



Weatherford®

REAL RESULTS

TruForm™ Liner Hanger System, DiamondBack™ Reamer Shoe Reams Through Trouble Zone, Reaches TD, Ensures Zonal Isolation

Objectives

- Run a 7-in, 2,752-ft (838-m) liner to total depth (TD) with rotation capabilities in order to pass a trouble zone. A prior attempt to get the liner to TD has been unsuccessful because of the torque limitation of the buttress thread connections (BTC) not allowing liner rotation.
- Complete an effective cement job across the production sands.

Results

- Weatherford personnel installed torque rings on all connections to increase the BTC torque capacity to 18,000 ft-lb (24,404 N-m). The torque rings mitigated the risk of torque damage to the liner connections and enabled Weatherford's *TruForm* expandable liner hanger system to be rotated at 50 RPMs for 4 hours during run-in.
- The *DiamondBack* reamer shoe was deployed on the liner to ream through an 810-ft (246-m) trouble zone and reach total depth of 10,410 ft (3,172 m).
- Prior to setting the *TruForm* hanger, the liner was cemented at an optimal displacement rate of 10 bpm at 1,300 psi (8.9 MPa).
- Weatherford's drillpipe dart and LWP liner wiper plug system maintained fluid separation, landed on the WLC landing collar on time, ensured proper displacement, and enhanced the cement job.

Value to Client

- Using Weatherford's *TruForm* expandable liner hanger system enabled the operator to reach TD successfully.
- Weatherford's *DiamondBack* reamer shoe enabled the liner to ream through restrictions in the trouble zone while applying the required torque to reach TD.
- The successful cement job ensured zonal isolation, enabling target sands to be produced effectively.



Weatherford's *TruForm* expandable liner hanger system, including the *DiamondBack* reamer shoe, were deployed to ream through a trouble zone, enabling EP Petroecuador to successfully reach TD and isolate production sands.

Operator
EP Petroecuador

Location
Ecuador, South America

Well Type
Onshore, development

Well Name
Secoya 40 D

Hole Size
8-1/2 in.

Top of Liner
7,658 ft (2,334 m)

Total Depth
10,410 ft (3,173 m)

Shoe Angle
58° deviation

Well Geometry
J-shaped with a maximum hole angle of 58°

Casing
9.625 in., 47-ppf BTC

Liner
7 in., 26-ppf BTC

Products/Services

- *TruForm* expandable liner hanger system
- Weatherford landing collar (WLC)
- Liner wiper plug (LWP)
- *DiamondBack* reamer shoe system

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