

Plug & Abandonment through A-Annulus

P&A a well with low reservoir pressure using ThermaSet® sealant.

CHALLENGES

The well was a candidate for first phase P&A with the following challenges:

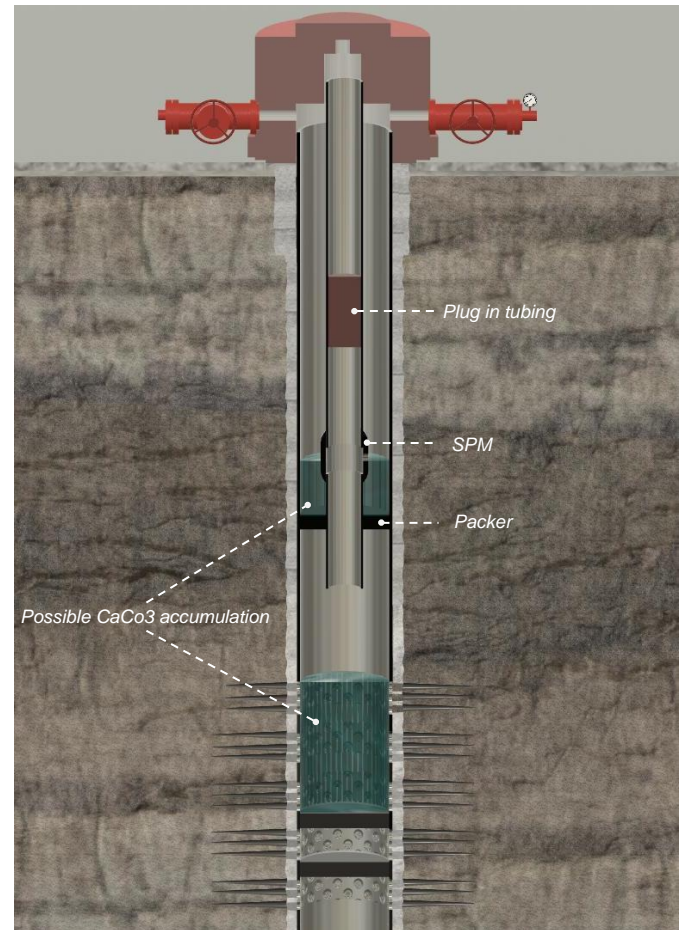
- Low reservoir pressure (max 1900 psi) - well on vacuum
- Pre-maturely set plug (3rd party product) in tubing – TOP at 137 mMD. Possible communication with reservoir- Via A annulus and from annulus through GLV in SPM to tubing and down to perforated interval
- Questionable tubing integrity. Several pills of zonal isolation material and CaCO₃ were pumped in the well to plug the reservoir – No success
- Possible accumulation of CaCO₃ particles around SPM.

SOLUTIONS

- Prepared 15 m³ ThermaSet® pill for 30 min. Curing time at 85°C (at SPM depth-2907 mMD) and 10 min curing time at 92°C (reservoir temperature).
- Pumped the pill via A-annulus followed by 24 m³ sea water (The hydrostatic pressure of ThermaSet® pill + 24m³ sea water column was equal to reservoir pressure of 1900 psi).
- Stopped pumping and waited for curing of ThermaSet® plug.

RESULTS

- Successfully tested the as per BP procedures.
- No pressure build-up.
- No gas migration.

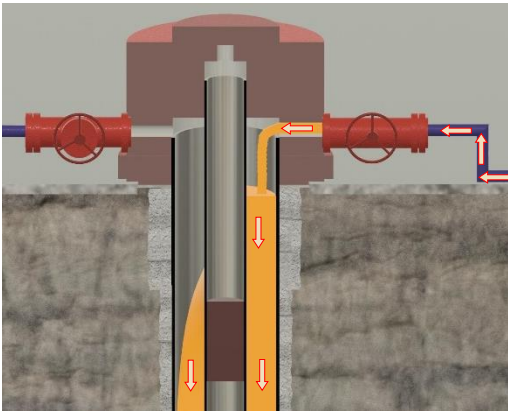


The well status before ThermaSet® treatment

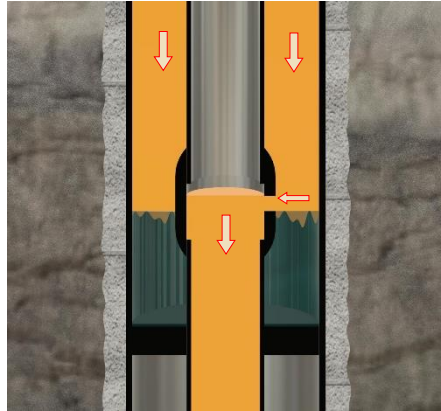


Well location

Sequence of Operation



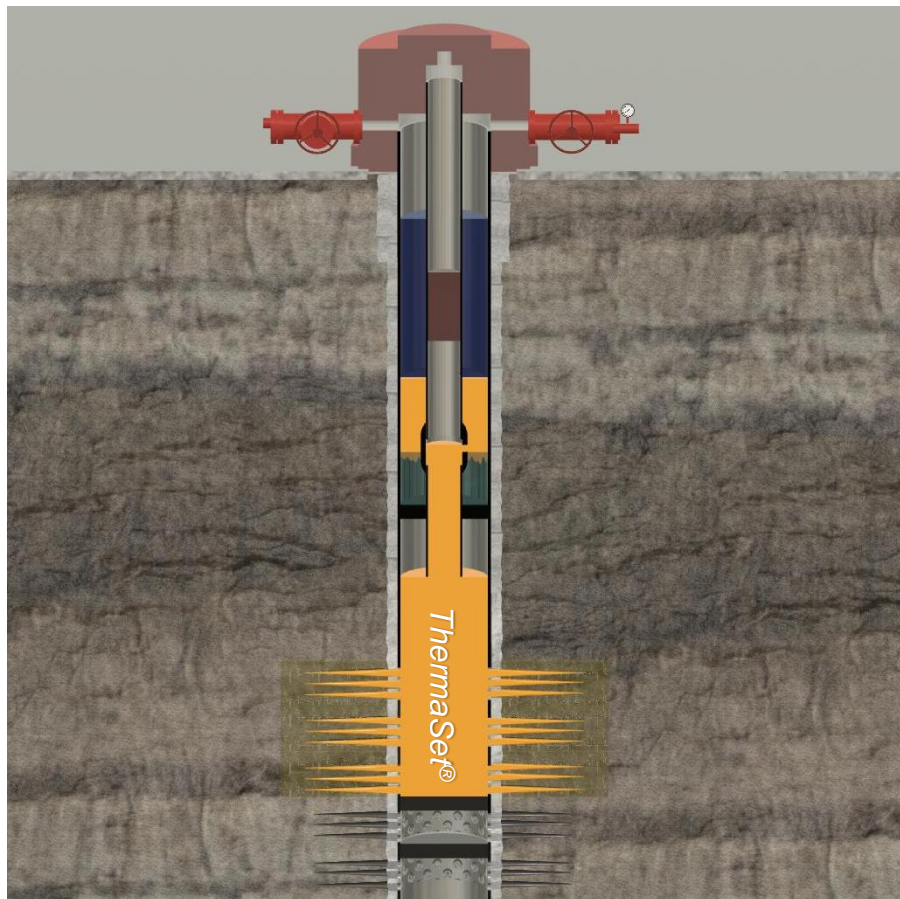
1- ThermaSet® pill (orange) was pumped through A-annulus



2- The pill flowed into the tubing through SPM



3- Sea water (blue) was pumped through A-annulus to displace ThermaSet® pill.



Well status after ThermaSet® treatment

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