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Press release

TGT announces Middle East well diagnostic breakthrough



Note to Editors

About TGT Oilfield Services
TGT is a recognised leader
in oilfield measurements.

We create the world's most powerful
through-barrier diagnostic systems.

Decades of applied research and an
enduring commitment to geoscience
and technology innovation have
enabled us to harness the power of
heat, acoustic and electromagnetic
energy, to reveal deep insights
about well and reservoir dynamics.

Our customers globally trust the
critical information we provide, from
inside and far beyond the wellbore,
to ensure asset integrity and
ultimate production performance.

For more information visit
tgtdiagnostics.com

EmPulse® multi-barrier integrity diagnostics system, successfully tested on 28% chromium tubulars, ensuring asset integrity and better well performance in challenging production environments.

TGT Oilfield Services, the market leader in through-barrier diagnostic systems, has announced the successful validation of its electromagnetic EmPulse® well inspection system in high chromium tubulars.

In three Middle East deployments – one an operator witnessed 'yard test' and the other in two live wells – TGT engineers demonstrated that the EmPulse system can quantitatively determine the individual tubular thickness of up to four concentric barriers, even when there are high amounts of chrome in the tubulars.

Ken Feather, TGT's chief marketing officer commented, "This achievement marks an important industry breakthrough as operators endeavour to protect well integrity in ever more challenging production environments.

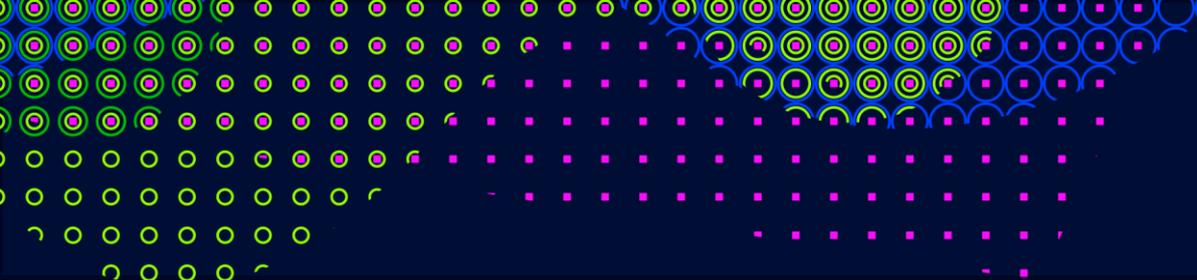
Increasing chromium content helps to protect well completions from highly-corrosive fluids, such as carbon dioxide, hydrogen sulphide and chloride—but high-chrome can cause serious problems for ordinary electromagnetic pipe inspection systems."

He continues, "It's essential that operators can access integrity inspection systems that work reliably and accurately throughout the well system in all environments and materials, especially where corrosive and toxic fluids are involved. This is why we created the EmPulse diagnostic platform."

The increase in chrome and the resulting decrease in ferrous content causes electromagnetic [EM] signals to decay too quickly for ordinary EM inspection systems. Designed and manufactured completely in-house by TGT scientists and engineers, the EmPulse system combines ultra-fast sensor technology with 'time-domain' measurement techniques to capture EM signals rapidly and accurately in a wide range of pipe materials, including those with high-chrome content. This enables operators to evaluate pipe thickness and metal loss in multiple casing strings simultaneously, ensuring long-term well performance even in the most challenging production environments.

"The ability of EmPulse technology to make measurements when facing specialised materials in certain well tubulars marks a significant breakthrough for TGT and the industry as a whole," said Simon Sparke, TGT integrity expert and coordinator of the high-chrome testing programme.

"That's why today's test results are so important, demonstrating how the EmPulse system of sensors, measuring techniques, processing and answer products can deliver fast response corrosion information, address a crucial information gap, and help protect well integrity in challenging production environments. We anticipate that EmPulse will be particularly applicable for the Middle East operators, and also some fields in the Gulf of Mexico, the North Sea and offshore Brazil."



TGT's EmPulse technology adds considerably to the integrity security of a well by providing barrier-by-barrier visualisation of the well operating envelope at the time of logging. The time-based measurements, enabling the system to quantify metal loss in up to four barriers independently and deliver highly sensitive and fast response measurements, brings with it significant advantages over frequency-based measurements offered by other systems.

The Middle East operator witnessed 'yard test' consisted of a 28% chrome pipe with built-in mechanical defects where the high-speed EM sensor technology of EmPulse confirmed and correctly identified the man-made problems in a controlled environment.

The second operation took place in two live Middle East wells in a very high hydrogen sulphide gas production scenario with 28% chrome tubulars. In this case, the EmPulse system again functioned as planned, and recorded the status of three well barriers. Additionally, a multi-finger caliper recording confirmed the electromagnetic results for the condition of the inner pipe.

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