



# Weatherford®

## REAL RESULTS

### Arrowhead® Insertable Progressing Cavity Pump Eliminates Need for Workover Rig, Saves Service Time and Cost

#### Objectives

- Enhance production of a heavy-oil well and save injected gas without using a workover rig. Wells in this field are typically produced with gas lift from a single injection point, but the heaviness of the oil (8° to 14° API) in this well resulted in recirculation of the injected gas without oil production. The operator needed an alternative means of lift to effectively and efficiently produce the well.

#### Results

- Weatherford's *Arrowhead* insertable progressing cavity pump (I-PCP) was run in 3 1/2-in. tubing and successfully installed.
- A workover rig was not needed, and this form of artificial lift did not require gas injection.
- After installation of the *Arrowhead* I-PCP, the well began producing 1.88 B/D (0.3 m<sup>3</sup>/day) per RPM (revolutions/minute) with a flow rate of 48 to 112 BFPD (5.7 to 13.4 m<sup>3</sup>/day).

#### Value to Client

- Weatherford's I-PCP alternative—the best suited for this heavy-oil application—delivered considerable cost and time savings on this well, leading the operator to use the same solution for other wells.
- Well service costs decreased and workover rig activities were improved as the well operated continuously for more than 390 days.



Weatherford's patented *Arrowhead* I-PCP design reduces the length of the assembly during running and pulling. The pump eliminates the need for production tubing to be pulled and re-run during servicing operations because the rod string is used to install or remove the I-PCP from the well, reducing operational time and cost.

#### Location

Villahermosa, Tabasco, Mexico

#### Flow Rate

48 to 112 BFPD (5.7 to 13.4 m<sup>3</sup>/day)

#### Casing Size

7 in. (178 mm), 23 lb/ft

#### Tubing Size

3-1/2 in. (89 mm), 9.3 lb/ft

#### Operating Torque

124 lb/ft

#### Pump Depth

2,956 ft (901 m)

#### Days of Operation

390 days

#### Sucker-Rod String

1 in. x 25 ft Gr D

#### Products/Services

- Artificial-lift services
- *Arrowhead* I-PCP

Weatherford  
Humberto Machado  
International Sales Rep  
humberto.machado@la.weatherford.com

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