INTEGRATED GEOTECHNICAL SOLUTIONS, INC.

Case Study
High PPV Readings

Removed one deck, then removed a SECOND!

Reduced neighbour compliants.

PPV levels remained below limits.

The Blast - Before

- Shots averaged 38 holes, 85 ft (25.9 m) deep, 3 rows and 4 decks
- Timing was 3 ms between decks and 9 ms between holes

Areas of Concern

- Digging was difficult
- No movement of rock
- High PPV readings

Our Service

- Installed one (1) Minimate Pro6 seismograph behind the blast.
- Monitored typical production blasts.
- Suggested timing changes: increased the time between holes from 9 ms to 13 ms.
- Recommended one of the four decks be eliminated – PPV remained the same.

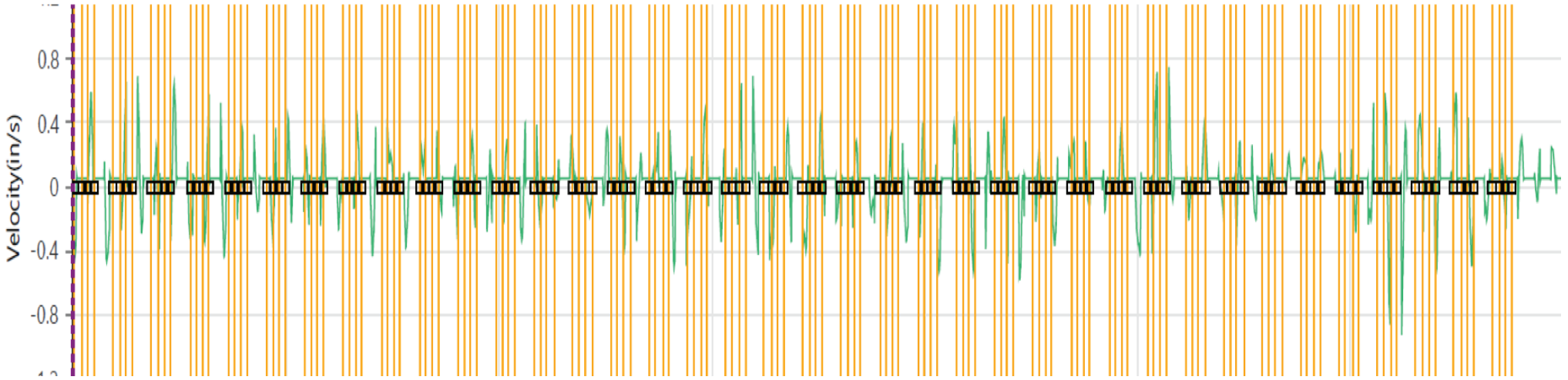
$263,872 per year
Total Savings

$53,200: Cost of powder saved from removing a deck.

$68,096: Cost of boosters saved from removing a deck.

$10,640: Cost of detonators saved from removing holes.

$131,936: Cost saved from removing ANOTHER deck.



The Data Analysis

With the timing overlaid on the waveform, IGS can see:

- That the peak readings always come from holes 21, 22 and 23.
- A spike in the last deck firing in each hole. We suggested that this was because there was not enough explosives in the hole to move the rock. Removing a deck put more powder in the rock so the energy from the blast was used more efficiently and didn't bounce back as ground vibrations. This, in turn, lowers the PPV and reduces costs.