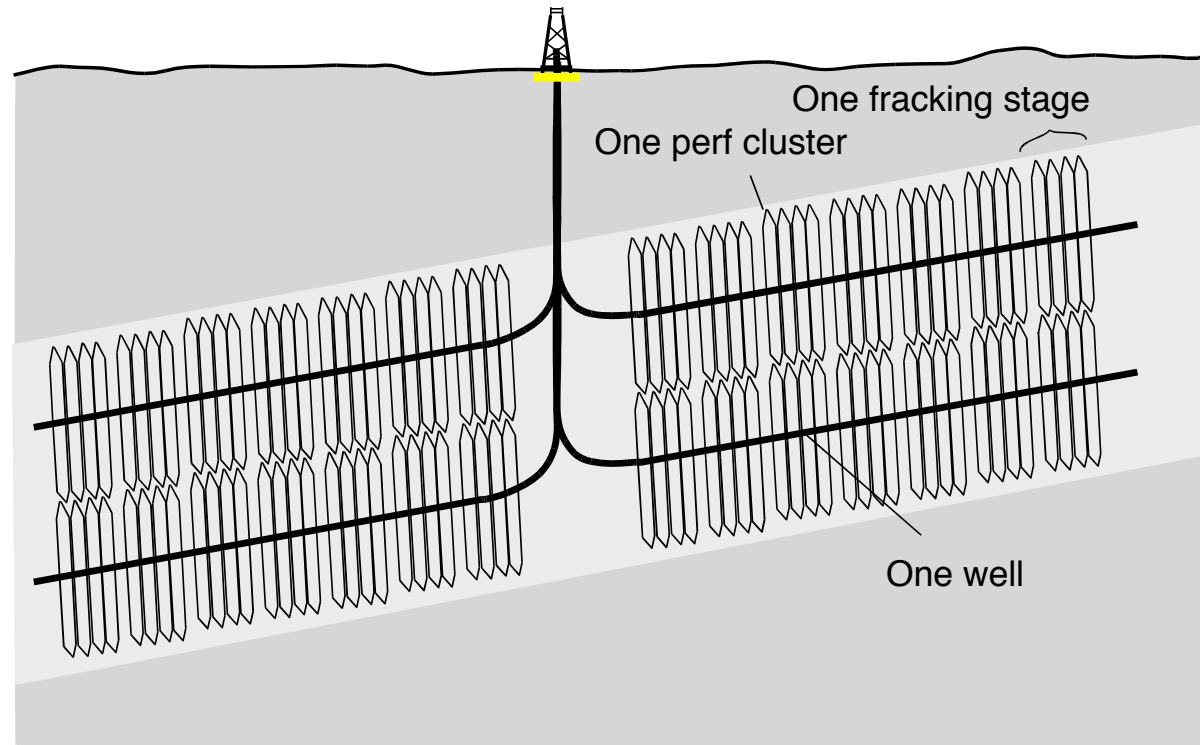


Unconventional petroleum exploitation IX: (vertical) down-spacing



In the petroleum industry, “spacing” has conventionally referred to the lateral spacing of vertical wells. Part VIII of this series showed the extension of that concept in unconventional exploitation, in that it showed the lateral spacing of layer-parallel wells.

The illustration above shows the further extension of the concept of spacing in the vertical direction. In thick (>1000 feet) petroleum-bearing intervals, multiple layer-parallel wells may be needed to exploit the vertical dimension of the accumulation. In about 2013 this

led to the concept of “down-spacing”, in which wells are drilled in vertical arrays, as well as in the horizontal arrays shown in Part VIII of this series. The term was first used in some cases to refer to decreased horizontal spacing between layer-parallel wells, but it increasingly denotes the vertical stacking, or “vertical down-spacing”, shown above.

Sources:

Insley (2014, dailyreckoning.com) Down spacing: the next chapter in the U.S. oil boom;
 Vincent and Besler (2013, www.aogr.com) Emerging best practices ensure fracture effectiveness over time in resource plays;
 Zeits (2013, seekingalpha.com) Eagle Ford Shale: 2014 will be the year of 'Vertical Downspacing'.