STUDY GOALS

- Establish a regional seismic-acoustic network.
- Develop in-mine seismic and acoustic instrumentation.
- Construct ground truth data base of network.
- Quantify coupling and source acoustic instrumentation.

RESULTS

- Hard rock mines detonate multiple patterns over short time periods (< 60 s), resulting in complex regional signals.
- So me hard rock explosions are detonated with no delays.
- Close-in and regional seismics a mplitudes do not scale with total amount of explosives.
- Close-in acoustic amplitudes do appear to scale with explosive size.

IN-MINE SEISMIC AND IN-MINE OBSERVATIONS

MULTIPLE EXPLOSIVE PATTERNS DETONATED OVER SHORT TIME INTERVALS AS CHARACTERIZED BY GROUND TRUTH

IN-MINE SEISMIC AMPLITUDES

IN-MINE ACOUSTIC PERIOD

IN-MINE ACOUSTIC AMPLITUDES

IN-MINE SEISMIC FREQUENCY CONTENT

IN-MINE ACOUSTIC FREQUENCY CONTENT