Expro Excellence

MPFM based portable testing improves field production allocation

Well Flow Management | Acumen

Objectives and background

- The customer was utilizing Expro Well Test Separators and another service providers conventional Multiphase Flow Meter to test brownfield assets
- The test data from over 200 producing wells was used for production allocation, but this did not provide a good match to the stock tank production
- The scope for conventional MPFM testing was limited due to challenging wells:
  - Low oil API
  - Low Gas Void Fraction (GVF) and flow rates
  - Varying water cuts
  - Emulsions
- Some wells are producing from multiple reservoir zones
- Pressure Volume Temperature (PVT) data was deemed to be unreliable for most of the wells being tested

Expro Excellence

- Expro performed a pilot testing campaign of eight wells utilizing its augmented 2600 MPFM skid incorporating state-of-the-art equilibrium phase sampler for onsite PVT analysis to demonstrate better testing performance on the challenging production wells
- Expro 2600 MPFM provided satisfactory results and accurate three phase flow rate measurements due to:
  - Higher resolution and more accurate electrical impedance-based water cut data with near wall water cut measurement more representative BS&W sampling
  - Range of replaceable insert Venturi sizes can be deployed in the field allows (different beta-ratio) to be obtained which in turn expands the MPFM 2600 operating envelope
  - Equilibrium Phase Sampler deployment has reduced the reliance on the customer's reservoir PVT data
- Over 200 wells in multiple fields with varying Gas Oil Ratios (GOR) and water cuts have been tested at a frequency of two wells/day

Value to the client

- Accurate production allocation data has been provided for all the fields tested so far with the customer adjusting their allocation factor as needed
- Lower Equipment and personnel footprint lead to lower Carbon emissions
- Electrical Submersible Pump (ESP) failure has been highlighted on multiple wells based on real-time production performance which enables the customer to plan for timely well intervention campaigns and subsequently optimize production

Insight

Bespoke solution

Contact

For further information please contact:
acumen@expro.com
or visit
expro.com/acumen