

EXTENSION OF SOLAR POWERED PUMP JACK FOR STRIPPER WELLS.

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EXECUTIVE SUMMARY

The 2008 proposal combined the improved efficiencies of solar powered motors with the standard pump jack installations common to the stripper well industry.

Many stripper wells exist in isolated areas in which electrical service is currently unavailable as a viable source of power for stripper wells, especially in the Texas and Oklahoma panhandles with which the applicant is familiar. Many of these wells were originally completed as flowing gas wells. As production declined over the years with the depletion of reservoir pressure, most producers routinely utilized two primary methods of artificial lift to remove well-bore fluids, the rod pump jack and tubing plungers. The accumulation of well-bore fluids, even if marketable, restrict gas production.

The preferred method for capital asset outlay is the conventional tubing plunger which eventually loses efficiency and cost effectiveness with continued decline. In the absence of sufficient gas pressure for tubing plungers, the second, more costly method is the familiar pump jack. Currently, only two power sources exist for pump jacks, electricity and natural gas. Since many stripper wells exist in isolated areas in which electrical service is not available and cost prohibitive to construct, the only option is to use lease natural gas fired motors to power pump jacks. While the industry is well acquainted with typical natural gas motor maintenance, the recent rapid price increases of natural gas have made the fuel consumption of such motors a significant loss of revenue. And the increased emphasis on reducing the use of hydrocarbon fuels makes solar power beneficial.

The successful 2008 approved proposal combined the improved efficiencies of solar powered motors with a modified standard pump jack installation.

This proposal offers to expand the application for isolated gas wells with fluid loading. Further, this proposal offers any low volume oil producer the option of replacing the natural gas fired motor with an environmental friendly and attractive power source. Not only will exhaust gases be eliminated from the atmosphere, but in many oil wells casinghead gas is a valuable source of revenue. Fuel gas can then be converted into additional natural gas sales revenues. Typical fuel consumption of 5 MCF/day becomes and additional natural gas sales volume of 150 MCF/ month. For many stripper wells, that will represent an increase of over 100 % in natural gas sales per month. And in every case, such an increase in gas sales, even at volume at current prices, is significant.

This proposal will focus on improved efficiencies of solar powered motors with a standard pump jack installation for additional benefits for the stripper well industry.