Shelburne Limestone Corporation, needed to effectively separate a contaminated seam of stone from high-quality production stone. Successful separation was essential because if the contaminated stone mixed with the high-quality production stone, it would not pass quality control and the entire blast would become waste.

The rock face, with the dark brown contaminated stone on the right of the lighter high-quality production stone

PROJECT GOALS

DIVIDING CONTAMINATED ROCK SEAM FROM HIGH-QUALITY PRODUCTION AGGREGATES

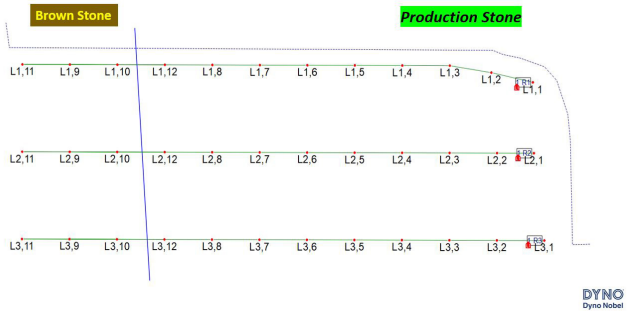
Our goal for this project was to use precise timing to separate the contaminated stone seam from the high-quality production stone seam and send the aggregate in two different directions. This would produce a visible division of the aggregate, allowing the excavation crew to see where the high-quality aggregate and the contaminated aggregate lay.

TECHNOLOGY APPLIED

TAGGING/TIMING DETONATORS

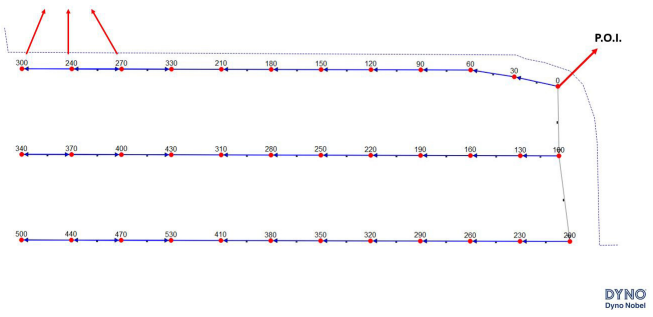
To ensure the timing accuracy necessary to separate the contaminated rock from the high-quality stone was achieved, electronic detonators were used. For this project's needs, DigiShot ® Detonators were selected. DigiShot Detonators are programmable precision initiation devices that are designed for better control over blasts through electronic delay timing.

Tagging Sequence



In addition to the detonators, signature hole analysis was used to help keep vibration under control. Signature hole analysis is a technique in which one blasthole is detonated and the vibration results are gathered. Timing sequences can then be modeled based upon the waveform.

Timing Sequence



DYNO®
Dyno Nobel

CASE STUDY

VALUE ADDED

SAVING TIME AND RESOURCES

Upon completing the project, the customer was impressed with the results. Our efforts ensured the blast was accurately timed to separate the contaminated stone from the high-quality stone. Doing so saved time and resources, including manpower, along with improving productivity and reducing waste.

The completed blast, with the dark brown contaminated stone separated from the lighter, high-quality production stone

DYNO® Dyno Nobel