**Challenge**
Design simple, efficient, yet effective sand control completions for 800 wells in a complex basin with unconsolidated, highly permeable, multilayered sands separated by reactive shales.

**Solution**
Use field-proven QUANTUM* gravel-pack system and Alternate Path† screens for a variety of sandface completion types, including gravel- and frac-pack completions.

**Results**
Simplified completion operations, reduced installation time, and set record for efficiency in more than 800 completions over a period of 10 years.

**Highly permeable, remote reservoir**
A development on land in central Africa consisted of three main fields that produced from reservoirs characterized by unconsolidated and highly permeable sands. The reservoirs comprised multilayered sands separated by reactive shales that added to the complexity of the basin.

Because completion intervals included both short and long single zones as well as multiple zones, an operator needed an efficient, reliable sand control completion system that would consistently provide simplicity, efficiency, and effectiveness in every well completed.

Because of the remoteness of the operation, selecting the right completion hardware and tools was critical to success.

After a multidisciplinary evaluation, Schlumberger and the operator decided that gravel packing was the best sand control technique for these wells. The project required a standardized completion system that provided the required efficiency and a gravel-pack packer working as a production packer.

**Four sandface completions types**
Four main gravel-pack completion types were used, including stand-alone screens, slurry packs, high-rate water packs, and frac packs. The frac packs were for either cased holes or open holes. The main screens used were wire-wrapped screens, with and without Alternate Path shunt tubes. Wells with multiple zones used the MZ Alternate Path system.

The QUANTUM gravel-pack packer and service tool system were used in every completion. The 9 7/8-in QUANTUM packer was used as both the sand control packer and the production packer. The system includes a hydraulic-set packer, a QUANTUM packer with extensions, and a multi-position QUANTUM service tool. For gravel packs and frac packs, the QUANTUM service tool with a fullbore set-down tool module permits weight down circulating and live annulus capability, while allowing bidirectional wellbore isolation in the reverse gravel-pack position.
Collaboration and teamwork
Schlumberger engineering and operations personnel worked closely to streamline operations between rigs and among rotating rig crews, achieving a high level of efficiency with minimum failure. Their work, along with improved processes, enhanced service quality and delivered consistent results over multiple years of high-volume activity.

Moreover, because of close collaboration and teamwork between Schlumberger and the operator, completion times were reduced and more than 800 wells were completed successfully over a period of 10 years.