Benefits
- No NPT downtime during deployment
- Provided for a collaborative working relationship to create a successful project management team and process
- Monitored pressures and identified timing of adjustments to maintain desired oil production levels

Background and challenges
- Deepwater Gulf of Mexico high-pressure well
- Address scale buildup that could threaten production levels and equipment

Baker Hughes solution and results
- Intelligent Production System that included remote flow control, well monitoring and chemical injection systems
- HCM-Plus valve, Premier production packer, SureSENS175 well monitoring equipment, and chemical injections
- Applied chemical injection system to reduce scale buildup and extend the life of the well, further aiding production and holding down operational costs

An operator working a deepwater, high-pressure well in the Gulf of Mexico was in search of a solution for a relatively new environment of high-pressure, high-rate production and injection completion systems for the deepwater environment. Having a capacity to process 300,000 B/D (47696 m³/d), flawless operation with no downtime was a driver at every level of the operation.

Baker Hughes provided the Intelligent Production System, including the remote flow control, well monitoring, and chemical injection systems. The hydraulically controlled HCM-Plus™ valve with high flow port design and the Premier™ production packer were specifically designed and validated for this project.

This project required equipment ratings of 12,000-psi (827-bar) differential working pressure at flow rates to 40,000 B/D (6359 m³/d). SureSENS™ 175 well monitoring equipment was implemented to withstand the extreme hydrostatic pressures of 25,000 psi (1724 bar) and vibration from the extreme production and injection rates. Chemical injection was provided by Baker Hughes to ensure long-term operation of the chemical delivery system.

Some of the chief requirements included talented and skilled personnel with reliable hardware; project management staff in the client’s office to ensure consistently fast communications; and validation programs for the various systems to confirm the ability to withstand the high-flow rates, erosion potential, and long-term operation.
To deploy these various systems, multi-line spooling services were used to ensure a seamless operation during the installation.

This system was considered to be the most complex installed to date within the field. Due to the preparation work by the dedicated project management team and the operation of reliable equipment, the system was installed without any nonproductive time (NPT) associated with Baker Hughes. As well, Baker Hughes was able to beat the planned schedule intended for the upper completion.

With the results for the completion system—both lower and upper—falling within the planned schedule, Baker Hughes demonstrated that a single-sourced, fully integrated system deployment could deliver on time and on plan.