WELL CONSTRUCTION TECHNOLOGY

CALEDUS®

"Can do" is no match for "have done"

Well Challenge:

Extended reach well with 9,000'TVD and total measured length of 23,000', exiting through a window at 71 degrees with an aggressive faced whipstock. Planned 7,000' of 5 ½" completion with liner hanger packer, well screens and swellable packers. Multiple (9) coal seams and undulating well profile in excess of 109 degrees and then 90 degree horizontal section to TD.

Client concerns…
- Initially about exiting the window and the high potential for re-entering should the liner completion assembly not be able to reach full setting depth.
- High frictional forces that could necessitate rotation of the wells screens and swellable packers in order to reach target setting depth.
- High side load forces through undulating coal seams and requirement for positive standoff across producing zone.

TD Solution™:

Using client provided well and survey data BOScalc™ predictive models were run using a range of historical field friction factors as well as those for BOS21 material type Ezee-Glider® 2000 centralisers. Models were also run to simulate standoff effects with up to 1" loss of centraliser OD. BOScalc™ came back reporting significant friction reduction with no compressive failure of workstring and acceptable standoff across producing zone.

Head to head comparative testing across the aggressive whipstock face was done and the Caledus Ezee-Gliders® 2000 did not bind or jam as did other metal products.

Based on BOScalc™ reports Caledus proposed client run (2) Ezee-Glider® 2000 Spiral Centralisers per joint, (377) total, with single units on each of the first two joints to provide a flexible guide to initiate window exit. Spacing of Ezee-Gliders® 2000 was designed to provide maximum flexibility for both running and retrieving the assembly should well stability issues necessitate.

Result/Benefit:

After several days dealing with some major hole stability issues the client ran the 5 ½" liner completion with no issues exiting the window. They reported historically low friction factors for the field and no requirement to rotate the completion assembly at any point during the operation.

Client will utilize Ezee-Glider® 2000 Centralizers on future wells and is also interested in looking at incorporating a SingleRUN™ Motor on future completions as a contingency to the 4-5 days of hole conditioning required prior to running this completion. Of note, hole issues did require the client to shorten the length of the final liner completion string to deal only with the targeted zone of interest, whereas the initial plan of the longer assembly was to also have access to a lower zone as well.

Success Story #102

Caledus UK Ltd
4 Rubislaw Terrace
Aberdeen
AB10 1XE
Tel: +44 (0) 1224 659000
Fax: +44 (0) 1224 659001
www.caledus.com