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High-Performance Turbodrill—A second-generation steerable turbodrill has been developed by Neyrfor, a Schlumberger company. It is designed specifically for directional-drilling and precision horizontal-drilling applications. The Neyrfor Delta Series (Fig. 2) incorporates the shortest bit-to-bend distance in its class. High-performance applications include curve, horizontal, and tangent directional drilling; high-pressure/high-temperature drilling; openhole, whipstock, and cement-plug sidetracks; polycrystalline-diamond-compact- and impregnated-diamond-bit drilling; and geothermal drilling. The concentric turbodrill’s characteristics enable an extended operating life, 60% increase in dogleg capability, reduction in slide time, and high-temperature capability to 500°F. It produces improved borehole quality resulting from its consistent and predictable tool-face control and low bottomhole-assembly vibration. Recently, in a head-to-head competition with a positive-displacement motor (PDM) on an Oklahoma Colony Wash well, the 4.75-in. Model T1XLMK1 delivered 55% higher penetration rate than the PDM, with more than 34% higher revolutions/minute.

For additional information, visit www.slb.com/neyrfor

Fig. 2—High-speed Delta Series turbodrill (image courtesy of Neyrfor, a Schlumberger company).