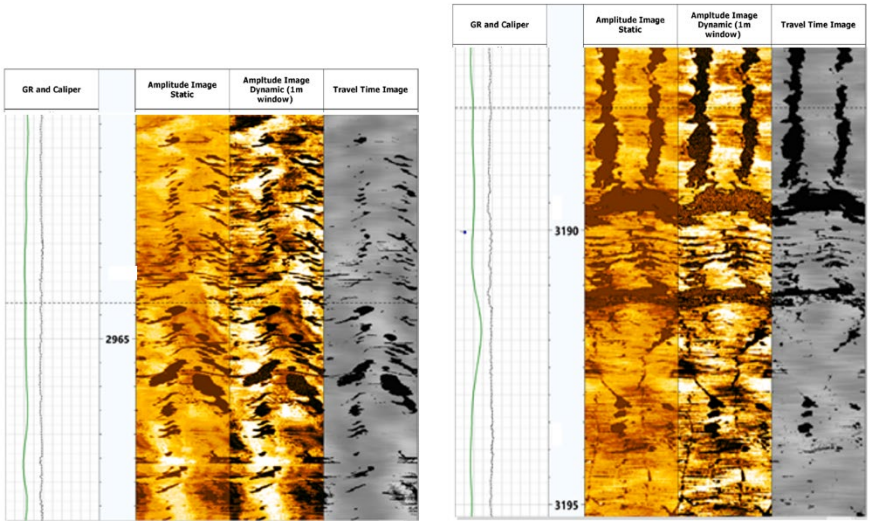
UltraWave® LWD High-Resolution Ultrasonic Imaging Provided Detailed Borehole Acoustic Image, Borehole Shape in OBM With High Solid Content



Two well intervals of the amplitude and travel time images showing fractures–natural and drilling induced–and the presence of break outs.

Objectives

- Replace wireline that was not able to log the well due to the borehole conditions.
- Obtain high-resolution borehole image data to identify fractures in a vertical well filled with 14.84 ppg (1.78 g/cc) oil-based mud (OBM).

Our Approach

- Weatherford ran the UltraWave logging-while-drilling (LWD) ultrasonic imager. The logging suite included also a real time telemetry system, gamma ray, multi-frequency resistivity, and sonic tools.
- The UltraWave imager made it possible to directly identify fractures and other features in the borehole in a hostile environment, made of oil-based, heavy mud with high concentration of solids.

Value to Customer

- After replacing wireline, the Weatherford LWD tools were able to acquire gamma ray, resistivity, and sonic data together with high resolution amplitude images from the UltraWave imager for reservoir evaluation and completion planning.

LOCATION
Turkey

WELL TYPE
Vertical

FORMATION
Limestone

HOLE SIZE AND ANGLE
8-1/2 in., 6°

CASING SIZE
9-5/8 in.

TEMPERATURE
197°F (92°C)

MEASURED DEPTH
9,255 to 10,541 ft (2,821 to 3,213 m)

PRODUCTS/SERVICES
- 6 3/4-in. UltraWave ultrasonic imager
- HEL™ MWD hostile-environment-logging system
- HAGR™ azimuthal gamma ray sensor
- MFR™ resistivity tool
- ShockWave® sonic tool

Weatherford®