HEAL SYSTEM™ INITIAL START-UP

SCOPE

This procedure assumes production annulus pressure is zero or the well is on vacuum.

CAUTION

To initiate the HEAL System™ the fluid level **must** be above the FDVS.

If practical, before beginning this procedure shoot a fluid level to determine fluid level.

Starting the pumpjack before the fluid level is above the FDVS risks gas locking the pump.

STEP 1

START UP.

Start the pumpjack at half the expected production rate.

Pressure test the tubing with the bottom hole pump to ensure pump is functioning.

If the pump is not functioning, see troubleshooting below.

STEP 2

OBSERVE PRESSURE.

Applying back pressure on the tubing greater than the production annulus pressure reduces incidents of gas interference and surging up the tubing.

With the well producing, eventually positive pressure on the production annulus occurs, which indicates that the regulating string is working.

Once the regulating string is working, proceed to Step 3.

STEP 3

PUMP CARD

SURFACE

DOWNHOLE
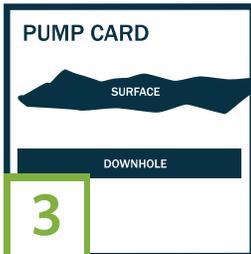
INCREASE STROKE RATE.

Avoid over-pumping by gradually increasing pump stroke rate. If available, observe pump fillage and efficiency.

A slow, steady increase avoids excessive draw downs and shocking the wellbore.

With a steady stroke rate and stabilized pressures, proceed to Step 4.

STEP 4

OPTIMIZE.

Optimize HEAL System™ performance with fluid shots or a pump-off controller.

Adjust stroke rate to maintain fluid level slightly above the FDVS.

Minimize production annulus pressure as much as possible.

TROUBLESHOOTING

Bottom hole pump not functioning...

...may indicate a lack of inflow, a gas lock, or fluid level below the FDVS.

Shoot a fluid level.

If the fluid level is above the FDVS, tap the BHP.

If fluid is below the FDVS, wait for the fluid level to reach the FDVS, or contact Production Plus for the N_2 Start-up assist procedure.

The time it takes for fluid level to reach the FDVS is dependent upon the characteristics of the well and can vary.

Periodically shoot fluid level until the level is above the FDVS.

Once the level is above the FDVS, return to Step 1.