

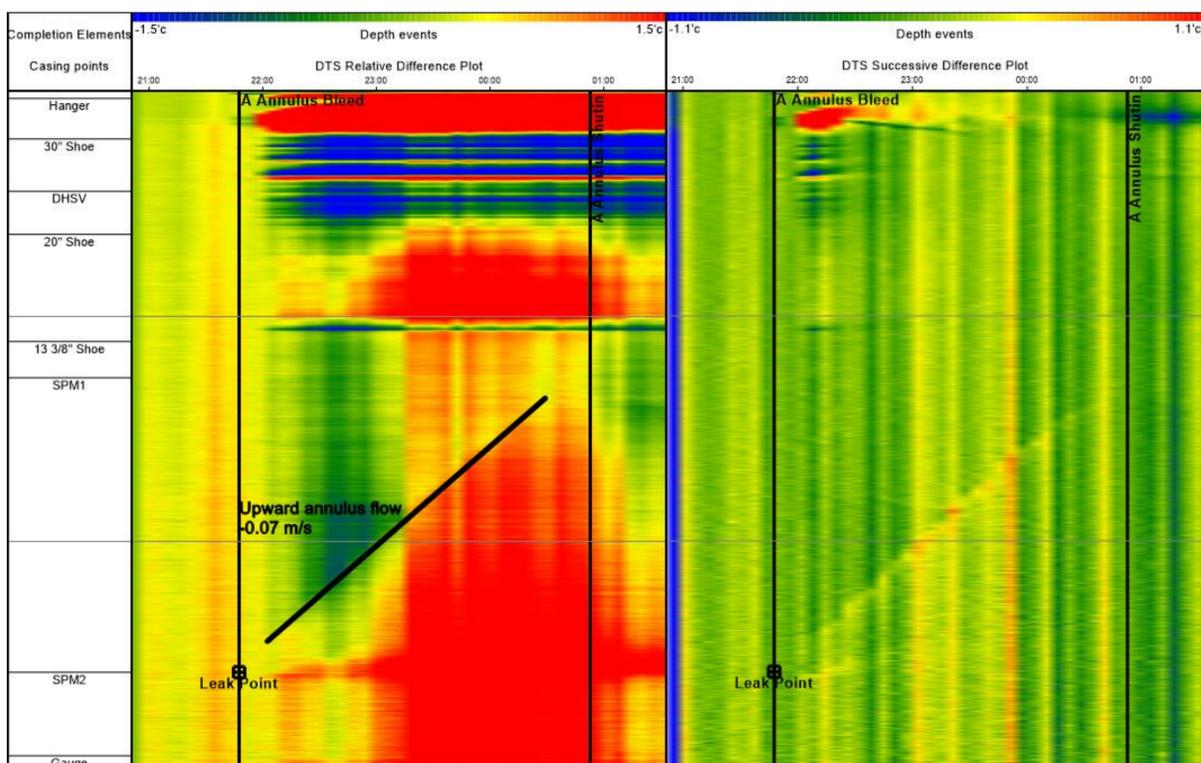
“The simple way to check well integrity”

The Problem

A gas lifted well suffering from tubing annulus communication forced the Operator to close it in resulting in a 2000 bopd loss of production. Limited time and access meant the well had to be surveyed and results quickly processed to allow remediation during the same rig-up.

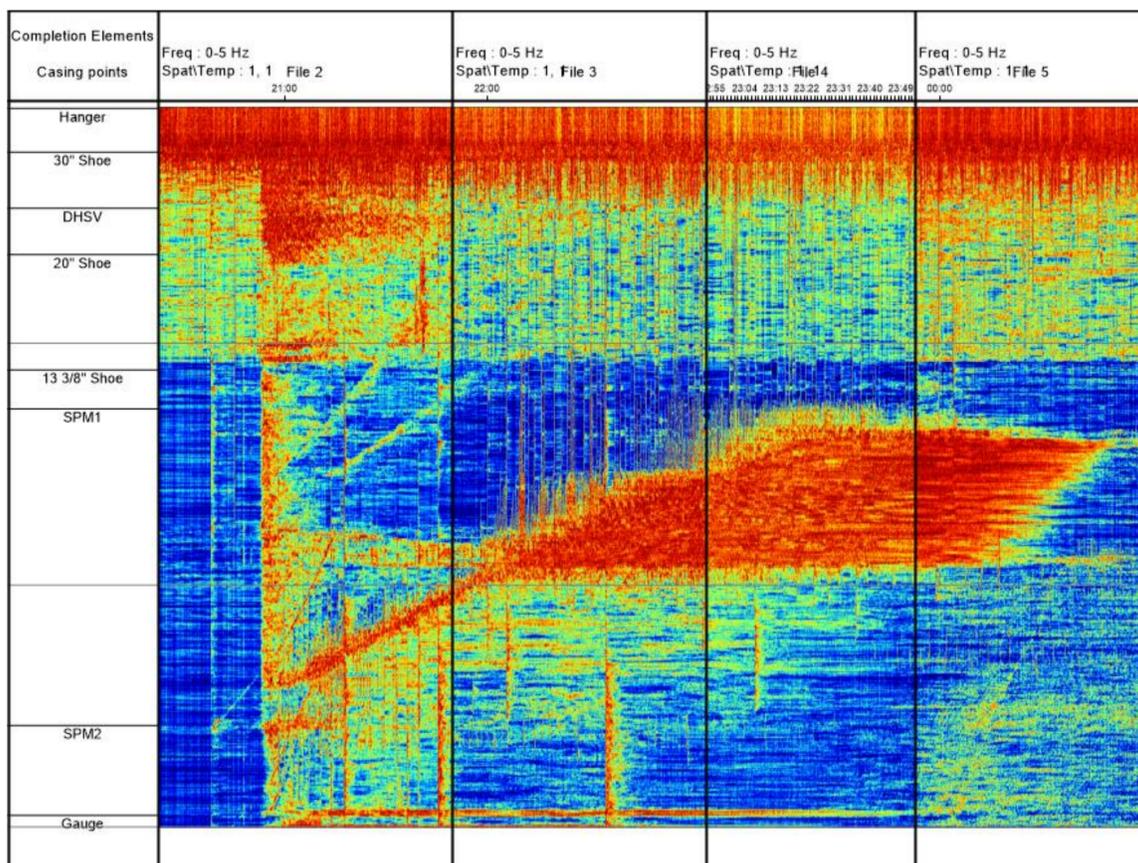
The Solution

A DTS/DAS fiber survey was run to the bottom of the tubing and annulus pressure bled off for 4 hours to induce fluid movement and help identify the source of the problem.

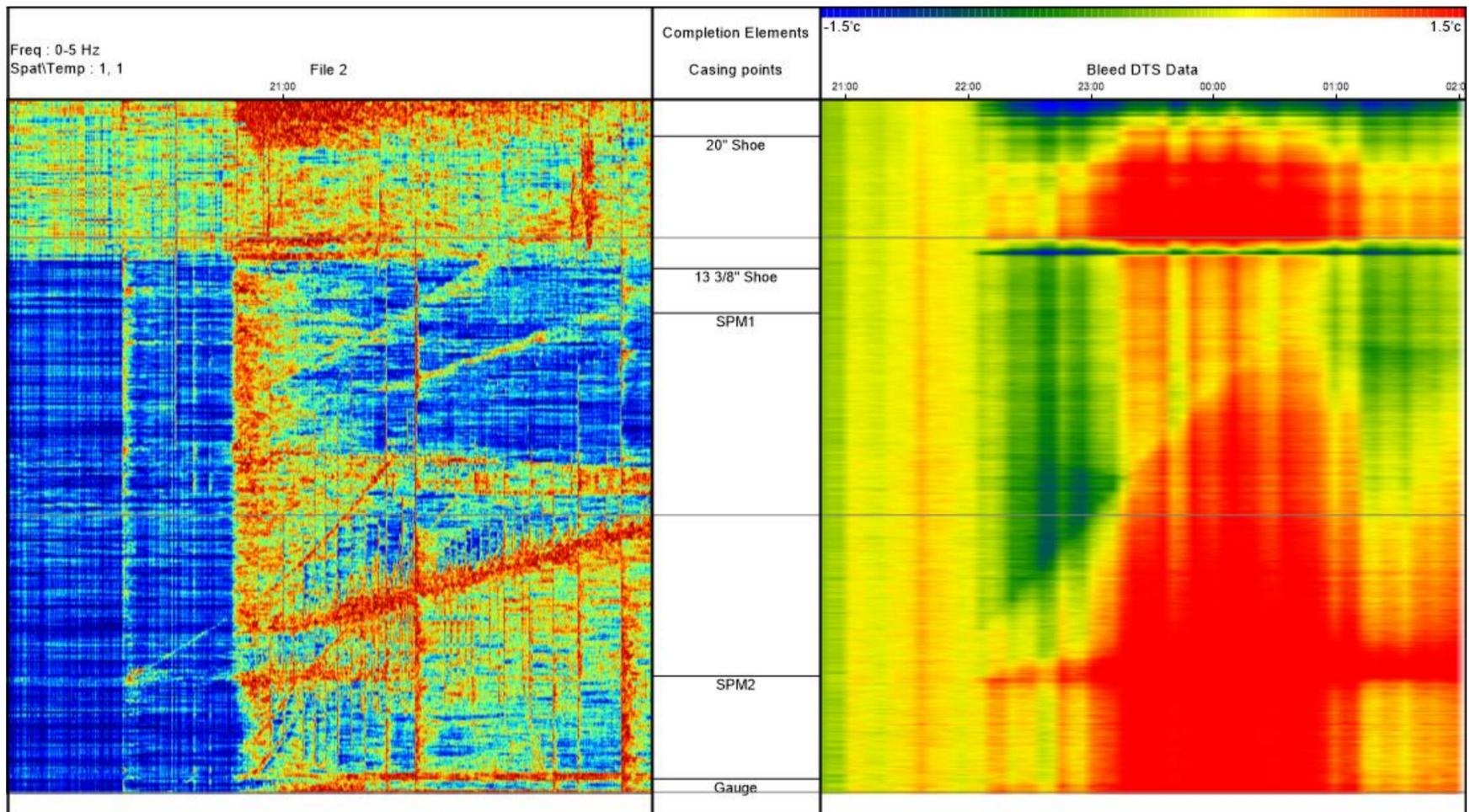


The SolaSense QikView application was used to display the DTS data in two of the available display types. These difference plots indicated a leak at the lower side pocket mandrel and fluids moving up the A annulus during the pressure bleed.

DAS data recorded was processed using the SolaSense HOTDas application and imported into QikView. It confirms the observations from the DTS data showing the leak at the lower side pocket mandrel.



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Operational Summary

- Existing slickline crews and pressure control equipment used for the survey
- Drum of fiber slickline along with optical interrogation units shipped to site
- Only one specialist crew member needed per 12hr shift
- Entire well surveyed over the 5 hour annulus bleed period
- GR/CCL/Temp/Pres point sensors recorded on memory during the same run
- Quick look analysis performed in time to decide how to restore the well during the same well rig-up

The Results

- Annulus /tubing leak identified as a faulty gas lift valve in mandrel 2
- Annulus and tubing pressure and volume data confirm the rate of increase in annulus fluid inferred from the DAS and DTS data
- Gas lift valve replaced during the same rig-up restoring 2000 bopd production
- Additional issue identified above a shallower casing shoe providing valuable data for eventual well abandonment
- Operation carried out with 24hr cover with 2 additional crew and minimal equipment on site