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TRUSONIC™ DRILLING SYSTEM

Global Drilling Services

HOW TRUSONIC™ DRILLING WORKS

TRUSONIC™ drilling employs the use of high-frequency, resonate energy to advance a core barrel or casing into subsurface formations. During drilling, the resonant energy is transferred down the drill string to the bit face at various Sonic frequencies. Simultaneously rotating the drill string evenly distributes the energy and impact at the bit face.

The resonant energy is generated inside the TRUSONIC head by two counter-rotating weights. A pneumatic isolation system inside the head prevents the resonate energy from transmitting to the drill rig and preferentially directs the energy down the drill string.

The TRUSONIC driller controls the resonant energy generated by the Sonic oscillator to match the formation being encountered to achieve maximum drilling productivity. When the resonant Sonic energy coincides with the natural frequency of the drill string, resonance occurs. This results in the maximum amount of energy being delivered to the face. At the same time, friction of the soil immediately adjacent to the entire drill string is substantially minimized, resulting in very fast penetration rates.

TRUSONIC DRILLING PROCEDURE



Core Barrel Advancement

No fluids, air, or mud used during coring.

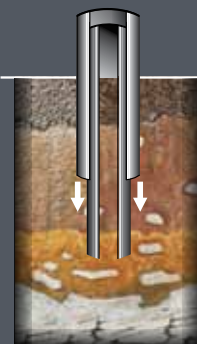
Step 1



Casing Override

Water possibly used between casings.

Step 2



Core Barrel Retrieval

Barrel retrieval for sample extrusion.

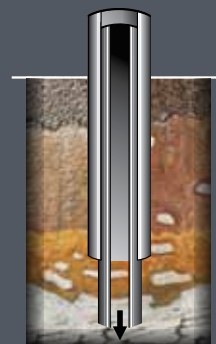
Step 3



Repeat Core Advancement

Advancement following sample extrusion.

Step 4



TRUSONIC BOREHOLE ADVANCEMENT

The TRUSONIC drilling method advances a casing as the borehole is drilled. While there are several ways to drill a bore hole with the TRUSONIC drilling method (depending upon site-specific conditions and project objectives), the most common way involves advancing a core barrel, which is overridden by a larger diameter drill string that cases the open borehole and prevents collapse.

Typical TRUSONIC drilling procedure:

1. Sonically advance core barrel into the undisturbed formation. No air, mud or water is used in the coring process.
2. Sonically override a larger diameter casing over the core barrel.
3. Return the core barrel to the surface for sample extraction.
4. Complete coring and overriding casing to desired depth.

- Core sizes of 3" through 8" are available.
- Standard borehole sizes of 3" through 12" can be drilled.
- Depths in excess of 600' in a variety of formations and conditions.



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ADDITIONAL METHODS OFFERED



Rotary



Diamond Core



Probe



Auger



Pump Service Crains



**Well Development
& Rehabilitation
Equipment**