

CASE STUDY:

New technology for well intervention in slotted liner

Challenge:

An operator in California (US land) contacted Tyrving Innovation regarding issues with some wells completed with gravel-packed slotted liner. The wells were drilled in an inverted five-spot pattern with steam flooding. Some wells were performing below expectations, which was suspected to be due to repeatedly plugging of slots. The plugging resulted in reduced oil production and costly interventions to clean the slots. None of the wells suffered from sand production.

Illustration of unexpanded sections (left and right) vs expanded (middle)

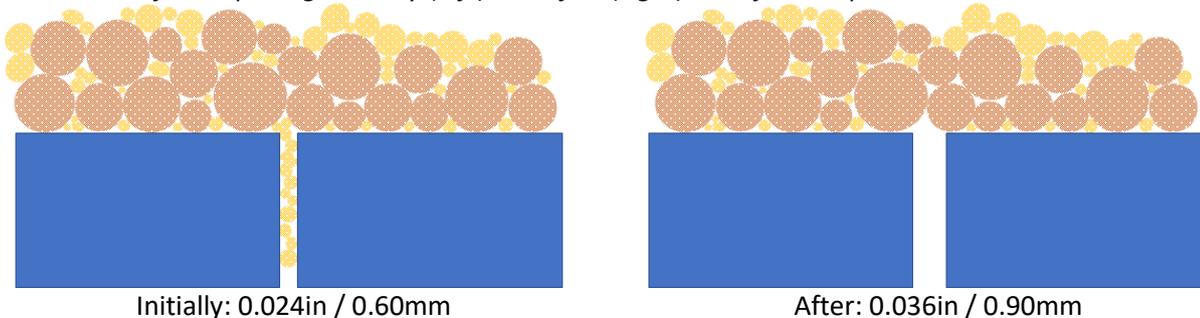


Solution:

Tyrving Innovation introduced a concept of expanding the existing slotted liner in a controllable manner, resulting in larger slot openings that would increase the overall inflow area and reduce potential for slot plugging, while maintaining sand control by still having the expanded slot opening smaller than the gravel pack grain size.

According to project timeline and budget a tool was designed, assembled, workshop tested and shipped to California for a field trial. The field trial was performed in an oil producer drilled in 2015 with 7" slotted liner installed vertically through the pay zones.

Illustration of slot openings initially (left) and after (right) use of Slot Expansion Tool



Customer:



CMO Inc.

Date:

September 2019

Region:

US land (CA)

Product:

- 7" Slot Expansion Tool

Application(s):

- Decline in production
- Extension of well lifetime
- Shut-in wells

Benefits:

- Increased inflow area
- Open up plugged slots
- Selective zones treatment
- Maintained sand control
- One-trip system

