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What's new in artificial lift

Excerpts From: Part 1—Fourteen new systems for beam, progressing-cavity, plunger-lift pumping and gas lift

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PLUNGER LIFT

Inexpensive plunger-lift controller. eProduction Solutions (eP), Houston, Texas, announces release of a new, inexpensive plunger-lift controller, Fig. 8. The controller's simplistic design provides accurate control of plunger lift wells. It includes an intuitive user interface for system configuration that makes it easy to set parameters for both single- and two-valve modes. Users can easily configure high-and-low pressure overrides from a digital pressure transducer input. The unit also includes a single, high-pressure shut-down feature for use with an analog pressure transducer.

The unit is designed for stand-alone operation and does not accommodate remote communication. While the unit does not include the SCADA interface that other eP controllers have, it does include an event logger that stores plunger cycle time and plunger arrivals that can be accessed through its HMI data port for analysis.

The unit is designed for use with 1- or 2-W solar panels and operates on a 6-V battery system. A smart charger/regulator system that is built into the unit extends battery autonomy and life.

FIG. 8. Plunger lift controller.

GAS LIFT

Optimizing gas-lift operations. eProduction Solutions (eP), Houston, Texas, has developed a unique solution for optimizing gas-lift operations by combining intelligence at both the well site and the desktop, Fig. 10. At the well site, the GLO controller provides complete *24-hr* local optimization. The controller performs well stability profiling, AGA 3 gas flow calculations, and constant injection control.

Built-in sequential start-up and shut-down functions are standard to assure proper casing unloading and well kick-off. A data logger provides historic information to the on-site operator, and near-continuous information for analysis in the desktop software. The sampling frequency is variable and can be set easily with the user-friendly keyboard interface. Parameters can be set at the well site through a multi-language local interface, laptop MMI, or remotely through the host software. The controller provides eight analog and 16 digital I/O ports for extensive expansion.

FIG. 10. Principal components of wellsite equipment and visual product of the Gas Lift Optimizer (GLO) controller.

The desktop intelligence portion of the solution provides real-time awareness and understanding of individual well performance. Permanent records of well history and real-time information allow the user to control, analyze and design gas-lift wells.

The software can prioritize gas allocation to high-priority wells based on total gas available. The management-by-exception method ology provides the operator a list of trouble wells rather than requir ing a lengthy search. Alarms draw attention to critical well situations preventing optimal production. To analyze the wells, the operator can choose from various pressure and PVT models. Trending, reports and charts provide current and predic tive analysis. WO

eProduction Solutions

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