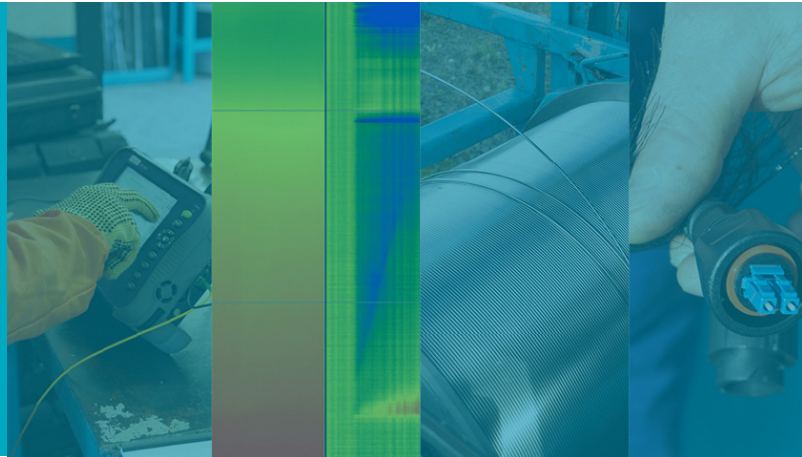


## Expro Excellence

# Expro's Distributed Fiber Optic Sensing (DFOS) – Know where your leak originates

## Well Intervention and Integrity



### Objectives and background

- The main challenge for the customer was in providing well integrity assessment to a producing well, which showed sustained pressure and high-water production through an outer annulus. The well was in an area of productive farms and in the vicinity of a densely populated city, so consideration had to be taken to preserving the delicate ecological balance when conducting well surveys and intervention
- The challenge was in detecting the pressure and fluid source and path into the outer Annulus
- Sustained pressure in the Annulus reached 83 psi and when bled off produced 130bbl/day of water and associated gas production. Tubing pressure was 750psi with production of 72 bbl/day of oil, 556 bbl/day of water and 45900 scf/day of gas
- The main requirement was to determine the source of fluid entry to the outer Annulus and rule out communication between the deeper productive intervals and pressured Annulus
- The customer wished to improve their operational performance and were keen to incorporate innovative solutions that maximized results, time, cost savings and minimized environmental impact

### Expro Excellence

- Expro have direct contact between their technical experts and operations teams allowing quick responses, advice and support to their live operations
- Our main differentiator was in our ability to implement innovative solutions. Expro are the only company in Argentina that offers Distributed Fiber Optic Sensing (DFOS) services for well integrity evaluation
- Faced with local operational issues in deploying new technology, this was overcome by training, procedures, and cohesive teamwork

### Expro Excellence

- The Expro DFOS solution achieved a full DFOS survey of the whole well including a bleed and production phase within hours and delivered an integrated quicklook data within 24hrs
- If Expro had not provided this solution, the customer would have had to carry out the remediation by trial and error with increased uncertainty and a higher cost implication

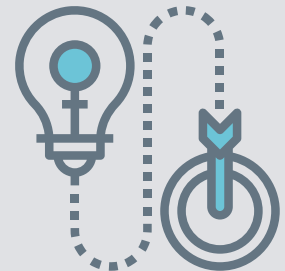
### Value to the client

- The DFOS survey results enabled the customer to locate the fluid source and the path of the pressure build-up in the outer Annulus and the exact location of the fluid entry point
- In addition, this survey was also able to clearly identify the zones which were contributing to their well production, enabling the customer to conduct targeted stimulation in the future which would increase their production capacity
- Our DFOS technology resulted in fewer operating hours with savings in field personnel, wireline equipment and bleed off equipment costs
- Expro DFOS answered the primary objectives of the client within hours of gathering the data and provided added value with surveillance over the productive interval
- The client has a clearer understanding of the source and potential remediation options for the sustained casing pressure as well as rate enhancement options for the productive interval

### Cost saving



### Innovative solution



### Contact

For further information please contact:  
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