Reducing Neighbor Complaints from Blasts

Project Summary

BLAST AT THIS STONE QUARRY IN THE EASTERN UNITED STATES WERE CAUSING NEIGHBORS TO COMPLAIN

This stone quarry has one area close to neighbors where blasts in the area cause complaints. Historically, the vibration readings have been maintained well under legal limits. However, due to shot duration (458ms) and low frequency, the blasts have been perceived as poor by the neighbors.

Project Goals

REDUCED PERCEPTION

The goal is to speed up the time, eliminate the deck, and increase frequencies, thereby reducing the unfavorable perception by neighbors.

Technology Applied

TRIAL SHOT WITH SOLID COLUMN

Typically in this area, the bench is 45ft. In an effort to keep lbs / delay down, a deck is placed midway in the column. Timing has typically been 24ms down the face, 114ms between rows with 8ms deck, top deck shooting first. Last shot readings were .09ppv @ 18hz, which is typical for this area.

The Quarry Manager reluctantly agreed to shooting a shot with a solid column, eliminating the deck and speeding up face and row time to 17ms down face with 76ms between rows.

Old Timing

0	24	48	72	96	120	144	168	192	216	240	264	288	312	336
8	32	56	80	104	128	152	176	200	224	248	272	296	320	344

114	138	162	186	210	234	258	282	306	330	354	378	402	426	450
122	146	170	194	218	242	266	290	314	338	362	386	410	434	458

New Timing

0	17	34	51	68	85	102	119	136	153	170	187	204	221	238

76	93	110	127	144	161	178	195	212	229	246	263	280	297	314

Value Added

NO COMPLAINTS AND MONEY SAVED

The trial blast was a typical 2 row shot of 15 holes per row. A solid column was shot using suggested timings (17ms / 76ms). The vibration readings were similar to the decked shot but had higher frequencies and less shot duration time - 10ppv @30hz, shot duration was 314ms which is 144 ms faster than the decked shot.

There were no neighbor complaints on the trial shot. The customer also saved money because 30 detonators and boosters were not used in deck shot.

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