

Hydraulic fracture

@wikipedia

Synonym: [Hydraulic fracture](#) = [Induced fracture](#)

[Rock fracture](#) created around a [well](#) as a result of [anthropogenic invasion](#) (see **Fig. 1**).

When the maximum principal stress is in the vertical direction, a vertical fracture will be created and propagate parallel to the $\sigma_{h,max}$ direction and perpendicular to the $\sigma_{h,min}$ direction.

In order to keep [fracture](#) opened during production the [fracture](#) void is usually filled with [Proppant](#).

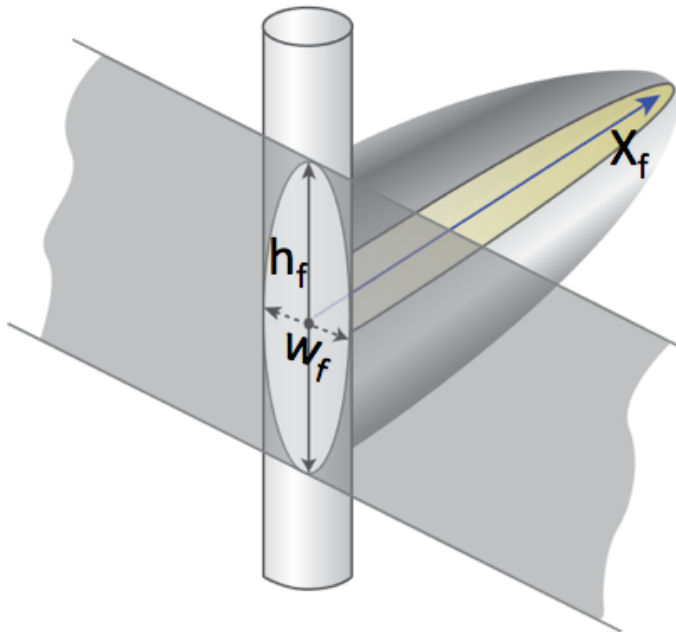


Fig. 1 – [Hydraulic fracture](#) schematic showing [fracture half-length](#) (X_f), [fracture height](#) (h_f) and [fracture width](#) (w_f).

See Also

[Petroleum Industry](#) / [Upstream](#) / [Well](#) / [Well-Reservoir Contact \(WRC\)](#)

[[Production](#) / [Subsurface Production](#) / [Well & Reservoir Management \(WRM\)](#) / [Well stimulation](#) / [Hydraulic Fracturing](#)]
[[Proppant](#)]

[[Hydraulic Fracture @model](#)]

[[Geology / Rocks / Fracture](#)]

[[Infinite conductivity fracture](#)] [[Finite conductivity fracture](#)]

[[Fracture conductivity \(\$F_C\$ \)](#)] [[Dimensionless fracture conductivity \(\$F_{CD}\$ \)](#)]

[[Fracture half-length \(\$X_f\$ \)](#)] [[Fracture width \(\$k_f\$ \)](#)] [[Fracture volume \(\$V_f\$ \)](#)] [[Fracture pore volume \(\$V_{ef}\$ \)](#)] [[Fracture permeability \(\$k_f\$ \)](#)] [[Breakdown pressure \(\$p_b\$ \)](#)]