

INNOVATIVE THINKERS

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Don Conkle

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Proppant innovation at motocross speed

As a teenager growing up in southeastern Ohio, Don Conkle had a passion for speed. Don raced motocross throughout the U.S., secured a sponsorship with Suzuki, and was the national amateur champion in 1979. A severe ankle injury, unfortunately, ended Don's racing career before turning professional.

While the world of motocross lost a racing champion, the oil and gas industry gained a petroleum engineer with a passion for fast technology development. As V.P. of Marketing & Sales for CARBO, Conkle is one of the proppant technology gurus, who is helping operators improve production and increase recoverable reserves.

After graduating with a petroleum engineering degree from Marietta College in Ohio, Conkle began his career in Dowell as a fracturing engineer. His industry experience continued to grow, as he took on various operations and management roles, first with Dowell, and subsequently, with Schlumberger, including senior management positions in the U.S. and globally, including the Middle East and the North Sea.

Conkle was enticed to CARBO in 2012 by the opportunity to make transformative improvements to proppant technology and bring the technology to the market quickly due to the streamlined organization. "There hadn't been significant advances in proppant technology in the last 30 years," Conkle explained. "CARBO is an ideal setting for developing new technology, with

the ability to make quick executive decisions with a world-class product development team."

KRYPTOSPHERE HD, an ultra-high conductivity proppant for deep wells, pushed the industry standard for proppants as it was engineered to withstand high closure stresses and extreme cyclic loading conditions. CARBO has performed conductivity testing with KRYPTOSPHERE HD to 20,000 psi, and crush tests to 30,000 psi. "It's a unique ceramic proppant with a 'secret sauce', and manufactured in a completely different way," explained Conkle. "KRYPTOSPHERE can also be utilized as the base proppant for our technology platforms."

In addition, CARBO is developing new products on three technology platforms: production assurance, flow enhancement and fracture evaluation services. An example of a new production assurance product is SCALEGUARD, which inhibits scale from the tip of the frac and throughout the production system. Chemical inhibitor is infused into the manufactured porosity of the grain and coated, allowing an engineered release of inhibitor based on the client's design objectives.

One technology under CARBO's new flow enhancement platform is RPM. RPM has an altered wettability to neutral, preventing the retention of water-based fluid in the proppant pack. The capacity to flow liquid hydrocarbons is enhanced because of this characteristic.

CARBO's technology for fracture evaluation services is FRACTUREVISION, which uses a proppant with a traceable non-radioactive, rare earth mineral. The E&P operator can then run a neutron log to detect proppant placement effectiveness in horizontal wells and measure propped fracture height in vertical wells.

Recently, CARBO announced successful application of its KRYPTOSPHERE and SCALEGUARD technologies in the Lower Tertiary trend. The operator wanted to maximize the long-term treatment of scale without impacting the conductivity of their proppant pack. As such, CARBO utilized KRYPTOSPHERE HD and SCALEGUARD technology combined in a single blend.

New product development is continuing at CARBO. The company is enhancing its production assurance platform with multiple technologies under development to inhibit halites, H₂S and paraffin. CARBO has also developed KRYPTOSPHERE LD, a low-density proppant with the high-conductivity properties of its HD cousin. KRYPTOSPHERE LD is expected to go into production sometime in the fourth quarter and will be applicable to a wide range of closure stresses. With Don Conkle's involvement, you can be sure there will be a steady stream of value-adding proppants coming to market at motocross speed. **WO**

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