

EXECUTIVE SUMMARY: OPTIMIZING STRIPPER WELL PRODUCTION WITH JLS GAS DRIVE FLUID LIFTING SYSTEM

Jet Lifting Systems International is a California based Oil Services Company, which is a division of JLS, Inc. (hereinafter “JLS”). JLS is developing a lifting process that significantly reduces operator costs and improves the environmental footprint of stripper well operations. The heart of the process is JLS’s patented GAS DRIVE FLUID LIFTING SYSTEM. JLS is the assignee of a patent (Patent Number US 7,331,397 B1) that was granted on February 19, 2008.

It is being proposed that a development test series be conducted with the objective of demonstrating significantly reduced operator costs and improvements in the environmental footprint employing closed system operations with zero emissions. Relative ease of installation down-hole, ease of operation, reliability, lack of maintenance requirements, the self cleaning feature, the liquid level prompt control system and ease of removal at the end of the test period will be demonstrated. Another important objective is to obtain operating data to lead to system improvement and optimization. For example, just how soon can the gas being sent down-hole be cut off and still maintain full production per cycle?

Essentially, the JLS process for lifting fluid, from a well bore, is a closed loop passive collection and pneumatic lifting system located in a well consisting of (1) a pneumatic tube, (2) a fluid tube mounted within the pneumatic tube creating an annulus, and (3) a jet barrel chamber formed between the pneumatic tube and fluid tube, in fluid communication at the zone to be recovered. Just as important is the steel ball that is located in the jet barrel. This is the only moving part in the JLS system. Once fluid fills the jet barrel chamber, a compressor on the surface is triggered, whereupon pressurized gas or air is sent down-hole in the annular space between the chamber wall and fluid tube. When the applied gas pressure reaches the jet barrel, it forces the ball to seat at the bottom of the jet barrel chamber and the fluid is forced to the surface, where a gas-oil separator then separates and transports the fluid to a holding tank and the recovered gas to a (low) pressure vessel on the suction side of the compressor.

The JLS process is specific to stripper wells. Whereas, the traditional pump jack has numerous moveable parts, including a lifting plunger piston for lifting the oil to the surface, the JLS system has only one moving part that is cleaned each time pressurized gas reaches the jet barrel chamber and the JLS lifting method is this pressurized gas. Therefore, unlike the pump jack, there is no up and down movement in the JLS process, which results in a significant cost savings over the pump jack. In essence, JLS eliminates the expensive operational costs associated with the moveable parts of the pump jack that have to be replaced over time. For example, the sucker rods, cones and seals within the pump jack configuration are especially subject to wear because of the constant up and down motion. But, by using the JLS Lifting System, the producer can eliminate all of this wear and tear, which means less maintenance costs and more profits. .

Also, where the pump jack is designed for continuous operation for periods of time, the JLS process is designed for cyclical periods. This is another savings. As operators know, the operating and maintenance costs can destroy the commercial value of stripper wells. Also, it is foreseeable that using the JLS System is a friendlier alternative because of the simplicity of design. Potential accidents will be averted and there will be less environmental impact.