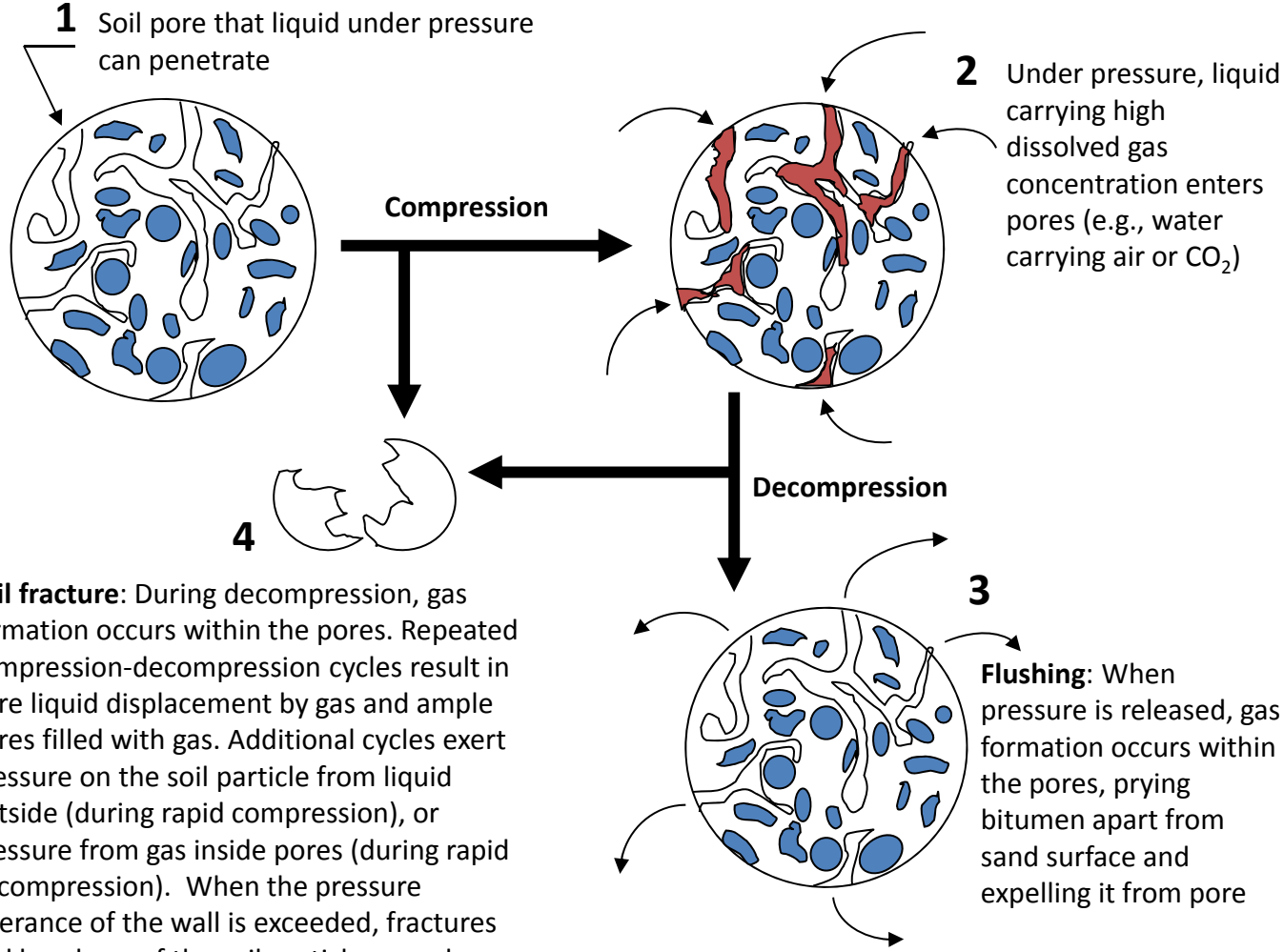
Principle of HOSE – as in Fracturing Earth Materials



Soil fracture: During decompression, gas formation occurs within the pores. Repeated compression-decompression cycles result in pore liquid displacement by gas and ample pores filled with gas. Additional cycles exert pressure on the soil particle from liquid outside (during rapid compression), or pressure from gas inside pores (during rapid decompression). When the pressure tolerance of the wall is exceeded, fractures and breakage of the soil particle occur by ***implosion*** or ***explosion***, leading to increased exposure of the bitumen