

SPECTRUM® Services Enable Zero Downtime for Wells When Performing Perforation Evaluations

SPECTRUM AND PLT SENSORS DELIVER REAL-TIME VIDEO FEEDS OF PERFORATIONS IN EACH ZONE, WHILE MAINTAINING WELL PRODUCTION, IN A SINGLE RUN

COLOMBIA

CHALLENGES

- » Perform a perforation evaluation while flowing oil and gas
- » Minimize the number of trips and the amount of equipment on location
- » Keep tool string short to reduce the rigging height

SOLUTIONS

- » SPECTRUM® FUSION real-time hybrid coiled tubing services that integrate fiber-optic and electric communication and power with a full array of onboard sensors
- » SPECTRUM 360 side-view camera with real-time video feed
- » Integration with wireline PLT
- » Application of various types of sensor technology, as needed:
 - Gamma ray
 - Casing collar locator
 - Pressure
 - Temperature
 - Weight on bit
 - Torque

RESULTS

- » Reduced overall cost and impact of services by maintaining well production during the evaluation
- » Minimized surface equipment requirements by combining coiled tubing and wireline applications into a single run, and integrating multiple tools into a single BHA
- » Identified slotting due to abrasive jetting
- » Lessened rigging height with shorter PLT string length

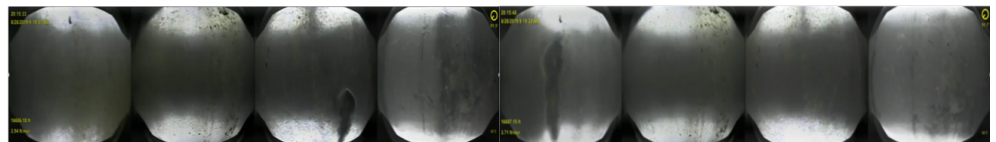
OVERVIEW

A live well in Colombia needed a perforation evaluation while flowing 42 mmcsfcpd of gas and 3,200 bpd of oil. Each zone was monitored with a 360°-view camera producing a real-time video feed for a total of 36 hours. The bottomhole temperature (BHT) of the well was 230°F (110°C).

HALLIBURTON INTEGRATES SPECTRUM SERVICES WITH WIRELINE PLT

Halliburton Production Solutions and Wireline & Perforating teams evaluated the well conditions and recommended technologies to perform the operation in a single trip while flowing oil and gas. By integrating multiple tools – coiled tubing and wireline applications – into one bottomhole assembly (BHA), SPECTRUM® FUSION and SPECTRUM 360 services, as well as gamma ray (GR), casing collar locator (CCL), pressure (P), temperature (T), weight on bit (WOB), and torque sensors were combined with the wireline production logging tool (PLT) to create a single-tool assembly.

This job minimized the amount of equipment required on location and kept the tool string as short as possible, reducing stack height. The WOB sensor supplied string forces input, while the CCL and GR sensors were used only as a backup, thus reducing the PLT string length. The SPECTRUM 360 camera allowed identification of slotting that had occurred during abrasive jetting.



Series of video feed images from SPECTRUM® 360 camera, identifying slotted perforations

The job was successful in maintaining well production throughout the entire evaluation procedure, thus reducing the overall cost with minimal impact of the services.

To find out more, please visit: halliburton.com/spectrum

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