



**CHALLENGE**

Well had initially been a producer for 8 years and then was converted to an injector. After just over 1 year of injecting, the injection rates suddenly dropped by 80% and the injection pressure tripled. The client did not want to pull the downhole equipment to try to clear the blockages in the injection interval.

**HIGHLIGHTS**

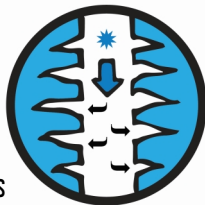
Conventional oil field  
Vertically drilled  
Perforated and hydraulically fractured completion

**LOCATION**

Southern Alberta, Canada

**CONDITIONS**

Depth: 1,000m (3,300ft)  
Glauconite sandstone  
15 - 18% porosity  
1 - 10 mD permeability



Injection Wells

**OUTCOME**

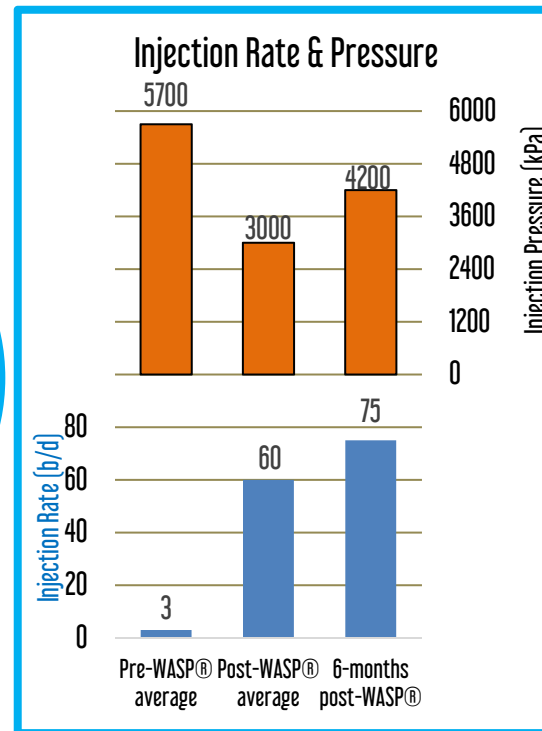
*"We had an injector at 103/8-36-23-14W4 in Southern Alberta that had pressured up. Pressure had climbed to our maximum allowable injection pressure of 5700 kPa and injection rate had decreased to 3 b/d. We stimulated this well through tubing with the Blue Spark tool. We saw an immediate increase in injection rate with reduced pressures.*

*We then attempted to perform an acid stim on the well but it gave no further break down in pressure. The well came back on at approx. 60 b/d injection at 3000 kPa injection pressure. Today (6 months later) this well injects between 60 to 90 b/d and pressure is at 4200 kPa. I was impressed with how the tool performed and am pleased with being able to stimulate the wells without the expense of a service rig."*

Richard Tracy, Sr. Production Engineer, Journey Energy Inc.

**OVER 20X INCREASE  
IN INJECTION RATE**

**45% REDUCTION IN  
INJECTION PRESSURE**



**SOLUTION**

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

- Sandstone reservoir was treated through tubing with the Blue Spark WASP® 212 (Wireline Applied Stimulation Pulsing) to improve injectivity
- No special tools or equipment were required on location to complete the remediation operation, other than third-party E-Line
- Approximately 6.5 m (21 ft) of perforated interval were treated in less than 5 hours with our wireline conveyed tool
- Injection rates and pressures were both monitored for comparison to pretreatment values

