First successful installation of parking sub and fluid loss isolation barrier valve in multilateral well  
Location: Perth, Australia

**CHALLENGE** – Apache Energy had a subsea multilateral field development off Northwest Australia that required a sand control screen as part of their lower completion in order to control sand production from the targeted reservoirs. The screens would be run in the lateral with an inner work string, allowing for full displacement of the wellbore to brine once deployed. On a typical Halliburton FlexRite® multilateral system installation, screens are deployed on the FlexRite system junction. The inner string needs to pass through the lateral leg of the junction, which has an ID restriction of 3.22-in. This means that a generic FS2 isolation barrier valve shifting tool could not be used to close the FS2 valve above the junction when the inner string is pulled out of hole. Because of these limitations, Apache planned to install an additional Versa-Trieve® VCH packer and FS2 isolation valve above the junction, which would require an additional completion run. This additional run would cost Apache approximately 20+ hours of rig time per well, equating to a significant amount of extra cost.

**SOLUTION** – Halliburton proposed a design that eliminated the additional completion run by incorporating a parking sub below the FS2 valve just above the junction, and running a small OD (<3.22-in.) shifting tool at the bottom of the inner work string. Upon pulling out of the hole, the shifting tool would pass through the junction lateral leg, engage, and shear out a larger OD shifting tool within the parking sub. The larger OD shifting tool would then be pulled out of the hole and used to shift the FS2 valve closed, allowing for the screens and junction to be set, and the lower mainbore and lateral to be isolated with the FS2 valve in the same run.

**RESULT** – This joint solution saved 20+ hours of rig-time and approximately 123 hours total for the remainder of the field campaign. Apache confirmed they are very pleased with the ability to integrate the parking sub with the FS2 barrier valve and multilateral junction combination. This integration has resulted in significant cost savings and additional risk reduction for future multilateral completion designs.

For more information on any of the details featured here, please call your local Halliburton representative or email us at completions@halliburton.com.