

Cement Evaluation

Using SonicScope multipole sonic-while-drilling service

APPLICATIONS

- Onshore and offshore development and exploration
- Areas with regulatory requirements for cement evaluation

BENEFITS

- Reduce well construction costs
- Identify poorly bonded casing early
- Minimize rig time for data acquisition
- Verify quality of cement and bonding placement with minimal additional rig time
- Maximize confidence when drilling out the shoe

FEATURES

- Real-time and in-memory top-of-cement identification
- In-memory cement bond index
- High-quality control log

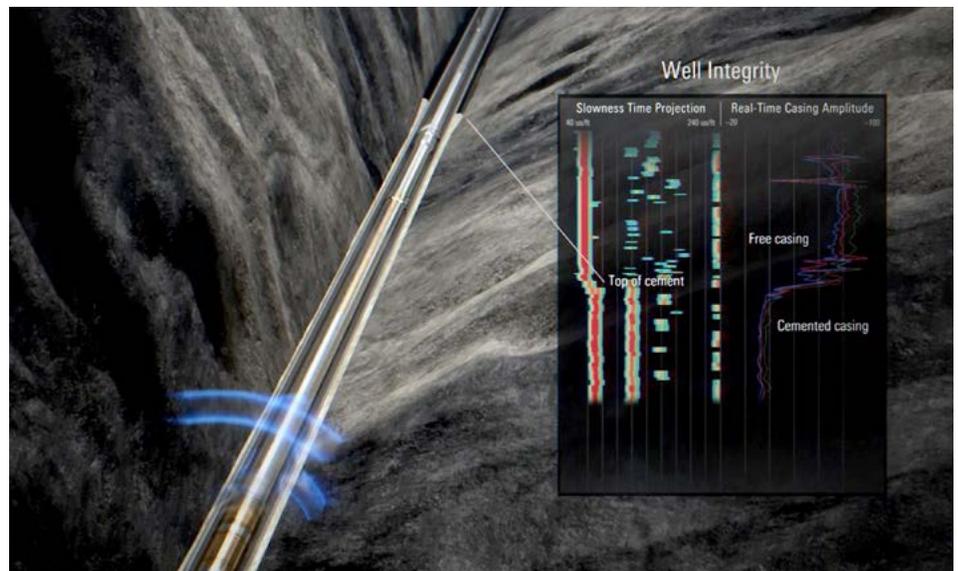
The cement evaluation component of the SonicScope* multipole sonic-while-drilling service enables operators to accurately identify the top of cement (TOC) in real time and the percentage of cement bonding present—without the additional runs and rig time that are required when using conventional bond log tools. The two parts of the SonicScope service, cement detection and cement bond evaluation, enable rapid assessment of the cementing operation outcome and increase confidence before drilling out the shoe. In addition, the service provides an easy-to-obtain indication of when advanced cement evaluation techniques may be required. This helps to reduce well construction costs and NPT associated with cement evaluation.

Identify cement placement

Cement detection involves identifying the TOC—in real time or in memory—while tripping in or out of the hole. The SonicScope service looks for the boundary between high-amplitude (free-ringing), uncemented casing and low-amplitude, cemented casing to determine the location of the TOC. Cement detection can be used to make qualitative interpretations on zones of poorly or well-bonded casing.

Assess cement bond quality

The SonicScope service uses both the amplitude of the casing arrival and its attenuation rate across the receiver array to derive a cement bond index, which provides quantitative information on the percentage of bonding between casing and cement. The cement evaluation takes place while tripping in or out of the hole with only a minimal reduction in tripping speeds.



The SonicScope service provides both qualitative and quantitative interpretation of the position and quality of the cement job, alleviating cement placement uncertainty and increasing confidence before drilling out the shoe.