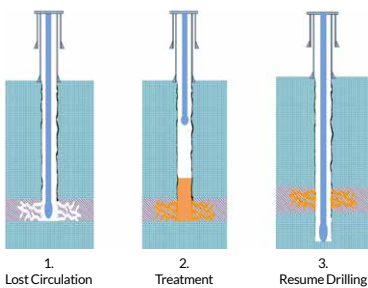




We have used ThermaSet® combined with our competence in over 200 successful projects all over the world.



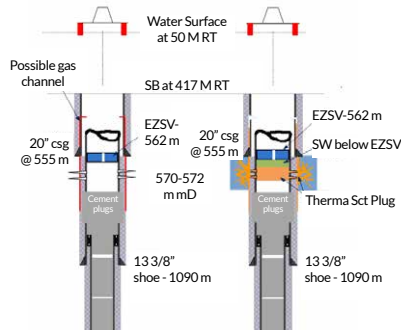
LOST CIRCULATION CONTROL

Challenge:

- Total loss of mud in carbonate formation at 3280 m depth in 12 ¼" section of a well in Arabian gulf
- 40 m³ conventional LCM was pumped without any success

Solution:

- Stationed bit at 210 m above the thief zone and Pumped a pre-mixed ThermaSet LCM pill
- Within 30 minutes circulated the well with full return and resumed further drilling



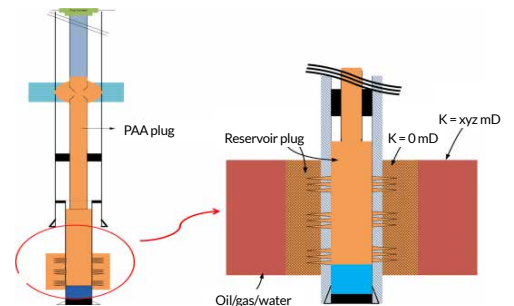
GAS CHANNELING IN CEMENT BEHIND CASING

Challenge:

- Observed gas around WH on sea bed and in mud return
- Pumped/squeezed several cement pills without success.

Solution:

- Perforated casing at a suitable spot
- Pumped/squeezed 4 m³ ThermaSet pill
- Tested the well successfully



PLUGGING A WELL WITH NO MECHANICAL INTEGRITY

Challenge:

- Abnormally low reservoir pressure - vacuum
- Collapsed/parted-off tubing in the middle at 1000 m depth
- Keeping TOP at a tag able point (above collapse point)

Solution:

- Prepared low density ThermaSet pill (0.8 S.G)
- Pumped and displaced with calculated volume of sea water having positive pump pressure
- Tag the TOP pressure tested successfully

WATER SHUT OFF IN HORIZONTAL WELL

– North Sea, Danish Sector

The challenge

Operator sought to remediate complications of water breakthrough from water injector. The well has a 7" CAJ (Controlled Acid Jetting) liner across the production interval. This liner is perforated in selected zones that can be independently opened and closed from surface. Acid has previously been used to stimulate the formation and has led to compromised integrity of the CAJ liner. Formation fractures coupled with reservoir depletion has led to water breakthrough into the neighboring production well.

The solution

Isolating the upper water injection zone by squeezing ThermaSet® into the pre-existing fracture network while leaving a residual volume in the annulus outside the 7" to form an impenetrable plug and isolate that zone.

The result

Initial Hi-Vis Spacer placement, mixing, pumping and displacement operations went according to plan. The squeeze pressures observed during ThermaSet® displacement were indicative of sound operational placement.

No injectivity testing was performed following conformance treatment. Isolation of the upper water zone will be confirmed during injection operations once well services are completed.

Cuttings returned to surface following milling operations, confirmed cured ThermaSet® indicating sound operational placement.