



Weatherford®

REAL RESULTS

Chemical Regimen Reduces Pump Torque in Heavy-Oil Wells, Increases Production, Returns \$1.4 M Per Well Per Year

Objectives

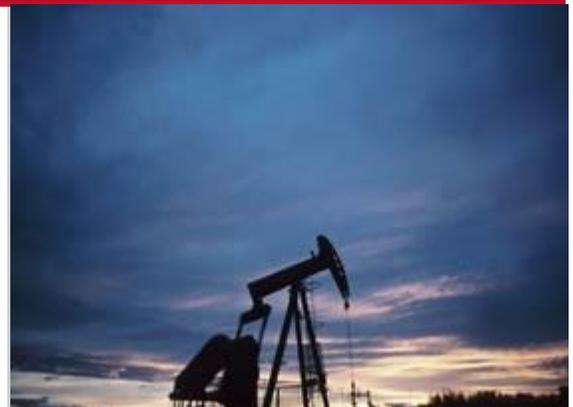
- Maximize production by reducing annular fluid levels in two heavy-oil wells. The operator experienced high annular fluid levels, with oil viscosities exceeding 110,000 cP at bottomhole conditions. As a result, the progressive cavity pumps were running on high torque and slow rate. Under these operational conditions, the wells typically produced approximately 31 B/D (5 m³/d) total production with an approximate water cut of 20%. The net oil rate was 25 B/D (4 m³/d).

Results

- Using *Tactical Technology*, Weatherford personnel developed a twice-daily regimen of production brine premixed with two separate heavy-oil chemicals, AX 232 BBHOC (brine-based heavy-oil chemistry) and SX 205 (heavy-oil friction reducer).
- Immediately after the start of the brine/chemical injection, the two wells experienced a dramatic decrease in hydraulic pressure, from riding the compensator at 2,900 psi (19.9 MPa) to stabilizing at 1,000 psi (6.8 MPa). This enabled the pump RPM to be increased in order to optimize the well production.
- Both wells demonstrated an increase in gross fluid production, 31 to 158 B/D (5 to 25 m³/d) with a 40% water cut. Net oil production increased from 25 to 95 B/D (4 to 15 m³/d).
- The trial resulted in a 375% increase in net oil production.
- With the continued success of this field trial, the operator is setting up a permanent, continuous chemical/brine injection system on these wells.

Value to Client

- Using Weatherford's AX 232 and SX 205 chemicals in a chemical/brine injection system enabled the operator to reduce pump torque in heavy-oil wells, increasing net oil production by 375%.
- Based on a \$55/bbl net back the operator should experience a net revenue increase from this incremental oil production valuing approximately \$1.4 million per year/per well.



The combination of Weatherford's AX 232 and SX 205 chemicals in a chemical/brine injection regimen enabled the operator to reduce annular fluid levels in two heavy-oil wells, increasing overall oil production.

Location

North Alberta, Canada

Formation

Bluesky Formation

Well Type

Onshore, horizontal, heavy oil

Hole Size

5-1/2 in.

Total Vertical Depth

1,968 to 2,296 ft (600 to 700 m)

Products/Services

- *Tactical Technology*
- AX-232
- SX-205

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