Case study: Gulf of Mexico, United States

DeepShield deepwater subsurface safety valve saved operator more than $1 million USD in GOM project

An operator offshore Gulf of Mexico needed an upper completion installed on a six-well package. Setting depth for the wells ranged from 26,000 ft to 28,000 ft (7,924 m to 8,534 m). Because of the depth and the high angles at setting depth, the operator needed an ultra-deep set packer that could be placed with no intervention, meaning that the packer sets by simply pressuring up the wellbore to a predetermined level.

Furthermore, the packer would be installed in a zinc bromide ($ZnBr_2$) environment, and would also need a space out device that would allow the passage of large-OD shifting tools once it has landed. Because of these issues, a surface controlled subsurface safety valve (SCSSV) was required that could operate at low pressures.

Engineers at Baker Hughes recommended the **DeepShield™ deepwater subsurface safety valve** as a solution. The valve's design has two independent operating systems and an integral control line filter, delivering the redundancy and operational assurance that enhances reliability in remote, subsea wells.

Baker Hughes engineers designed a 12.5 psi-rated hydrostatic set packer specifically for this customer's ultra-deep wells. The DeepShield deepwater subsurface safety valve was successful in enabling the operator to set the packers as planned. This eventually saved the customer 18 hours of rig time at an estimated cost savings of $1.08 million USD. Four wells have been completed so far, and the customer has retained Baker Hughes to complete the remaining four wells of the project.

Challenges

- Extensive rig time used to set deepwater packers
- Deepwater, high angles at setting depth
- Potential nonproductive time (NPT)

Results

- Reduced rig time an estimated 18 hours
- Saved customer an estimated $1.08 million USD in reduced operating costs
- Successfully hydrostatically set packer
- Experienced no health, safety and environmental (HSE) issues or NPT