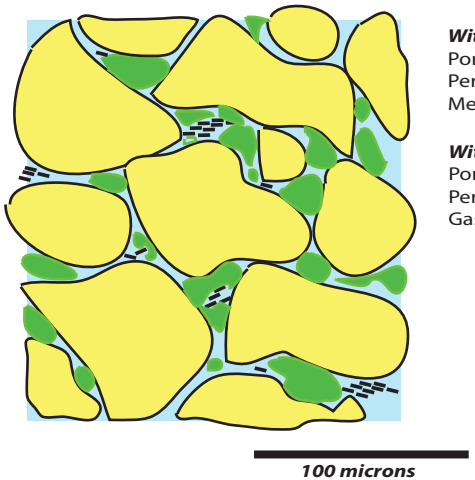
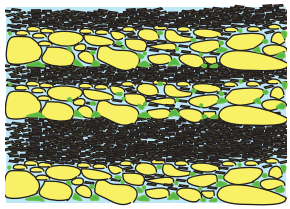
Silt and Sand-rich Host Sediments

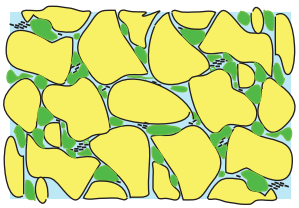


Without Gas Hydrate
Porosity: 30-45%
Permeabilitiy 500-2000 md
Mechanical Strength: Low

With Gas Hydrate
Porosity: 10-15%
Permeability; 0.1 - 0.5 md
Gas Hydrate Saturation: 50-90%



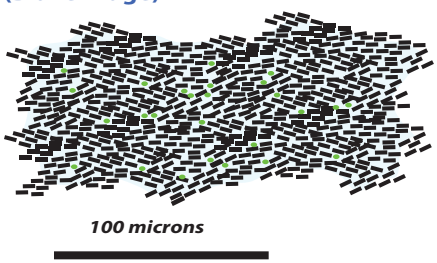
Thinly interbedded
(Nankai Trough; Gulf of Mexico GC955)



Massively-bedded
(Gulf of Mexico WR313; Mallik)

Clay-rich Host Sediments

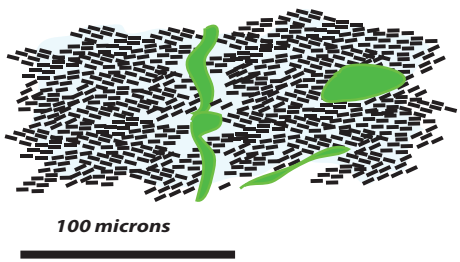
Pore-filling in undisrupted sediments
(Blake Ridge)



Without Gas Hydrate
Porosity: 50-70%
Permeability: Diminishes with Depth to very low values (0.0001 md)
Mechanical Strength: Very Low

With Gas Hydrate
Porosity: 45-60%
Permeability: Nil (0.0001 md)
Gas Hydrate Saturation: 1-10%

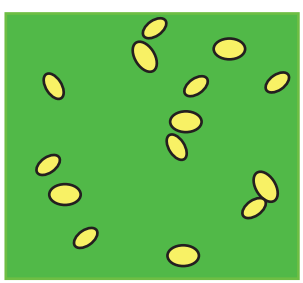
Grain-displacing in disrupted, deformed sediments
(KG Basin, Ulleung Basin)



With Gas Hydrate
Porosity: 45-60%
Permeability: Nil (0.0001 md)
Gas Hydrate Saturation: 5-40%

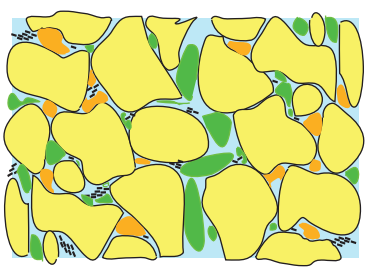
Massive Occurrences (no host sediment)

(Gulf of Mexico, Cascadia, others)



Consolidated host sediments (rock)

(Messoyahki, Barrow (AK), Qilian Mtns (Tibet))



Variety of Lithologies
Porosity: Reduced due to grain compaction, cementation
Permeabilitiy: Reduced 500-2000 md
Mechanical Strength: Very high