

JPT



Special Section

The Value and Future of Petroleum Engineering

**ARTIFICIAL LIFT
PRODUCTION MONITORING
HIGH PRESSURE/HIGH TEMPERATURE
SEISMIC**

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Acid-Gas Detection System

Acid-gas contamination of hydrocarbon resources is a growing issue. GEOLOG introduced a method of hydrogen sulfide (H₂S) detection that measures amounts of the gas within the pore structure of cuttings. Gases contained within the rock's pore network are not fully released from cuttings at surface, and a residual part of them can be freed and detected. Cuttings are placed in a sealed container and ground to a defined size. The gas trapped within the container is then analyzed. Turnaround time is 90 seconds and the full process takes 15 minutes when performed at the wellsite. To validate the results, natural hydrocarbon gas analysis is performed in a similar way, the presence of this natural gas confirming the existence of pores with residual gas and validating the reliability of H₂S mapping.

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

Production-Optimization System

Weatherford introduced an enhancement of the ForeSite production-optimization platform. Among the features of the new release is expanding predictive failure analytics to electrical-submersible-pump (ESP) systems and adding complete optimization capabilities for plunger-lifted wells. The plat-



Fig. 1—Weatherford's enhanced ForeSite provides predictive failure analytics for ESP systems and optimization capabilities for plunger-lifted wells.

form adds predictive failure analytics for ESP systems. This capability not only reduces failure frequency but also reduces total downtime and lost production by enabling proactive failure management and planning. Adding plunger-lift optimization builds on previous optimization capabilities in rod lift, gas lift, natural drive, and ESP-lifted wells. The platform enables real-time optimization and surveillance along with intelligent alerts, well modeling, and plunger-cycle design. Placing the platform at the well-site can increase asset profitability, productivity, and uptime. The enhancement includes automated well testing and the ability to execute well-work activities in the field through a mobile application (Fig. 1).

► For more information, visit www.weatherford.com

Perforating System

GEODynamics introduced the HELLFire perforating system, allowing more-effective completion of multistage plug-and-perforating operations. At 9.5-in. total length per cluster, the system reduces toolstring length, delivering more clusters per stage (Fig. 2). This capability mitigates differences caused by same-stage formation variation. The compact system incorporates optimal unconventional perforating technologies into a single, versatile tool. Its

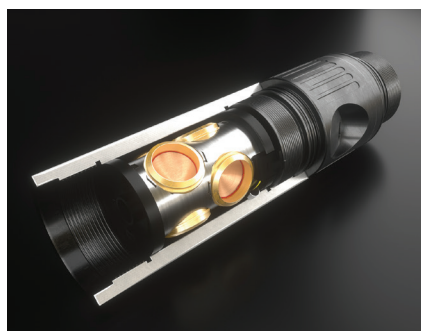


Fig. 2—The HELLFire perforating system from GEODynamics features a compact design that reduces toolstring length and delivers more clusters per stage.

three- or six-shot cluster design delivers high-performing perforations specifically built for fracturing, unlocking stage design options not previously possible with lengthy conventional spiral-phased technology. Flexible design options allow engineers to specify ideal cluster counts and spacings, which result in lower costs, fewer stages, and optimal proppant placement, all with less equipment and a smaller crane. The factory-loaded, built-for-wireline system improves convenience, safety, and reliability. New optimized stage and cluster designs allow fracturing crews to get to rate quickly while still placing proppant where it is optimized.

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

Fracturing-Design Software

NSI Technologies introduced a cloud-based version of its 3D hydraulic-fracturing-design software StimPlan. The platform represents a set of engineering tools that will simplify the work flows associated with designing hydraulic fractures in complex, unconventional reservoirs and will improve the ability to optimize reservoir economics. The software is a complete, integrated solution for hydraulic-fracture design, analysis, and optimization. The software helps operators maximize their well performance while lowering expenditure and reducing footprint. Post-fracturing benchmarking studies show that rigorous hydraulic-stimulation design and treatment optimization helps reduce operational problems and significantly improves well performance. Through optimizing the hydraulic fracture treatment, the software helps operators not only increase production but also drive down well costs. Taking advantage of cloud-based parallel processing allows the platform to decrease the time required to run multiple simulations. **JPT**

► For more information, visit wordpress.premieroilfieldlabs.com/stimplan-software.