

Varel drills fastest mile in Sutton County

HIGHMOUNT E&P HAS used Varel's 7 7/8-in. CH35AS to drill the fastest mile in Sutton County, Texas, at 145.8 ft/hr. The bit drilled a 6,800-ft interval to an 8,000-ft TD.

"As our company has grown, we've experienced more demand for bits designed specifically for underbalanced drilling applications," said **Dewayne Fuller**, Varel's roller cone product manager.

Varel is a leader in drill bits in blasthole drilling for open pit mining — which is similar to the oilfield underbalanced drilling environment. As in blasthole mining, underbalanced applications produce heavy gage row wear, and, in some cases, this wear can result in insert breakage on drill bits.

To alleviate this wear, the cone offset and journal angles are optimized for maximum rates of penetration while improving gage row wear

The Varel Jet Air series drill bits are specifically designed for underbalanced drilling applications.



and breakage resistance. Additionally, Varel's HET (High Energy Tumbling) of their tungsten carbide inserts enhances insert life and breakage resistance. Using the technology and design techniques developed in blast hole drilling, Varel has created the Jet Air product line for oilfield underbalanced drilling.

The Jet Air series bits are designed for underbalanced applications where air, water mist or foam circulation is used instead of drilling mud. Technology and design techniques specifically match the drill bit to the application. First, the cutting structure is designed to achieve high ROP in underbalanced conditions. Tooth extension, shape and carbide grade are selected for underbalanced environments.

Second, the gage and shirrtail area are enhanced to resist the extreme wear commonly seen in underbalanced drilling. A variety of shirrtail protection packages are available to meet specific customer needs. Additionally, the Jet Air series uses a nail retained, replaceable nozzle instead of the snap ring retained nozzle standard in other Varel products.

The nail retention system provides enhanced resistance to sand-blasting erosion, which is common in air and water mist drilling.

Enventure sets expandable installation milestone on water injection wells

ENVENTURE GLOBAL **Technology** and **Denbury Resources** has set an expandable installation milestone: two Solid Expandable Tubular (SET) systems in two wells with one crew in one day.

The operation was performed for two of Denbury's South Mississippi water injection wells possessing severe water thief zones. The operator chose Enventure's cased-hole SET technology to cover perforations in a middle zone of each well.

"Previous methods of squeezing, casing patches and even dual packer isolation assemblies rarely worked," **Lance Taylor**, Denbury senior operations engineer, explained. "The success of this program saved time and money on costly remedial workovers, increased production and ultimately will result in higher reserves due to improved waterflood sweep efficiency."

The 4 1/4 x 5 1/2-in. SET systems enabled Denbury to conserve internal well diameter, improving distribution in their waterflood. The expandable liners were accurately installed in a tight target area covering water thief zones without closing off other critical perforations.

This is the fourth expandable installation for Denbury, and eight more installations are planned.

Apache Corp drills 1st significant well from survey on Tierra del Fuego

APACHE CORP ANNOUNCED that the first significant well drilled from its 700-sq-mile (1,800-sq km), 3D seismic survey in Argentina's Tierra del Fuego is producing 1,635 bbl/day of oil and 1.3 million cu ft/day of gas from the Lower Cretaceous Springhill sandstone.

"Prior to Apache becoming operator of this 714,000-acre block in Tierra del Fuego, very little 3D seismic had been acquired," said **G. Steven Farris**, Apache's president and chief executive officer. "With 40% of the survey shot and newly processed data arriving every day, we have identified more than 30 exploratory, field extension and development locations."

The new well, the Seccion Banos-2004, had the highest initial production rate of any well drilled in four decades of oil and gas activity on the Tierra del Fuego concession. The SB-2004, which was drilled to 5,544 ft, confirmed the productivity of a sparsely drilled 20-sq-mile (50-sq-km) area between three 40-year-old fields — Canadon Piedras, Cabo Nombre and Bajo Grande. Apache has commenced drilling the first of six potential offsets that have been identified to date.

The Seccion Banos success follows Apache's development of the previously unexploited discovery at Cabo Nombre Sur, located offshore 4.2 miles (7 km) south of the latest well. Two wells — the

CNS-2005 and CNS-2006 — currently are producing a total of 11.5 million cu ft of gas and 53 bbl/day of oil.

Apache is the operator of the TDF concession with a 70% working interest; **Repsol YPF** owns the remaining interest. Apache is the largest acreage holder on the island of Tierra del Fuego, with almost 2 million gross acres — 714,000 acres on the Argentine side and two recently awarded exploration blocks comprising 1.2 million acres on the Chilean side of the island. Its current net production on the island is 5,226 bbl/day of liquid hydrocarbons and 122 million cu ft/day of gas.