**Case study:** LeakPoint®/A10

Locating barrier leak rapidly and accurately in new complex completion delivers substantial operator savings

**Challenge**

A failed pressure test following the installation of a new completion in a North Sea oil producer led to the discovery of a 2 L/min leak. The leak presented the operator with a difficult choice: undertake a lengthy troubleshooting process or pull the completion. Further concern about wash-out damage to completion equipment made a quick, yet reliable, solution imperative.

Several leak sources were suspected. These included three gas lift valve (GLV) dummies and a chemical injection valve dummy. The completion also included a new packer, which had not been set, and a lower-set production packer.

A plug at 3,827 ft limited the possibility of deeper leak points.

**Region:** North Sea, Norway  
**Well type:** Newly-completed producer

**Case benefits**

- Portable diagnostic system enabled fast mobilisation and deployment
- Rapid, accurate diagnosis enabled targeted remediation
- Rapid remediation avoided risk of completion wash-out damage
- Customer stated intervention and production savings amounted to millions of dollars

**Key capabilities**

- Locates barrier leaks downhole rapidly, accurately, clearly and completely
- Two LeakPoint options, /A10 and /A30 according to complexity of failure
- Tiered pricing linked to complexity minimises cost of diagnosis
- Evaluates sealing performance of well barriers and complements other integrity management procedures
- Enables confident decisions and better-targeted remediation
- Independent validation of remediation treatment or P&A
- Mitigates integrity risk

**Leak clearly evident at GLV dummy. The peak reveals the exact location of the leak point.**
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Solution
A LeakPoint/A10 programme was selected and completed in under 10 hours. This precisely located a leak in the upper GLV dummy, which was retrieved and found to be damaged.

Results
The LeakPoint survey provided the precise location of a difficult-to-pinpoint and potentially expensive leak. The survey also verified the integrity of the other completion components within the well.

The failed GLV dummy was replaced, a pressure test was performed and no further leakage was found.

The customer stated that the LeakPoint programme had helped to avoid lost production, recompletion and further intervention costs, saving the operator millions of dollars.

Retrieved GLV dummy (bottom) with its damaged seal. A healthy GLV replacement is shown (top).

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