



SWELLPLUG

SUCCESS STORY

Cure Losses to Ensure Cement Placement

USA

< 4hrs
SHUT IN

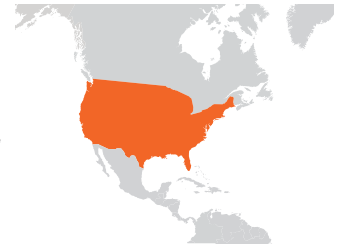
80%
TIME SAVINGS

40%
COST SAVINGS

SwellPlug consists of patent protected water swellable particulate material pumped in a slurry that swells through the process of osmosis. Unlike other water swellable elastomers, the TAQA osmotic swellable material remains swollen regardless of the subsequent fluids that it sees making the seal permanent.

CHALLENGE

While attempting to cement a well for a P&A, the client encountered loss issues. First a cement plug was set from 996ft to 369ft and was pressure tested to 1000psi. Then another interval was perforated from 365ft to 367ft. Once perforated, the well started taking extreme losses. At 3 bpm, the rig was able to fill the wellbore but the well turned to a complete vacuum, rapidly losing the fluid to the loss zone and therefore preventing cement from being placed.



THE SOLUTION

Client agreed to trial pumping SwellPlug into the loss zone to try and stop the extreme losses. They decided to pump a combination of Super Coarse (6mm-8mm), Coarse (1mm-3mm), and Fine (100um-400um) in a 4 bbl pill. It would be placed at a low rate while closely monitoring pressures throughout the treatment. Once SwellPlug was placed through the tubing, warm produced water was trickled in to help the product swell.

THE RESULT

A mixture of 150lbs Course, 135lbs Super Coarse, 10lbs of Fine and 11lbs of activated fiber were mixed and pumped at 2 bpm and 50psi. Initially the pressure dropped but after circulating at 0.5bpm with warm water, full returns were seen at surface. The well was shut in for 4 hours to allow the product to swell further. Once opened back up, the well was standing full and holding a column of fluid. This allowed the client to establish circulation and successfully pump the cement job. The cement pplug witnessed by the CalGEM regulatory and held the required pressure.

WELL DATA

- Location: USA
- Well Type: Conventional
- Open Hole: 14.75"
- Casing: 7"
- Loss Zone: 2ft across perforations

