



Weatherford®

REAL RESULTS

WellPilot® PCP Flow-Control Technology Optimizes Gas Production Rates, Reduces Cost

Objectives

- Optimize progressing cavity pump (PCP) run life and optimum gas production in a large number of coalbed methane (CBM) wells. The wells' gas and water inflow rates varied significantly within a short period of time, jeopardizing the success of the wells.

Results

- Weatherford's *WellPilot* Flow-Control Technology (FCT) controllers were progressively installed in 302 CBM wells over a period of 39 months. The technology for the *WellPilot* FCT controllers is based on a proprietary surface-mounted thermal probe that contains Weatherford's patented algorithm. The *WellPilot* FCT algorithm controls the acceleration or deceleration of the PCP to optimize its speed in relation to the current underlying inflow potential of a well while protecting the PCP from sudden or gradual fluid loss.
- Prior to *WellPilot* FCT installation, a typical declining trend in gas production was observed in all wells within the field (Figure 1). However, as *WellPilot* FCT controllers were installed, the trend in those particular wells flattened out, indicating that optimal or near-optimal pump speeds were achieved.
- The mean RPM data showed a significant overall decrease in wells where *WellPilot* FCT was installed (Figure 2).

Value to Client

- Weatherford *WellPilot* FCT controllers optimized the speed of the PCP and slowed the rate of decline in gas production, enabling a more uniform overall production rate for the client.
- *WellPilot* FCT controllers' optimized speeds were, on average, 30 RPMs lower—from 210 to 180—than wells without FCT controllers, resulting in reduced operational costs.

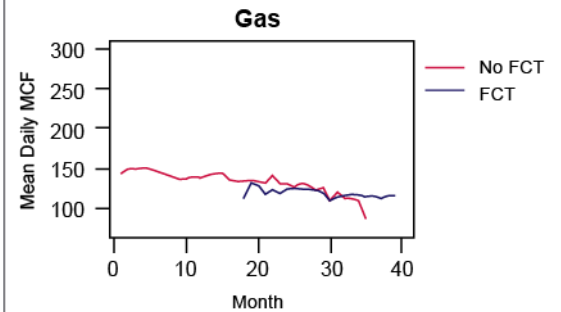


Figure 1 illustrates the declining gas-production trend without the *WellPilot* FCT controllers installed (red) and the flattening out of the decline curve after the *WellPilot* FCT installations occurred (blue).

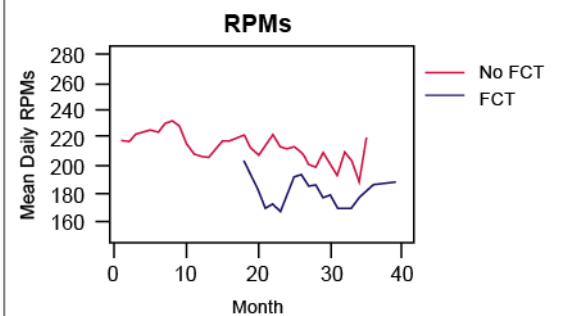


Figure 2 illustrates the mean RPM without the *WellPilot* FCT controllers installed (red) and the reduction in mean RPM after the installations occurred (blue).

Location

Intercontinental, USA

Well Type

Onshore, vertical well

Application

CBM

Products/Services

WellPilot FCT controller