

Subsea Boosting Systems Contribute to Jack/St. Malo's Success

Seabed boosting technology from OneSubsea, a Schlumberger company, is making an important contribution to Chevron's Jack/St. Malo project by providing the necessary lifting required to produce from the two deepwater fields and enable long tiebacks to the development's Floating Production Unit (FPU).

To date, Chevron has drilled 12 wells in three clusters (one in the Jack field and two in the St. Malo field), which are served by three subsea pumps.

Importance of Seabed Boosting

The prolific Lower Tertiary reservoirs tapped by Jack/St. Malo's 28,000-ft wells naturally provided enough pressure to lift the hydrocarbons from the reservoir to the seabed, and carry them through the long tiebacks and to the production platform. However, as the original reservoir pressure declined, Chevron chose to deploy subsea pumps on the seafloor to boost the production to the topsides facility. Chevron has stated that by reducing the back-pressure on the reservoir, the boosting pumps have the potential to improve the recovery factor by 10% to 30%. This translates to between 50 and 150 million barrels of additional oil recovery resulting from this leading-edge subsea boosting technology.

The OneSubsea Solution

OneSubsea, through its Schlumberger and former Cameron roots, has implemented 30 subsea projects over the last 25 years and has unmatched experience in meeting the challenges of deepwater



The OneSubsea boosting pumps are rated for 13,000 psi design pressure and differential pressures up to 4,500 psi.

production. After rigorous evaluation, Chevron chose OneSubsea as its supplier for the subsea boosting system on the Jack/St. Malo project.

OneSubsea provided a broad scope of services and products for Jack/St. Malo, including engineering, project management, 12 subsea trees, production controls, and four manifolds. Subsea boosting technology was the most advanced contribution from OneSubsea, including three pump stations with 3.0MW single-phase pumps, subsea transformers, and pump control modules; associated controls and instrumentation; and a complete topside power and control system.

Installed in 2,100 m (7,000 ft) of water, the 3.0MW pumps are the most powerful subsea pumps ever deployed, and are rated for 13,000 psi design pressure and differential pressures up to

4,500 psi. The powerful pumps convey production through two 20-km (12.5-mile) tie-backs and the risers to the topside processing system on the FPU.

Booster Systems Installed and Commissioned

The subsea boosting systems were installed and tested in 2014, and Jack/St. Malo's first oil was produced in December of that year. In early 2016, the systems were fully operational, lifting 70,000 bopd. Jack/St. Malo production is expected to ramp up to 94,000 bopd and 21 MMCF/day in the coming years.



4646 W Sam Houston Pkwy N
Houston, Texas 77041
www.onesubsea.slb.com