



Screening Focuses on Subterranean Target

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Natural resources like gas, oil, and geothermal energy, which require the drilling of wells come at a high price and involve a complicated process. The location of the well-casing strings, production tubing, and remaining drilling apparatus, being very deep below the surface, pose a communication challenge.

To overcome this problem, the **Acoustic Telemetry Technology**, was developed by Sandia National Laboratories, Albuquerque, N.M., and Extreme Engineering, Calgary, Alberta. This wireless real-time communication system provides navigation, control, and data acquisition during well drilling and generation of natural resources. Not requiring any operators, it consists



of two parts, a transmitter and a receiver. The transmitter is inserted down the well along with the drill bit. Connected to sensors that measure temperature and pressure, the transmitter's microprocessor monitors the sensors and translates their data. Once translated, an encoded sound wave is conveyed to the receiver, which stays on the surface linked to the drill pipe. The signal is then delivered to a computer, where it is decoded and visualized.

Acoustic Telemetry Technology offers bi-directional communication, allowing a "closed loop" drilling process, as well as complete regulation of mechanical tools linked to production tubing strings or drill strings.

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