CYCLIC STEAM STIMULATION

Steam, injected into a well in a heavy-oil reservoir introduces heat that, coupled with alternate “soak” periods, thins the oil allowing it to be produced through the same well. This process may be repeated until production falls below a profitable level.

Schematic portrays one well during the 3 phases of this process. Flow pattern is stylized for clarity.

**HUFF** (Injection phase)
Days to Weeks

**SOAK** (Shut-in phase)
Days
Dissipating Heat
Thins Oil.

**PUFF** (Production phase)
Weeks to Months

FLOW

FROM STEAM GENERATOR

Viscous (Thick) Oil

Condensed Steam (Hot Water)

Heat Zone

Injected Steam

Heated Zone

Area Healed by Convection from Hot Water

PRODUCED FLUIDS

Viscous (Thick) Oil

Condensed Steam

Heated Zone

Depleted Oil Sand

Viscous (Thick) Oil

Condensed Steam and Thinned Oil