

around

# the oil patch

Published October 19, 2008 in the Permian Basin Oil and Gas Report

## PLSI eliminates gas-locking rod pumps

A **plunger lift system** for oil or gas wells, designed and installed by Production Lift Systems, Inc., is a unique combination of tools, well conditions and producing methods. The application of these systems results in more efficient use of the formation.

Plunger lift is often compared to a long stroke pump. The well tubing from the perforations to the surface acts as a long pump barrel. The plunger itself travels the entire length on each stroke, pushing produced fluid to the surface.

Gas from the formation, or, in certain instances, from outside supply, acts as the power source as it expands under the plunger to force the plunger and the fluid to the surface. Cycle frequency of the plunger is controlled at the surface either by time or by pressure buildup or remote communications.

With plunger lift, gas is the motivating force that operates the plunger. The operating pressure and depth determines the amount of fluid that can be produced on each cycle. To operate a plunger the general requirement is 300 cubic feet of gas per barrel of fluid per 1,000 feet of lift. Many plungers are operating with pressures as low as 120 psig.

Plunger lift systems find wide application in producing high ratio oil wells, in deliquifying gas wells and in gas lift installations in order to increase lift efficiency and paraffin removal.

In oil wells plunger lift can be applied by utilizing the produced gas and intermittently flowing the well. In some cases external gas may be required.

The casing annulus is used as a storage chamber for the produced gas and well fluid. The casing pressure is held to the minimum required to surface each slug of fluid produced per cycle.

The maximum fluid that can be produced with plunger lift is limited to the number of possible cycles per day and the maximum fluid produced per cycle. This is typically up to 200 barrels per day in a natural drive reservoir and several thousand barrels per day in CO<sub>2</sub> floods.

Plunger lift is also an economical and automatic means of deliquifying gas wells that periodically load with fluids.

Any gas well that requires swabbing, soaping or



**HEAVY LIFTING** A plunger lift system from PLSI can increase oil and gas production at a fraction of rod pump costs. Call PLSI at 699-1200.

“blowing down” to keep the well flowing is a candidate for plunger lift. Typically, these wells will flow 200 MCFD to MMCFD after cleaning up, but gradually die or fall to a lower rate over time.

Plunger lift will maintain production at a constant rate automatically. This can be done either by free-wheeling the plunger (cycling without shutting in) or periodic cycling. By keeping the fluid unloaded from the tubing automatically, the maximum flowing tubing pressure is maintained, and often the installation of gas compressors can be postponed or eliminated.

For the latest technology in producing your oil or gas wells contact Production Lift Systems. At a fraction of rod pump costs Production Lift Systems can design a system for you that will increase your oil and gas production and reduce your lifting costs.

*The phone number for Production Lift Systems is 432-699-1200.*