Challenge

Obtain accurate and reliable production testing measurements during cleanup operations, in a timely manner, from more than 120 oil wells onshore Venezuela.

Solution

- Deploy Schlumberger mobile production testing technologies and personnel, including a fit-for-purpose trailer-mounted surface well testing unit containing a separator, choke manifold, and emergency shutdown (ESD) system ideal for the dynamic operation.
- Integrate with Schlumberger CT technologies and services to consolidate resources and minimize third-party rental accessory costs.

Results

- Increased production testing efficiency and reduced footprint by employing robust modular technologies.
- Enhanced operational safety with fit-for-purpose equipment designed to the highest safety standards.
- Enabled rapid response times for project execution.

High-volume well cleanup campaign necessitates efficiency

For a campaign of more than 120 oil wells in the Furial and Punta de Mata fields of eastern Venezuela, PDVSA sought a compact production testing solution that would save space at the wellsite during the well cleanup phase. A package of standardized technologies and services would help optimize cleanup and surface well testing activities on such a vast spread of wells. With technologies and a standard operating procedure best suited for the environment, PDVSA could apply the same operational efficiency to multiple wells in the region with equipment and personnel committed specifically to its projects.

Standard operating procedure eases transition between multiple wellsites

The lean design of Schlumberger mobile production testing units enabled PDVSA to successfully test a greater number of wells per day, while maintaining a reduced wellsite footprint. A smaller manifold and separator were both introduced with no negative affect on the operating parameter envelope. The ease of transporting the mobile units enabled PDVSA to rapidly transport dedicated technologies and personnel from one wellsite to another.

"A standardized unit to optimize surface well testing cleanup activity in eastern Venezuela minimized mobilization and logistics time and the number of spare parts needed while increasing maintenance efficiency and measurement accuracy, quality, and frequency. The speedy delivery of new units facilitated fit-for-purpose equipment to cleanup activities in the Furial and Punta de Mata fields for easier and faster connection to the wellhead."

Operations personnel, PDVSA

PDVSA Optimizes Surface Well Testing Operations with Fit-For-Purpose Mobile Production Testing Units

Operator deploys compact units to increase efficiency of dynamic well cleanup campaign, onshore Venezuela

Mobile production testing units reduced rig-up and rig-down time during a large multiwell operation in Venezuela.
CASE STUDY: Compact units deployed for increased efficiency during well clean up, onshore Venezuela

Mobile production testing units integrate seamlessly with wellsite operations

To effectively obtain measurements during cleanup from wellsites with limited space, PDVSA worked with Schlumberger to select efficient, fit-for-purpose mobile production testing units to meet surface well testing objectives. The modular mobile units were outfitted specifically for PDVSA’s operations and ensured the availability of technologies and experienced personnel best suited for the multiwell project. With a large number of wells requiring testing across the region, the mobile production testing units offer PDVSA operating efficiency beyond that of traditional nonmobile options.

The design of the mobile units took into consideration Venezuelan restrictions on imports and equipment on wheels without sacrificing efficiency. An onboard separator handles both high and low gas flow rates, while a 10,000-psi choke manifold and ESD system help ensure proper well control. With an agreed-upon design Schlumberger can rapidly mobilize additional units and spare parts to supply the high volume of PDVSA activity. And, with other Schlumberger resources readily available, CT or wireline operations can be easily integrated with existing surface well testing operations.

“We are satisfied with the results of using the mobile production testing units; we noticed an improvement in quality compared to other service companies, and even compared to standard cleanup methods. We look forward to deploying similar units with multiphase metering technology onboard.”

Operations personnel, PDVSA

The deployment of the fit-for-purpose combination of Schlumberger technologies and personnel at multiple PDVSA wellsites increases measurement efficiency during cleanup.