

ABSTRACT

Hydraulic fracturing treatment is applied to the low permeability reservoirs to improve the permeability and resultant productivity. It has been observed in some cases that fracture stimulated wells produce less than before treatment. The present study is to identify key challenges faced in the hydraulic fracturing treatment are fracture containment and fracture conductivity. Fracture containment is, to control the height growth of the fracture upward and downward. Failure to implement fracture containment might break into an overlain gas cap or water zone underneath. While fracture conductivity is proportional to the well productivity i.e. more conductive the fracture is the more productive it is. Failing to achieve required conductivity will result in reduced productivity. The present study also analysed reported techniques which were successful to control these problems. Field examples are discussed illustrating techniques applied to contain the fracture within the pay zone and improve fracture conductivity.

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ABBREVIATIONS

BOPD	Barrels of Oil per Day
bpm	barrels per minute
CMHPG	Carboxymethylhydroxypropyl
F_{cd}	Dimensionless Fracture Conductivity
FOI	Folds of Increase
FPP	Fracture Propagation Pressure
Frac	Fracturing
HEC	Hydroxyethylcellulose
HPC	Hydroxypropylcellulose
HPG	Hydroxypropylguar
ISP	Intermediate Strength Proppant
MMSCFD	Millions of Cubic Feet per Day
SP	Spontaneous Potential
ULW	Ultra Lightweight
VES	Viscoelastic Surfactant
X-Link	Crosslinker