

Technology Transfer Opportunities: Patent Licenses

Portable Seismic Exploration Probe

FS-150-96

About the Probe

A new seismic source generator has been invented at the U. S. Geological Survey. Using kinetic energy stored by a flywheel, the truck-mounted source transfers this energy, by impulses, into the ground. Both longitudinal (P) and shear (S) waves can be generated, the latter in 12 directions, without moving the vehicle.

Advantages

The principal utility of the device is to produce shear waves capable of penetrating to greater depths than obtainable with hammer-impact sources. Because of its greater power, the device also can differentiate between non-uniform materials over a broader area than other portable tools.

Primary Advantages:

- * The device uses no explosives and does not require drilled holes.
- * The portable source can be rapidly deployed by being locked into a radial position, driven to the source location, and quickly positioned with the aid of a mirror locator.

Potential commercial uses include:

- * Determining structures of landfills and their contaminant pathways;
- * Geologic hazard evaluation, for instance landslide deposits;
- * Fossil fuel exploration in the upper part of the Earth's surface;
- * Mineral exploration.

Patent Status

A patent application has been submitted on this device. It is now available for licensing.

For More Information

For more information about licensing of this and other patents and for cooperative research opportunities with the USGS, please contact:

U.S. Geological Survey
Technology Transfer Office
104 National Center
Reston, VA 20192
phone: 703-648-4450; fax: 703-648-5470
E-mail: tto@www.usgs.gov