- **Finds bedrock, fractures, faults, depth-to-water table**

- **Useful in mining, construction, engineering and road building**

- **Best value in a low-cost, field-rugged professional seismograph**

- **Automatic gain settings ensure good data in all conditions**

- **In-field answers – built-in software picks first arrivals, assigns layers and prints cross section**

- **Completely integrated and rugged system: includes built-in PC, daylight visible LCD, printer and data storage**

- **Ideal for refraction, downhole or crosshole, and surface wave surveys**

12 or 24-channel
exploration seismograph

Looking for a quick way to find depth to bedrock? Trying to determine whether to blast before using earth-moving equipment? Looking for the best place to position a water well? Need a rugged instrument where a laptop just won't do?

Look no further – the SmartSeis seismograph is an integrated seismic exploration system that can provide answers right in the field with built-in rugged PC, daylight-visible screen and even a high-resolution plotter so you can show results to your clients.

The user-friendly SmartSeis measures signals automatically – there is no possibility of poor data from incorrect gain settings. A logical menu system guides you through its operation and helps provide quality control of your data.

If your work involves what lies beneath the earth's surface, teaching geophysical principles or even doing research, the SmartSeis helps you do your job better, faster and more reliably.

RIMROCK RIVER VALLEY

Key to Lithology: Alluvium, Sandy Shale, Metasediments
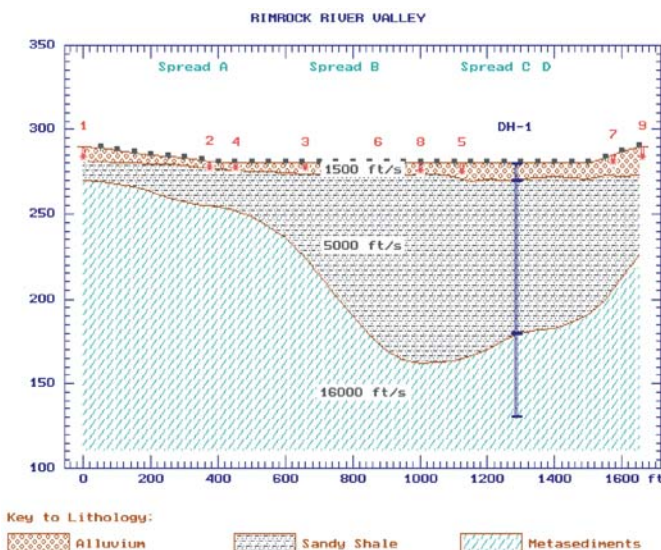
In-field and final cross sections can be done right on the SmartSeis or on your PC back at the office.

Applications:

- Depth-to-bedrock
- Rippability surveys
- Groundwater hydrology
- Foundation investigations
- Landside potential
- Hazardous waste migration
- Dynamic moduli measurements

- Fault Location
- Stratigraphic mapping
- Gravel and aggregate mining
- Thickness of overburden
- Mineral and gold exploration
- Landfill delineation and siting
- IBC V_s30 site classification

Specifications:

Number of Channels: 12 or 24.

Sample Interval: 31, 64, 125, 250, 500, 1000 or 2000 μs.

Record Length: up to 16,000 samples per channel.

Acquisition Filters and Noise Reduction Technology: Many field sites are noisy – moving vehicles, overhead power lines, vibrating machinery. The SmartSeis includes real-time digital filters that you can customize to improve your data in adverse urban environments.

- **32 –bit Stacking:** Reduces contributions from random noise by letting you add repeated hammer blows to improve signal strength.

- **Memory Freeze:** Allows selective stacking of weak channels.

- **Power Line Notch:** Reduces 50/60 Hz and harmonics.

- **Low-Cut Filtering:** Reduces the effects of distant traffic and ground roll. Includes filter frequencies of out, 25, 35, 50, 70, 100, 140, 200, 280, 400 Hz.

- **High-Cut Filtering:** Removes wind noise. Includes filter frequencies of out, 250, 500, 1000 Hz.

- **Display Filters can be run non-destructively after raw data is collected, making costly repeated shots unnecessary. Custom filter frequencies are available.**

Display: High-resolution 640x480 LCD, PC compatible. Visible in bright sunlight.

Noise Monitor: Waterfall style moving trace display, also shows channel continuity and geophone performance.

A/D Conversion: 20-bit result, 32-bit stacker.

Gain Control: Automatic, set by continuously measuring two-stage instantaneous floating-point amplifier. True amplitude is preserved and can be used for ground motion studies.

Data Display: Wiggle-trace, shaded or variable area, trace clipping, automatic gain control, fixed gain and post-acquisition filtering included.

Energy Sources: Hammer, weight drop or explosives.

Pretrigger: Allows viewing of data before trigger.

Delay: 0 to 9999 ms in 1 ms increments.

Data Storage: Sufficient for several days recording. Includes both floppy and hard drive storage.

In-field Processing:

- Automatic first break picking with manual over-ride.

- On-screen travel time plots.

- Automatic layer assignments with manual over-ride

- Automatic calculation of depths below shots and geophones. Built-in software ray traces model and indicates where data quality might be poor. Prints table of all data, depth calculations and a quality control plot showing questionable data. Report-ready cross section annotated with calculated velocities. Analysis and interpretation software from Rimrock Geophysics. PC-based packages also available. Please contact the factory.

Interfaces: RS-232, video, keyboard and printer.

Data Format: SEG-2 standard.

Mating Connectors: Cannon NK-27-21C, 12 channels each connector.

Plotter: Built-in four-inch (11 cm) wide thermal printer.

Testing: Full instrument testing available using Geometrics external test oscillator system.

Power: Runs on 12V auto-type battery. Power cable with clip leads included.

Since 1969