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## Public Executive Summary

*"Can a simple control produce more oil?"*

Yes, 1 to 20% more! *How?* By making more oil available to pump that is already available in the formation. *Just pump more often!* By keeping the rising fluid column in the bore low, the hydrostatic pressures that develop when the fluid column rises will never get to the point of opposing the formation pressure. This allows a continuous flow of crude oil and brine migrating to the well bore. Otherwise, the absence of pumping lets the column rise until it reaches equilibrium and all flow stops. For the most part, nothing happens until the pumping resumes. Then as the pressure against the formation drops, the flow slowly starts to the well bore, and then on to your stock tanks. More constant flow=more crude!

By adding a 8" x 8" x 4" box to your normal pump controls, the "Oil Well Sentry" a PrePump-Off Control, eliminates the problem of pumping **after** pump-off or pumping "dry". When this common worry is eliminated, many great economical and energy saving are possible. The system works by *monitoring each pump stroke* for the normal level of fluid refilling the Working Barrel at the bottom of the well. When the **normal level decreases** because pump-off is *approaching*, the motor or engine stops the cycle in 2-3 pump strokes

Pump-Off is defined as "a condition in which all the available fluids have been pumped." The "Oil Well Sentry" terminates the cycle just before all the fluids have pumped. This protects the seals and moving parts from excessive wear and tear, and reduces energy consumption by 30%. Also, crude oil production may be increased by 0 to 6 barrels a week.

This request is to develop methods to 1) optimize the frequency of pumping for increased production; 2) refine, develop and test additional sensors and controls to monitor pump strokes to lower energy requirements and wear and tear. The existing bridle mounted sensor works effectively to 2,800 feet, but will it work at 5,000'? The inline sensors work at 5,000' but there is a problems at 2,200'.

The objective is to produce very efficient low cost controls and highly effective production methods. This will let the Producer achieve maximum production, lowest energy usage, long equipment life, and minimum labor requirements.