

CHALLENGE

A mature oil producing well did not respond to matrix acidizing as expected. The operator suspected damage in the near wellbore that was affecting the acid jobs. Due to the low production rate, the total cost of an intervention utilizing other stimulation technologies was deemed uneconomic.

HIGHLIGHTS

Marginal well
 Previously fractured (more than 40 years ago)
 Pre-acid stimulation
 Vertical

LOCATION

Eastern Europe

CONDITIONS

Permeability 7.3-10.2 mD
 Consolidated limestone, sandstone, clay
 Depth 2000 m (6500 ft.)
 Temperature 48°C (118°F)



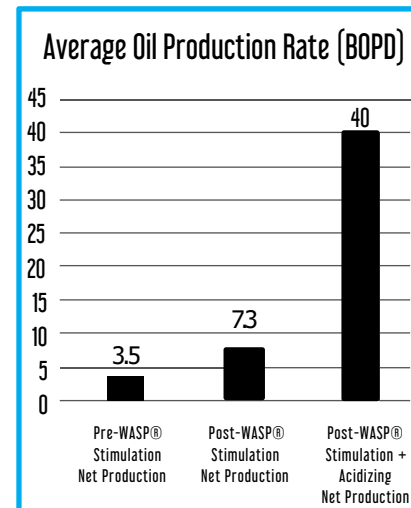
Chemical Treatment

OUTCOME

- WASP® stimulation resulted in a doubling of production, from 3.5 to 7.3 BOPD, sustained for a month prior to the customer deciding to acidize.
- Matrix acidizing subsequent to the WASP® treatment resulted in a ten-fold increase in production to 40 BOPD, sustained for 90 days.

WASP® alone:
 2x production increase

WASP® + matrix acidizing:
 10x production increase



SOLUTION

Improve connectivity to the reservoir, using electro-hydraulic stimulation technology.

- Blue Spark WASP® (Wireline Applied Stimulation Pulsing) technology was run on third party wireline.
- A 17 m (56 ft.) interval was stimulated in less than 8 hours on a single run.
- The well was placed back on production, with an immediate increase in production observed.
- The customer successfully reattempted a matrix acidizing stimulation, with excellent results.