

MANAGED WIRELESS
PERFORATING

TRIGGER FIRES GUNS IN A DEEP WATER WELL TEST WITHOUT THE USE OF A PRESSURE SIGNATURE

CROSS-FIRE

JANUARY 2015

PRODUCT:

DATE:

CASE STUDY:
1005/01

LOCATION:

North Atlantic

SERVICE:

Perforating Services

BENEFITS

Perforating Efficiency

Flexible Technology

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A TWO ZONE DST WAS PLANNED ON A DEEP WATER WELL TEST IN THE NORTH ATLANTIC IN WINTER. ENVIRONMENTAL CONDITIONS WERE EXPECTED TO BE HARSH.

TO INCREASE EFFICIENCY AND MITIGATE THE EFFECT OF INCLEMENT WEATHER, THE CLIENT EMPLOYED METROL'S PARAGON WIRELESS TELEMETRY TO ACHIEVE TEST OBJECTIVES AND TROUBLESHOOT PROBLEMS AS THEY AROSE.

INTEGRATED INTO THE PARAGON WIRELESS SYSTEM WAS METROL'S NEW CROSS-FIRE WIRELESS FIRING HEAD...

CHALLENGE

The client wanted to have the ability to fire the TCP guns with no intervention, with a balanced hydrostatic and no applied pressure to the tubing. There had been pre-job discussions about the number of tools in the BHA, pressure test windows, dynamic underbalance, cement bond limitations etc.

The well was planned as a contingent two zone test, with the intention to select fire each zone and perform a final commingle.

It was essential, therefore, to monitor the hydrostatic real time and initiate the 'fire' command as it would not be possible to rely on a 'pressure signature' system to perforate the second zone.

METHOD

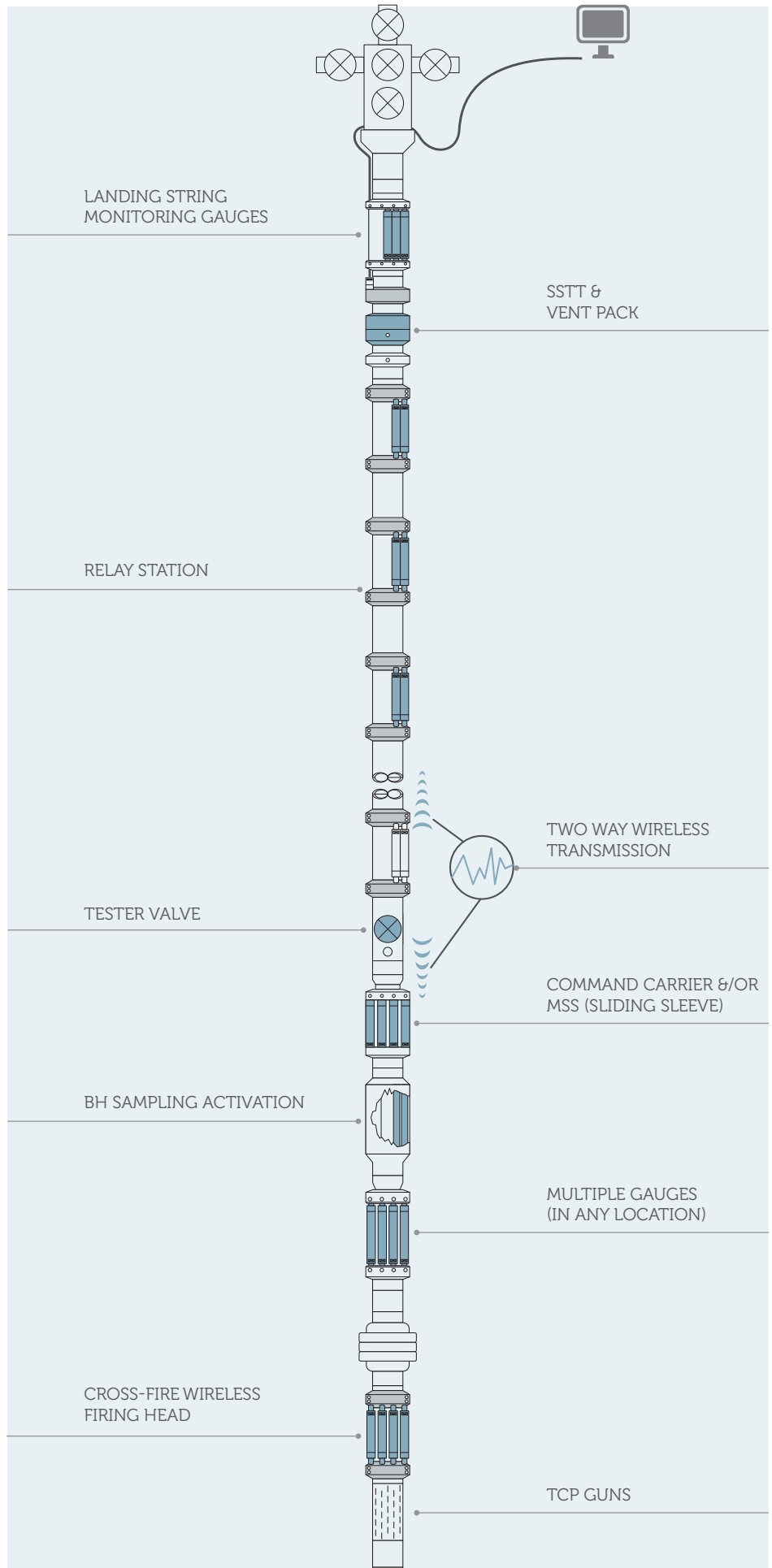
The CROSS-FIRE was attached to the Halliburton hydrostatic firing head and run-in-hole with PARAGON Wireless Telemetry System. There was a lot of down-time due to the inclement weather both before and after running in-hole, but the CROSS-FIRE had been programmed in power save mode to conserve battery power. In fact, thirty-one days elapsed from the time CROSS-FIRE was started to the time the tool fired.

The PARAGON System was used to trigger eight 3rd party BH samplers as well as confirm tester valve position by reading fluid gradients and differential pressures.

RESULTS

The prime and fire commands delivered to CROSS-FIRE successfully triggered the guns, with one of the oculus gauges set on 32pts/sec capturing the event in high time definition (see plot below).

Apart from the analogue pressure confirmation below, electronic confirmation and tool status was received from CROSS-FIRE using bi-directional PARAGON Wireless Telemetry.



CASE STUDY INDEX

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