



# Weatherford®

## REAL RESULTS

### OmniWell® Permanent Downhole Optical Monitoring System Provides Real-Time Production Monitoring, Optimization, and Daily Allocation

#### Objectives

- Provide a safe, efficient, and simple field-wide monitoring solution to obtain reliable and accurate measurements for phase flow rates, pressure and temperature (P/T), and traces from distributed temperature sensing (DTS) for each well. The client required a solution that would be functional for the life of the field and would support future expansion of the field.

#### Results

- Weatherford installed an OmniWell® permanent downhole monitoring system (PDMS) with a single topside instrumentation. For each well, the system included Rheos™ in-well optical two-phase flowmeters (Rheos2P), CanePT optical P/T gauges, and DTSPPlus™ optical distributed temperature sensing (DTS) systems. Weatherford provided project monitoring and continuous technical support.
- Initially, the installed system was to include 27 wells. The project was expanded to include 37 wells based on the performance, reliability, and flexibility of the installed system.
- Once the system was installed, the client started logging data for real-time production monitoring, optimization, and allocation.
- The P/T gauges allow for drawdown management and sand control; the DTS systems provide leak detection and confirmation.
- The system provides the data necessary for distributed temperature profiling for calibration and flow correlation in well performance modeling, as well as gas lift monitoring and management to check injection points.
- Because the measurements are bidirectional and independent of fluid type, the system allows the operator to change any of the wells from producer to injector.



The Weatherford OmniWell PDMS provides safe and reliable real-time production monitoring and optimization for 37 offshore wells.

**Location**  
North Sea

**Well Type**  
Offshore Oil

**Number of Wells**  
37

**Products/Services**  
OmniWell PDMS consisting of

- In-well optical Rheos2P two-phase flowmeters
- CanePT optical P/T gauges
- DTSPPlus optical DTS systems

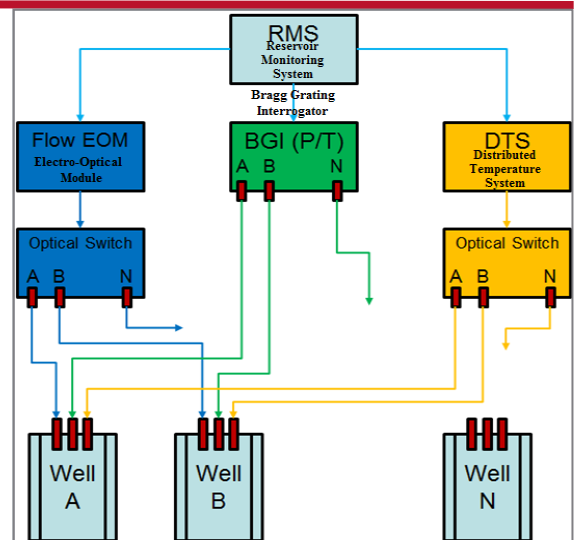


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### Value to Client

- The Weatherford PDMS proved its reliability and necessity for real-time production monitoring, optimization, and daily allocation. The system became essential for determining well performance and provided better well integrity management, such as leak detection.
- The single topside instrumentation of the PDMS gave the client the flexibility to add new wells when needed. Furthermore, using one topside instrumentation for all 37 wells reduced the initial investment.
- The PDMS enabled the client to convert one producer to a water injector and one to a gas injector with no additional cost for the monitoring system.
- The PDMS enhanced problem diagnostics by enabling the client to identify when there was a mismatch between the real-time values and model predictions.
- The PDMS allowed the client to reduce the frequency of testing with test separator from once a month to once every three months, which resulted in a quantitative impact on deferment by about 5%.



The Weatherford OmniWell PDMS included in-well optical Rheos2P two-phase flowmeters, CanePT optical P/T gauges, and DTSPiPlus optical DTS systems for each well and was operated by a single topside instrumentation for all wells in the field.

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