

TECHNOLOGY APPLICATIONS

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Multiphase Transfer Pump

Compact Compression's Multiphase Transfer Pump is designed for use at a satellite or header where production from multiple wells is collected (Fig. 1). The resulting drop in flowline and casing annulus pressure allows the wells feeding into the pump to produce more. The pump costs less than installing individual casing gas compressors on each well, has more throughput with less peak power demand, and has a lower service cost than previously available compressors in multiphase service. Separate pumps, compressors, separators, flares, and process-control systems at satellites can be eliminated with the pump. It can replace aging and maintenance-intensive field infrastructure, reducing field operating expenditure. Lead times for new equipment, turnaround time for repairs and maintenance, and capital and operating costs are an order of magnitude less compared with those of typical twin-screw multiphase pumping systems.

► For more information, visit www.compactcompression.com.

Mobile Torque Machine

EnerQuip introduced a mobile torque machine on a gooseneck trailer with a pivoting rear axle, providing a drop-and-go platform for makeup and breakout services in a variety of locations (Fig. 2). The unit, featuring proprietary torque logging software, accommodates up to

17½-in.-outer-diameter tooling and can make up or breakout connections up to 115,000 ft/lb. Support stands are stationed to the rear to safely carry tubulars in and out with motorized rollers. Live makeup charting provides real-time feedback on torque, turns, and running speed on connections. Chart adjustment allows axis editing or zooming into any areas on the makeup while shoulder detection points can be refined, and comments added to the chart. Overlay and trend functionality highlight any anomalies in batch makeup of casing and tubing.

► For more information, visit www.enerquiptorque.com.

In-Bit Sensor Technology

Halliburton introduced Cerebro Force in-bit sensors, a technology that captures weight, torque, and bending measurements directly from the bit to improve understanding of downhole environments, optimize bit design, and increase drilling efficiency. Built on the company's in-bit vibration sensing platform, the line of sensors uses downhole data to reduce or eliminate surface measurement uncertainty and inefficiencies caused by bit design, bottomhole-assembly, and drilling-parameter selection. Through its Design at the Customer Interface process, the company's local drill-bit experts collaborate with operators to customize bits

for basin-specific applications and will use data from the sensors to inform new designs and optimize parameters for efficient and precise drilling. The technology is available on fixed-cutter drill bits and is compatible with conventional motor and rotary-steerable-drive systems.

► For more information, visit www.halliburton.com.

Remotely Operated Vehicle Piloting Capability

Forum Energy Technologies has demonstrated the ability to remotely operate work-class and observation-class ROV systems between an offshore vessel and a remote location. This capability creates opportunities to adapt operational practices in response to recent industry drives. Cost savings and reductions in health, safety, and environmental risks can be realized through reducing offshore crew sizes. Increased Internet speeds and continued development in software efficiencies that reduce the effect of network latency coupled with increased availability and reliability of the global 4G network has allowed the company to offer remote operations on its full range of ROV systems. Its ICE and subCAN remote operations suites provide a means of piloting vessel- or platform-based systems from an onshore control facility by a wired, 4G, or satellite connection.

► For more information, visit www.f-e-t.com.



Fig. 1—Compact Compression's Multiphase Transfer Pump costs less than installing individual casing gas compressors on each well and has a lower service cost than previously available compressors in multiphase service.



Fig. 2—EnerQuip's mobile torque machine provides a versatile drop-and-go platform for makeup and breakout services.