Plunger-Lift System with WellPilot® Controller Increases Gas and Condensate Production 43 to 50%, Reduces Cost by $52,300 Per Year

Objectives

- Identify an alternative artificial-lift solution to increase gas and condensate production in a horizontal well in northern Mexico. The existing system required an operator to manually put nine chemical bars per day into the well to maintain a production level of 10 BDP of condensate and 0.350 MMscfd, liquid level of 2,789 ft (850 m), and choke diameter 18/64 in. This daily operation resulted in 2.5 hours of downtime per day.

Our Approach

- Weatherford recommended the use of a plunger-lift system as the best option to avoid the use of chemicals in this well.
- Weatherford slick line services installed a collar stop assembly and then released the spring with collet assembly and a double-pad plunger. Additional parts of the installed plunger-lift system included surface valves, lubricator and catcher, motor valve, globe valve, drip pot, and regulators.
- A WellPilot controller was installed to allow the operators to read wellhead pressure, open and close the motor valve, and detect the plunger arrival.

Value to Client

- The installation of the Weatherford plunger-lift system enabled the client to increase production rates to 15 BPD of condensate and 0.500 MMscfd, while keeping the choke diameter and liquid level at 5,249 ft (1,600 m). The condensate production of the well has remained at the same levels during the 5 months since the installation.
- The use of this artificial-lift technique eliminated the need for daily chemical treatments for the well and will save the client US $52,300 per year in the emulsifiers required to treat the condensate produced with the chemical bars.
- From the increased production, the client was able to recover the cost of the investment in approximately 30 days.

The Weatherford plunger-lift system with the WellPilot controller eliminated the need for daily chemical treatments and increased production rates to 15 BPD of condensate and 0.500 MMscfd.

LOCATION
Tamaulipas, Mexico

FORMATION
Eagle Ford

WELL TYPE
Onshore horizontal gas and condensate

TUBING AND CASING SIZE
- 2-3/8 in. L-80 tubing
- 4-1/2 in. P-110 casing

TOTAL DEPTH
11,548 ft (3,520 m)

PACKER DEPTH
6,889 ft (2,100 m)

PRESSURE
- 658 psi flowing bottomhole
- 350 psi wellhead
- 160 psi flowline

PRODUCTS/SERVICES
- Plunger-lift system
- WellPilot controller

Weatherford®