

CHALLENGE

Client determined that a reduction in total oil production from a producing well was due to scaling of a perforated interval in the Slave Point production zone. Indications of calcium carbonate (CaCO₃) on both tubular and bottom hole pump were determined as the cause of the decreasing production. Client required a cost effective remedial solution, in conjunction with a work over, to increase production. Client was seeking to deploy a technology that is simple, and that deals directly with the root cause of the decline – scaling and near-wellbore formation damage.

HIGHLIGHTS

Onshore
Conventional oil
Vertically drilled
Perforated completion

LOCATION

Western Canada

CONDITIONS

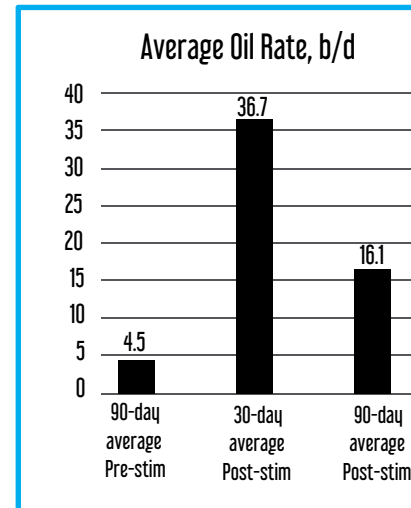
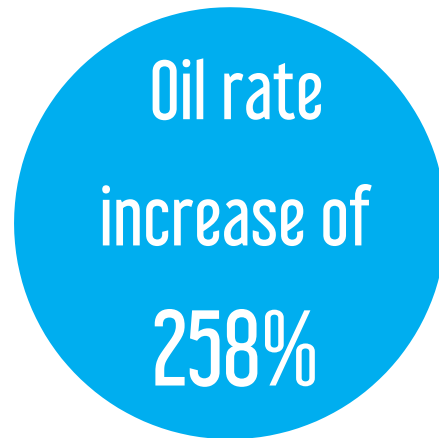
Slave Point limestone
Depth: 1800 m (5900 ft)
Temperature: 45°C (113°F)



Scale Removal

OUTCOME

- Significant inflow of oil was produced after the remediation
- Client data shows an average oil production of 36.7 b/d over a one-month period (716% increase)
- Sustained production over 90 days averaged 16.1 b/d of oil (258% increase)
- Client is now evaluating the use of electro-hydraulic stimulation in other tight oil reservoir environments within the production pool for remedial interventions, in conjunction with workovers.



SOLUTION

Electro-hydraulic stimulation in cased hole applications.

- Wireline deployed in conjunction with a workover on a producing well.
- Completed Blue Spark WASP® (Wireline Applied Stimulation Pulsing) treatment over the perforated zone of interest that had suspected scaling: Slave Point formation (dolomite/limestone).
- WASP® treated the perforated interval of approximately 2.5 (8 ft).
- Ran production tubing and pump assembly in wellbore, monitoring production rates, pressures and fluid levels over the course of 90 days.