

Case study: China

SureVIEW Fiber Optic P/T & DTS System successfully deployed in offshore HPHT gas well and saved customer \$1.5 million USD

An Operator in China required a permanent real-time monitoring system to identify downhole changes in production and injection throughout the life cycle of an offshore HPHT gas well.

This well was challenging for its depth exceeding 4,900 m, temperature above 150°C, and contained a high level of CO₂ and H₂S.

The Baker Hughes team recommended the SureVIEW™ P/T Gauge and SureVIEW DTS.

The SureVIEW P/T (pressure/temperature) System is a leading fiber optic gauge technology known for its simplicity and accuracy across various sizes and pressure ranges. The SureVIEW DTS (distributed temperature sensing) is a cutting-edge measurement technology that enables continuous temperature monitoring along the fiber, essentially transforming it into a long, linear sensor.

The well utilized Baker Hughes SureVIEW P/T and SureVIEW DTS systems, plus all the fiber optic monitoring related equipment including the SureVIEW P/T gauge, carrier, downhole TEF (tubing encased fiber) cable, splices, protectors, wellhead outlet, SIUs (surface interrogator units), and surface cable which were provided and installed by Baker Hughes.

The local Service Delivery team collaborated closely with the Global Product Line, Supply Chain, Remote Operations, RTS (Reservoir Technical Services) and AMO (assembly and maintenance organization) teams to flawlessly execute the equipment delivery, preparation, and field operations.

The successful deployment of the SureVIEW P/T & DTS technologies in this well highlights the collaborative efforts between all the teams.

- Early engagement with the Global Product Line ensured a rapid response solution to address and meet the project requirements
- Expert support from Remote Operations Team offered guidance and assistance to the field service delivery team and ensured flawless execution of the project
- Data collected was sent back to RTS team for modelling and interpretation to determine flow allocation

This project exemplifies Baker Hughes's dedication to deliver innovative and reliable solutions to address customers' most challenging needs. It also established a robust groundwork for the continued application of Baker Hughes fiber optic monitoring technology in China.



Challenges

- A permanent real-time monitoring system to identify downhole changes in production and injection throughout the life cycle of an offshore HPHT gas well
- Application in extreme well conditions:
 - Well depth exceeded 4,900 m, temperature above 150°C
 - Well contained high level of CO₂ and H₂S
 - Well will produce for the first two years and will turn to injector after

Results

- Successfully deployed first SureVIEW integrated P/T & DTS monitoring system installation in China with flawless service delivery
- Enabled real-time accurate P/T and DTS data driven decisions across well life
- Reduced multiple wireline PLT runs saving approximately \$1.5 million USD