

Reduce Formation Damage in Sand Control Completions

Case study: FIV Formation Isolation Valves protect GOM completion, save about USD 1 million

Challenge

Prevent loss of completion fluid and potential formation damage in two Gulf of Mexico (GOM) sand control completions. Save time and cost of fluid-loss pills and treatments for produced completion fluid.

Solution

Install FIV* Formation Isolation Valve in conjunction with sand control equipment, enabling isolation of the zone during completion operations.

Results

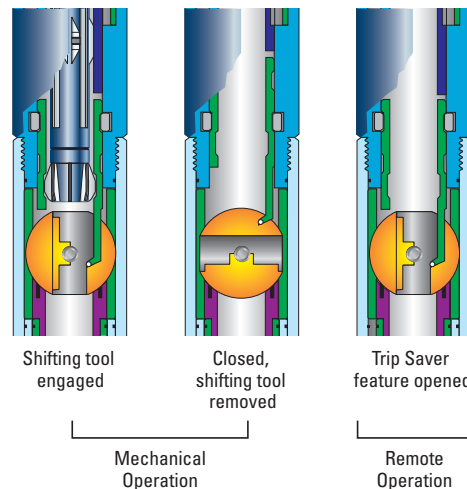
Averted fluid loss and formation damage. Client saved an estimated USD 1 million.

Apply new technique for sand control completions

Completion fluid losses cost time and money, an estimated USD 200,000 per well in the GOM. An operator approached Schlumberger for techniques to reduce fluid loss, prevent formation damage, and save costs in treating produced fluid in wells requiring gravel packs for sand control.

Isolate the completion and protect the formation

Schlumberger installed FIV tools and sand control equipment in the two wells. After the gravel pack, the shifting tool on the bottom of the wash pipe closed the valve on the FIV tool. With the valve closed, the lower completion was protected, and fluid loss and formation damage were averted.



The shifting tool attached to the end of the wash pipe closes the FIV valve as the gravel-pack string is removed from the well.

Saved treatment and disposal costs

Without FIV tools, similar wells have fluid losses costing USD 250,000 to USD 750,000 during completion. In general, controlling losses in medium- to heavy-loss situations requires up to three CaCO₃ pills per well, at a cost of USD 50,000 each. Furthermore, completion fluid lost to the formation must be collected and treated during production, potentially upsetting the surface production system and costing USD 200,000 per well for fluid collection, filtering, and disposal.

The FIV isolation technique prevented fluid loss and subsequent formation damage, saving the operator about USD 1 million in treatment costs on these two wells.

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