

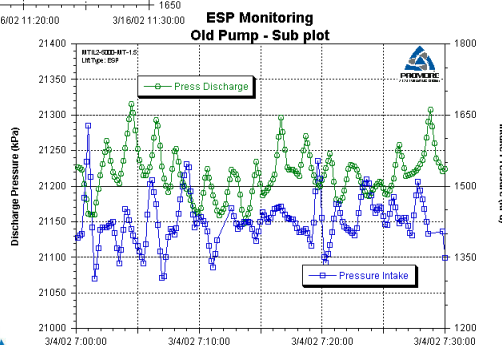
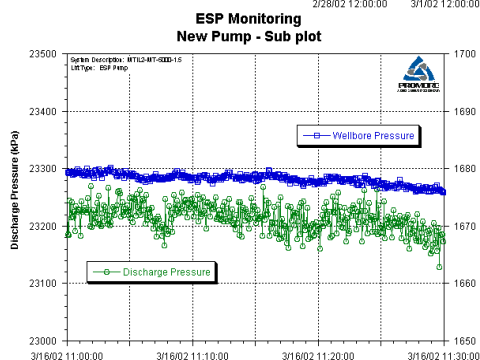
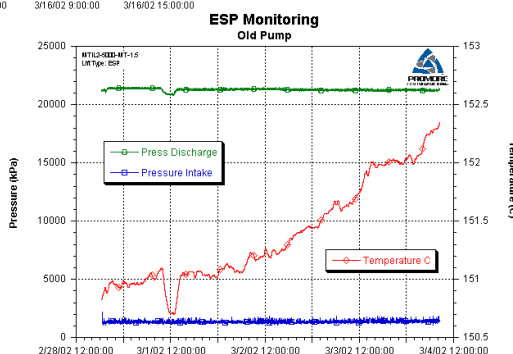
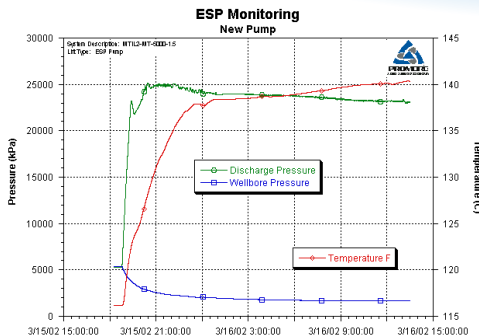
**Value to Client**

**\$190,000 Through Avoidance of ESP Pump Failure**

**Extended Pump Run Life**

**Increased Production**

**Optimized Well Recovery**



## Situation

- New field development with unsure production potential and limited bottomhole pressure (BHP) data.
- Artificial life system (ESP) was selected based on limited reservoir information and production data.
- Pump suppliers warranty their systems for one year for manufacturing defects only. Improperly sized pumps are excluded from warranty protection, customers responsibility.
- High wellbore temperatures in the field have proven that ESP supplier monitoring systems are unreliable.

## Objective

- To install a reliable non downhole electronics-based monitoring system to measure true pump efficiency and wellbore temperature under actual operating conditions.
- Prevent adverse pump-off through proper sizing of ESP's and continual monitoring of well inflow.

## Observation

- Rapid increase in wellbore temperature with no decrease in pump intake pressure indicates that the motor is oversized for the well's deliverability.
- Erratic pump intake pressure displayed in "Old Pump—Sub Plot" is indicative of potential pump problems.

## Results

- New knowledge of actual pump efficiency was used to recommend a revision to original pump size selection from a larger to smaller system.
- Utilization of a reliable monitoring system in conjunction with a revisit to the original pump selection saved the operator \$190,000 in a probable pump failure.
- Continual understanding of BHP allowed the operator to maximize pump efficiency and optimize well recovery on a continuous basis.



*Your Eyes to the Reservoir*