Expro Excellence

Instrumenting water injector wells to improve field development decisions

Wireless Well Solutions

Objectives and background

- Our Mexico-based customer planned for water injector wells as part of their shallow water offshore development campaign

- The customer required early field production monitoring to determine optimal injection rates

- The monitoring system needed to work from a production platform and data transmitted through SCADA system

- Pressure measurements were needed from as close to the sandface as possible but without obstructing water injection regimes

Expro Excellence

- CaTS™ downhole wireless gauges were successfully installed in two water injection wells on an offshore platform in Mexico

- Gauges were pre-set in No-Go nipple profiles on the drill floor using a tugger line without the need for a wireline unit, saving the customer extra time and cost

- The gauges were installed in perforated tailpipe assemblies, set below the production packer. This prevented any water injection flow restrictions into the target zone

- A downhole signal pick-up assembly was installed on the upper completion with 1/4" TEC line running to surface and terminated into the CaTS Surface receiver panel

- The gauges were programmed with a delayed start time to ensure the lower completion 7" VCA packer was set in hole, plus sufficient time to run the upper completion and receive gauge transmissions at surface prior to landing the upper completion

- This was the first time installing this CaTS configuration in an injection well on a platform

Value to the client

- Downhole wireless gauges installed close to the sand-face provided a solution for monitoring future injector wells to define our customer's long term field injection strategy

- Downhole pick-up with TEC cable to surface ensures robust communication to surface and increases system monitoring life

- Expro surface receiver was interfaced up to the existing SCADA system, allowing downhole pressure and temperature monitoring from onshore (Data-to-Desk) in real-time

Insight

Cost saving