

# ForeSite<sup>®</sup> Sense Reservoir Monitoring

## Eliminated Electronic-Sensor Failures and Delivered Reliable and Stable Reservoir Data

### Objectives

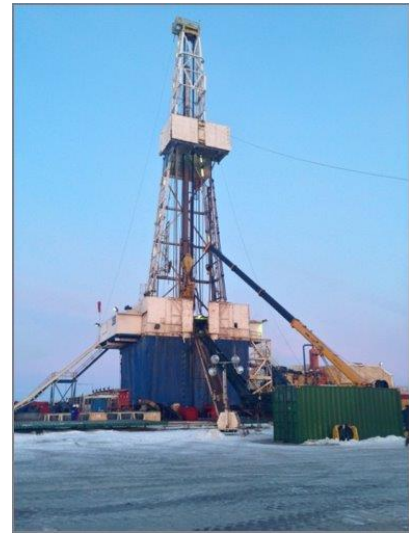
- Deliver reliable, downhole reservoir-monitoring data in a well with electronic pressure/temperature (P/T) gauges that are prone to failure

### Our Approach

- After a thorough pre-job analysis, a Weatherford team recommended ForeSite Sense reservoir-monitoring solutions to replace the downhole electronic gauges. This included ForeSite Sense optical sensors which were to be mounted on nickel-alloy mandrels and run to depths of 15,978 ft (4,870 m) and 15,758 ft (4,803 m) along with a ForeSite Sense data-acquisition system.
- At the surface, a 10-kpsi (689.5-bar) rated optical-wellhead outlet was installed with an adaptor interface to the wellhead. The field crew performed cable-to-cable splicing to facilitate the depth separation of the ForeSite Sense optical sensors and to ensure a long-life connection with the downhole cable.
- The client, who placed high importance on the FAT, SIT, and stack-up testing, personally oversaw the results and was pleased with the process.

### Value to Customer

- The Weatherford ForeSite Sense reservoir-monitoring solution offered the client increased reliability and stability of well data by replacing the downhole electronic components with optical technology. The optical gauges employ Bragg grating sensing technology to provide substantially less drift over time than electronic gauges.
- To date, the sensors have operated failure-free.
- The superior planning and installation enabled a smooth entrance for optical sensors in Kazakhstan, earning the field-operations crew 100%-positive client feedback.



ForeSite Sense reservoir-monitoring solutions utilizing an optical-sensor and data-acquisition system provided real-time reservoir data and eliminated the cost of mobilizing personnel to retrieve reservoir data manually.

#### LOCATION

Aksai, Kazakhstan

#### FIELD

Karachaganak

#### WELL TYPE

Onshore flowing-oil producer

#### CASING SIZE

9-5/8 in.

9-7/8 in.

#### GAUGE DEPTH

15,758 to 15,978 ft (4,803 to 4,870 m)

#### PRODUCTS/SERVICES

ForeSite Sense reservoir monitoring

ForeSite Sense optical sensor

ForeSite Sense data acquisition unit

