



# Weatherford®

## REAL RESULTS

### Compact™ Cross-Dipole Tool Evaluates Hydraulic Fracture Treatment, Optimizes Future Well Completions

#### Objectives

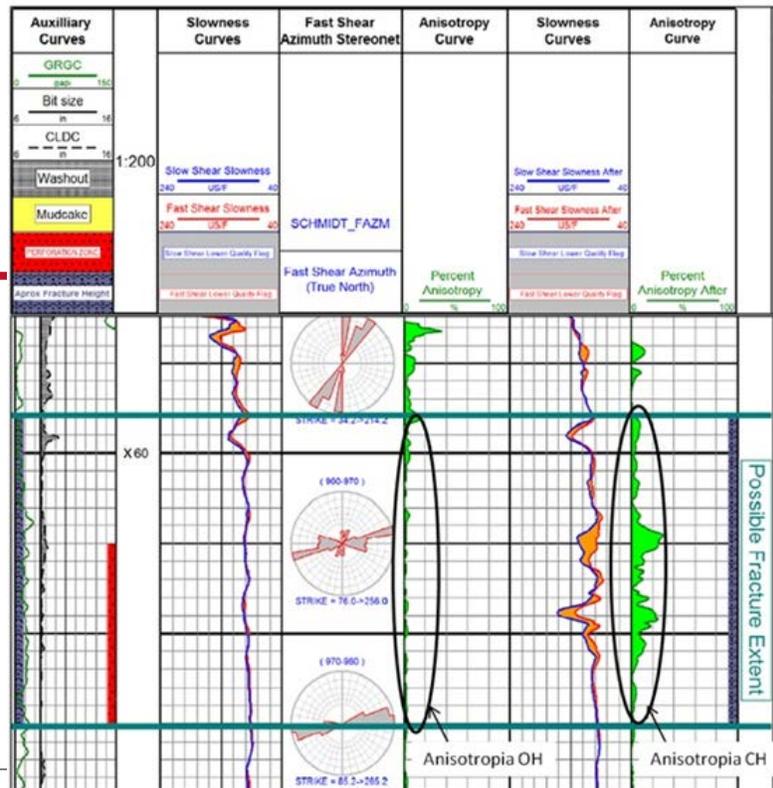
- Evaluate the hydraulic fracture treatment in a complex volcanic-reservoir development well.
- Improve subsequent hydraulic fracture treatments, well completions, and production from the oil and gas reservoir.

#### Results

- Weatherford deployed the *Compact* cross-dipole (CXD) tool into the open hole to determine the rock mechanical properties, brittleness, formation anisotropy, and fracturability. This data was used for the perforating and fracture program.
- After the perforating and fracture treatment, the CXD was then run in the cased hole to evaluate the fracture height and results.
- CXD data showed that the hydraulic fracturing had created anisotropy and also showed the vertical extent of the hydraulic fractures.
- Advanced hydraulic fracture models were then developed using the CXD data.

#### Value to Client

- Using the data provided by Weatherford's *Compact* CXD enabled the operator to confirm that the reservoir behaved as the geomechanical properties predicted.
- Advanced hydraulic fracturing models were subsequently used to optimize well completion and production in the next wells, incurring significant cost savings.



The log plot shows the formation anisotropy derived from Weatherford's *Compact* CXD before (openhole) and after (cased-hole) the hydraulic fracture treatment. The CXD demonstrated the quality of the hydraulic fracturing, which created anisotropy up to 20%, and the vertical extension of the fracturing was 22.9 ft (7 m) above the perforations.

**Location**  
Argentina

**Well Type**  
Onshore development

**Resource Play**  
Oil and gas volcanic reservoir

**Hole Size**  
8-1/2 in.

**Hole Angle**  
5°

**Products/Services**

- *Compact* triple-combo tool
- *Compact* CMI
- *Compact* CXD

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