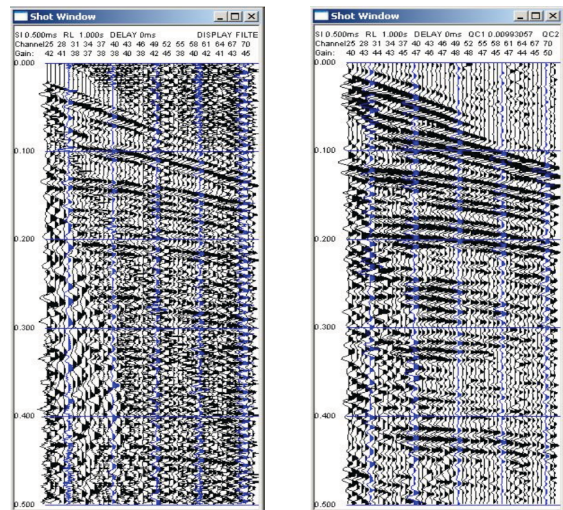


# PRS-1

## Coded Seismic Source and Acquisition System



**Inexpensive construction tampers are used for the energy source.**



**Hammer record on the left (10 stacks) compared to 1 sixty-second acquisition with the PRS system.**

Seismic surveys in urban areas represent a significant logistics challenge. Vibrators are disruptive and expensive; explosives are dangerous and difficult to permit.

Geometrics offers an alternative to vibrators and explosives that is inexpensive and non-destructive. This technique uses widely available portable construction tampers to introduce a pseudo-random, encoded impact sequence into the ground. The reference signal is recorded with a special geophone near the base of the construction tamper and transmitted to a signal conditioning box before being used to decode the encoded shot record.

The Geometrics PRS package brings with it most of the benefits of a swept source, but at a fraction of the cost. Highly portable, it can be used anywhere a small ATV can be driven. But where this method really proves its worth is in high-noise, urban environments, especially along roads. Since the energy is introduced into the ground over a relatively long period of time (30-60 seconds), the effects of passing vehicles can be

monitored and suppressed. The result is a much higher signal-to-noise ratio than that obtainable with an impulsive source when working along roads.

Since the energy is introduced through a series of small impacts over a relatively long period of time, the technique is environmentally friendly.

- Ideal for reflection surveys for faults, petroleum, water.
- Replaces expensive vibrators or dangerous explosives.
- Uses widely-available, low-cost construction tampers.
- Works well in urban, high traffic areas.
- Low transportation costs; man-portable.
- Built-in noise suppression; ideal for working along roads.
- Sophisticated pilot quality control assures sharp autocorrelation pulse.

