Schlumberger

Fast Separation Solves Cleanup Issues Offshore Australia

Well deliverability and contaminant-free production was achieved by maximizing flow rates through a dual high-capacity separator configuration

Production ExPRESS* rapid production response solutions achieved cleanup for three wells with high condensate/gas ratio at rate of 150 MMcf/d through high-capacity separators operated in tandem, without bypass. The EverGreen* minimal environmental impact well effluent burner supported low-emissions flaring.

Producing without cleanup caused liquid contamination

An operator offshore Australia wanted to clean up three wells flowing at 150 MMcf/d through a temporary well test separator. Bypassing separators on previous campaigns and producing without cleanup had resulted in liquid contaminants entering the system. In addition, a subsea well with a high condensate/gas ratio required separation at 150 MMcf/d to minimize the risk of fallout at the flare. The operator needed a timely solution to reliably clean up the ultrahigh-flow-rate wells and measure the output to verify deliverability.

Twin-train fluid preconditioning used advanced technology

To manage the high flow rates effectively, a Production ExPRESS solutions fluid preconditioning package was deployed with high-capacity twin separators. To ensure the best results, the customized solution design included studies of flow regimes, thermal expansion, and relief system design, as well as simulations of flaring heat and noise. The operations were digitally integrated via the Concert* well testing live performance system, which uses software, sensors, and cameras deployed across the wellsite to provide real-time monitoring, improve data analysis, and confirm environmental conformance through its flare monitoring feature.

Drilling and production platform handling high-flow-rate gas wells with high condensate ratio offshore Australia.

Other important solution components, assembled for the first time globally, included

- boom chokes to reduce erosional velocities and hydrate formation
- upstream y-spool to split flow into two trains (90 MMcf/d and 60 MMcf/d)
- EverGreen burner to ensure 99.84% combustion efficiency
- SIL 2-rated electrical emergency shutdown to mitigate risks associated with high-flow-rate wells.

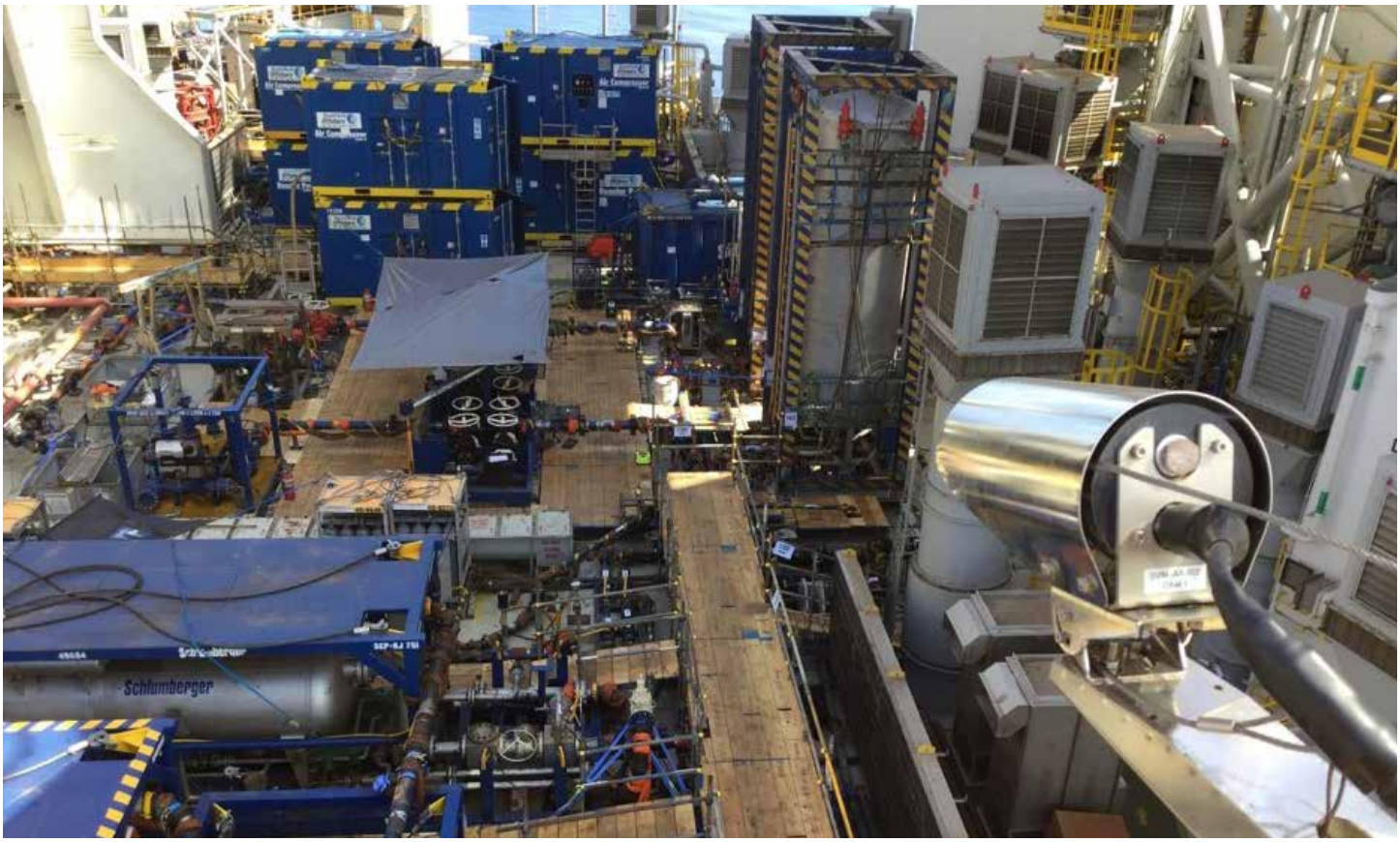
Cleanup solution reduced time requirements

The dual separator configuration made it possible to maximize flow rates to 150 MMcf/d during well cleanup and to prove deliverability while

- confirming the wells were clean at the maximum planned production rates to minimize immediate and future contamination of the production system
- verifying well deliverability prior to handover
- reducing the time required for cleanup as a function of the total gas volume produced.

Data sharing using the Concert performance system lowered the risk of miscommunication between crew members and enabled quick response to operational triggers through advanced diagnostics and computation. The system transformed the operator's well test experience into a digital ecosystem where all key participants were connected and alerted to make timely, informed decisions.

Case study: Fast separation solves cleanup issues offshore Australia



Production ExPRESS solutions fluid preconditioning package deployed on deck at the operator's platform.

> **"Schlumberger provided us with a highly bespoke, robust flowback solution to an extremely challenging set of wells. The technical support locally and globally was accurate, detailed and timely, and the well test crew who performed these unique flowbacks was outstanding."**
>
> Well test engineer

slb.com/ProductionExPRESS

Schlumberger