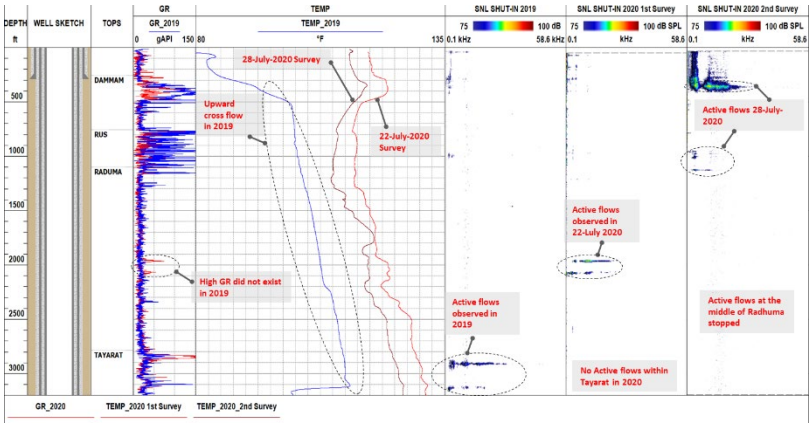
Advanced Well Integrity, Reservoir Monitoring Analysis Identified Leak Zones Stemming from Corrosion, Avoided Catastrophic Blowout



The SNL-HPT comparison, 2019 vs. 2020 (1st: 22 July and 2nd: 28 July)

Objectives

- Perform well integrity logs and provide a comprehensive report on potential well integrity issues after a blowout in a nearby well. The well was producing 1,999 bpd with 66% water cut and the customer suspected the presence of trapped gas in several formations.

Our Approach

- Field personnel ran different reservoir monitoring and well integrity logs: MIT, URS, MTD, a corrosion tool, and a SNL-HPT.
- Weatherford's Interpretation and Evaluation experts analyzed the data and confirmed the presence of gas inside different formations that migrated from a lower formation due to corrosion and a poor cement job.
- In 2020, a well integrity analysis was conducted as per the maintenance schedule. The result of the first logging run indicated the fluid flow originally observed in 2019 was still present and the root causes of the flow were identified.
- A remediation plan was developed to resolve the issues identified. After the remediation activity was completed, a second logging run validated that the undesired fluid flow was eliminated. The second logging pass confirmed the remediation activity met the customer objectives and the well could be returned to service.

Value to Customer

- The log integration identified significant well integrity issues, enabling the customer to take proactive corrective actions, saving millions by avoiding a leak or a catastrophic blowout.

LOCATION
Middle East

WELL TYPE
Vertical injector

FORMATION
Radhuma

HOLE SIZE
12-1/4 in.

CASING SIZE AND TYPE
9-5/8 in., #40, L-80

DEPTH
5,382 ft (1,640 m)

PRODUCTS/SERVICES
- Multifinger imaging tool (MIT)
- Ultrasonic radial scanner (URS)
- Multi-thickness detector (MTD)
- Spectral noise tool with high-precision temperature gauge (SNL-HPT)

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