

**CHALLENGE**

The client operates 200 wells in a field, with only two water injection wells being used to maintain pressure in one portion of the field. Both wells suffer from near-wellbore damage due to scale and suspended solids. To treat the problem, acid stims were conducted every 6 to 8 months, but with diminishing rate of returns. The client was looking to reduce workover frequency and to increase injection rates.

**HIGHLIGHTS**

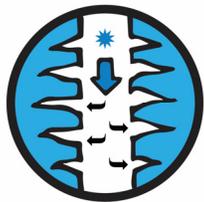
Conventional oil field  
Vertically drilled  
Perforated  
Hydraulically fractured

**LOCATION**

NW Alberta

**CONDITIONS**

Depth: 1,800 m (5,900 ft)  
Temperature: 60 °C (140 °F)  
Montney formation



Injection Well

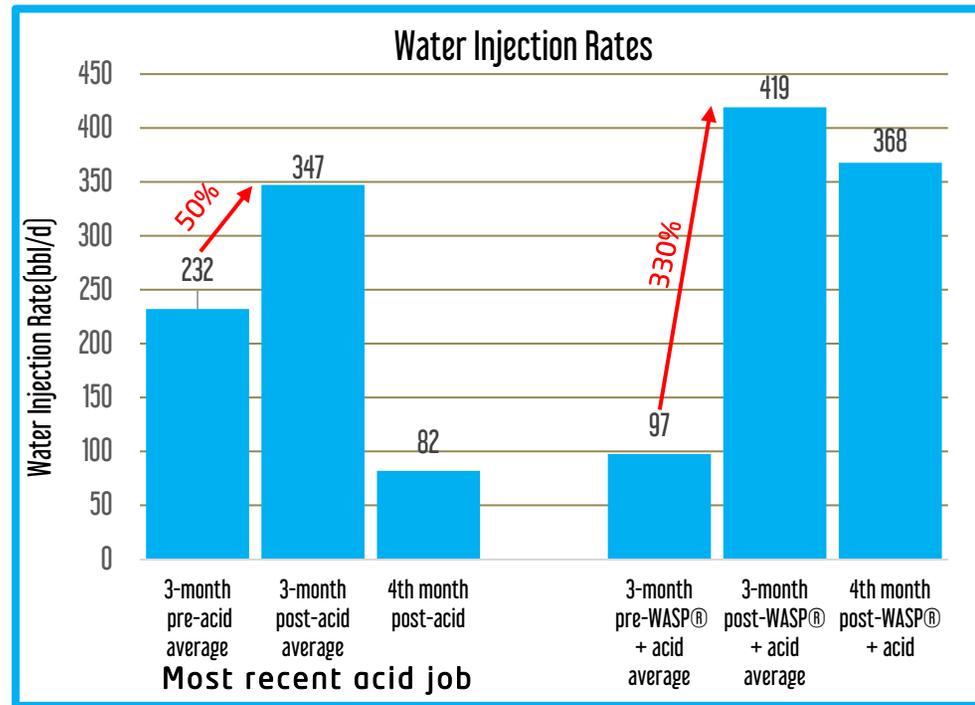


Chemical Treatment

**OUTCOME**

- The well saw an immediate increase in injection rates and a decrease in injection pressure
- The average injection rate increased from a 3-month average of 97 b/d to 419 b/d for the first 3 months after WASP® + Acid
- The increase was over 330%, compared to a 50% increase over 3 months for the last treatment done with acid alone

Over 330% increase in water injection rate with WASP®+Acid



**SOLUTION**

Improve connectivity to the reservoir by removing blockages using electro-hydraulic stimulation technology

- The Blue Spark WASP® 212 (Wireline Applied Stimulation Pulsing) slim tool was run through tubing on third-party E-Line, avoiding the need to pull tubing
- The perforated interval was 8.5 m in length and the stimulation was completed within an operating time of 5 hours
- WASP® cleared the blockages in the formation to provide more surface area for a chemical treatment to be more effective
- A mixture of solvent and acid was batched down the tubing of the well which was allowed to soak overnight
- The well was put back on injection and monitored

