

Well Test Depth Correlation Saves 150 h in Operating Time over Campaign

Symphony testing Position wireless correlation tool eliminates time and cost of additional intervention on wireline in offshore appraisal wells

The Position tool integrated in the Symphony* live downhole reservoir testing string provides critical data in real time—eliminating the need for a separate wireline correlation log—to ensure accurate perforating gun positioning in thin pay zones.

The operator's goal

To assess reservoir quality and deliverability, an operator wanted to perform a campaign of appraisal well drillstem tests (DSTs). However, the necessary depth correlation before setting the packer is conventionally conducted with a wireline intervention run to acquire a correlation log. Switching conveyance systems adds time and cost to the DST for each well.

How Schlumberger provided wireless correlation

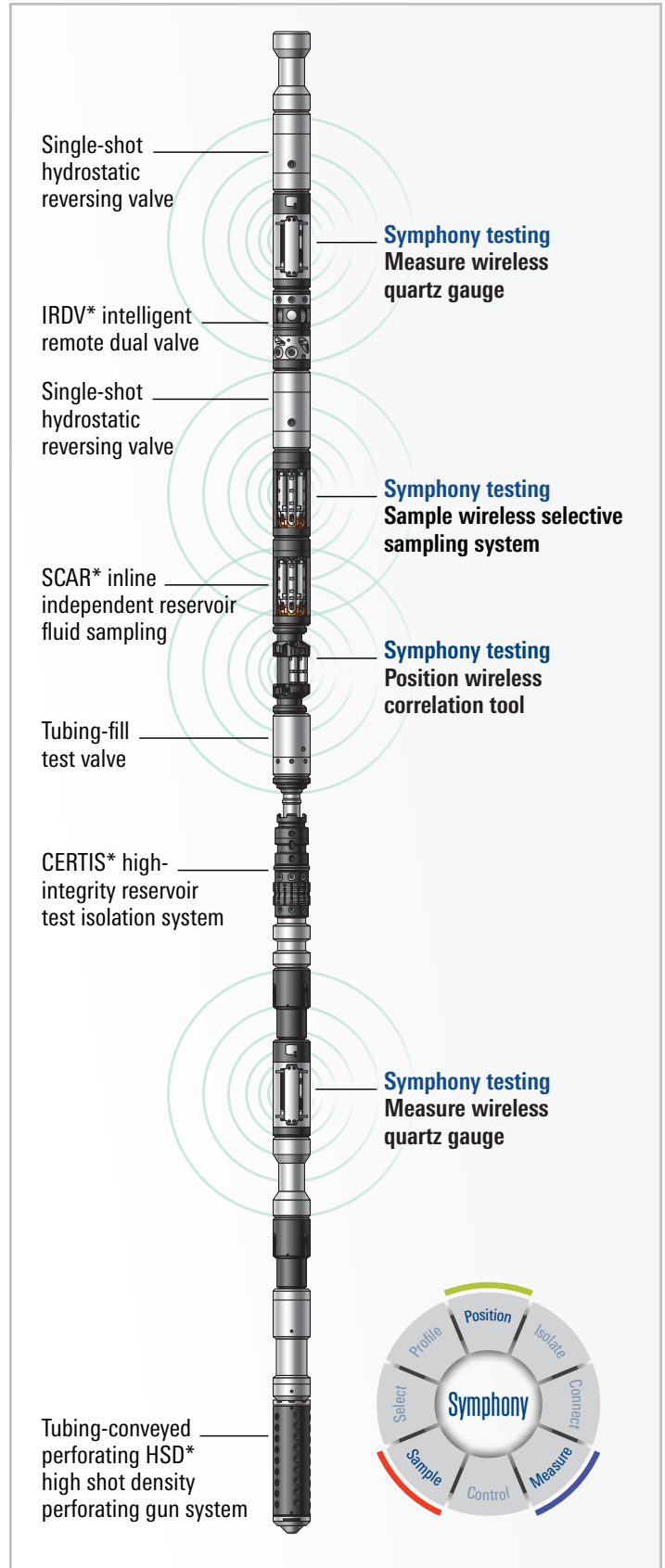
The operator liked using wireless telemetry to access downhole data in real time because that enabled adjusting the well test sequence as needed. The resulting improvement in test data reliability and accuracy informed better development decisions.

Schlumberger recommended wireless DSTs using Symphony testing, which incorporates the Position wireless correlation tool in the string to provide correlation data in real time without the need for a wireline intervention.

What was achieved

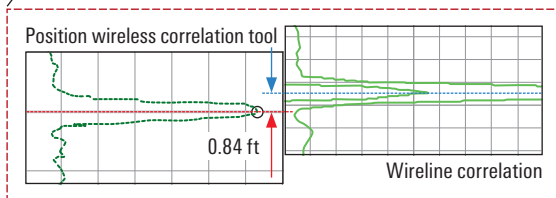
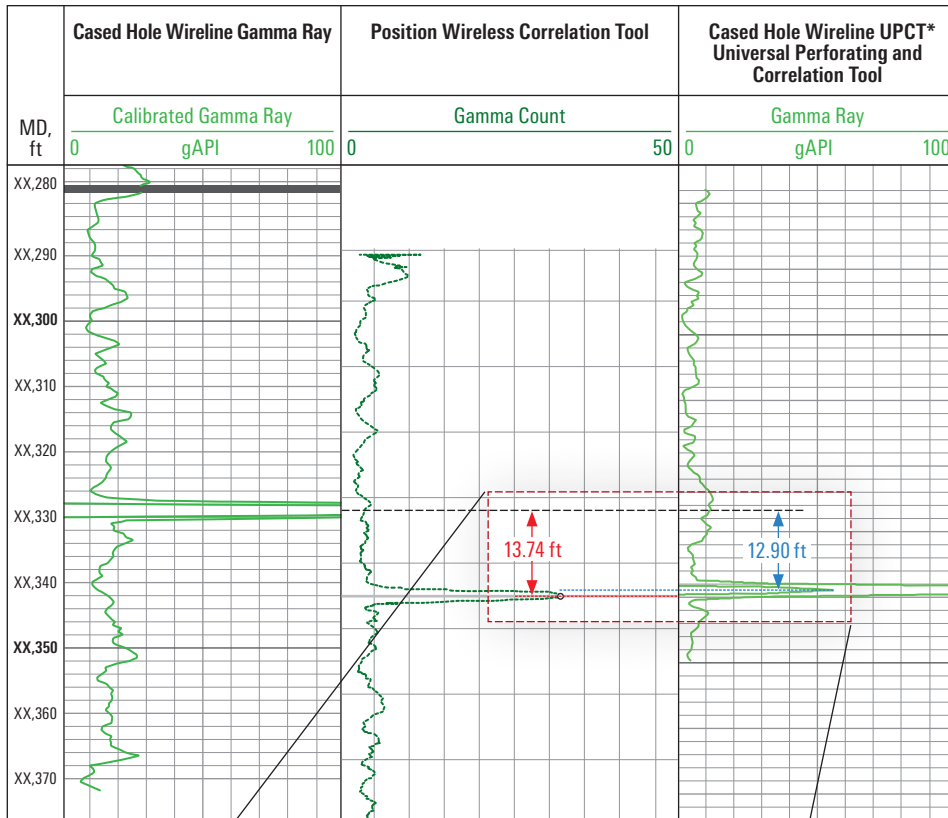
Although the exact length of the testing string is not known during run-in because of the effects of friction and weight, the operator knew precisely when the Position tool arrived at the radioactive pip tag in the casing from the tool's continuous real-time gamma ray log. An algorithm then used the continuous gamma ray and pressure data collected via Muzic* wireless telemetry to compute the elongation or contraction of the string, which in turn was used to position the perforating gun or packer in relation to the pip tag and the reservoir.

The operator confirmed the accuracy of the Position tool's real-time data by running it in the Symphony testing string in a well where a wireline correlation log had been acquired. Not only did the Position tool prove to be a good match to the wireline gamma ray log, but it acquired the data in only 1 to 2 hours per correlation, saving 150 hours over a 17-well campaign. In turn, no extra wireline crew was required at the wellsite during the 20 successful correlation runs.



The Symphony testing string incorporated the Position wireless correlation tool to acquire real-time correlation data, eliminating the need for a wireline intervention.

Case study: Well test depth correlation saves 150 h in operating time over appraisal campaign



Real-time gamma ray log from the Position wireless correlation tool in the Symphony testing string was a good match to the industry-standard wireline gamma ray log.

Position Tool Correlation Time Savings		
DST	Position Wireless Correlation Tool Time, h	Personnel on Board Reduction Without 3-Person Wireline Crew, Workdays
1	2.1	—
2	1.6	10.5
3	1.0	10.5
4	1.4	10.5
5	1.1	10.5
6	1.4	10.5
7	1.3	10.5
8	2.3	10.5
9	1.7	10.5
10	1.3	10.5
11	0.7	10.5
12	1.1	10.5
13	1.1	10.5
14	2.1	10.5
15	1.1	10.5
16	1.3	10.5
17	0.9	10.5
18	1.1	10.5
19	1.1	10.5
20	1.0	10.5

slb.com/Symphony

Schlumberger

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