CASE STUDY

HALLIBURTON

Indonesia

Single-trip multizone perforating doubles productivity target

Reservoir target perforated in single trip with 7-in., 12-spf 450 RockJet™ perforating charge system

CHALLENGE

- Perforate all intervals of development well with multiple sand layers in one run (10 zones/gross interval of 650 ft)
- Avoid shock damage due to long gun strings
- Create clean, efficient production flow paths in 9 5/8-in. casing

SOLUTION

- Deploy 450 RockJet™ perforating charge system, ideal for downhole conditions
- Perforate multiple zones in single trip with TCP
- Perforate in under-balanced condition to improve connectivity between reservoir and wellbore

RESULT

- Maximum productivity of 4,000 BOPD post-perforation and well tests, twice the initial target

RockJet™ casing perforation

Overview

An operator drilled a development well with multiple sand layers separated by shale of varying thickness. The goal was to perforate all 10 zones—spanning a 650-ft gross interval—in a single run.

Challenge

Long perforating intervals can cause shock damage to the gun and bottomhole assembly. To reduce this risk, operators often use multiple runs with shorter gun strings. However, this approach increases rig time and exposes the first perforated interval to prolonged soaking, which can affect performance. The operator sought a shaped charge optimized for 9 5/8-in. casing to maximize reservoir-to-wellbore connectivity and production.

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Solution

Halliburton recommended the 450 RockJet™ perforating shaped charge with a single-trip, multizone, 7-in., 12-spf tubing-conveyed perforating (TCP) gun. This charge suits downhole conditions and delivers up to:

- 22% deeper penetration
- 32% larger entry hole diameter (EHD)
- 83% more open flow area than alternative systems

The team designed the perforating program in underbalanced conditions to enhance reservoir connectivity. They used PulsFrac® simulation and the Halliburton Perforating Tool Kit (HPTK) to evaluate gun shock risk and charge performance.

RockJet™ perforating charge

Result

The operator achieved all objectives without rig delays. Execution was flawless, with no HSE or service quality issues. The initial production target was 2,000 BOPD. Post-perforation testing showed a peak output of 4,000 BOPD, double the target.

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