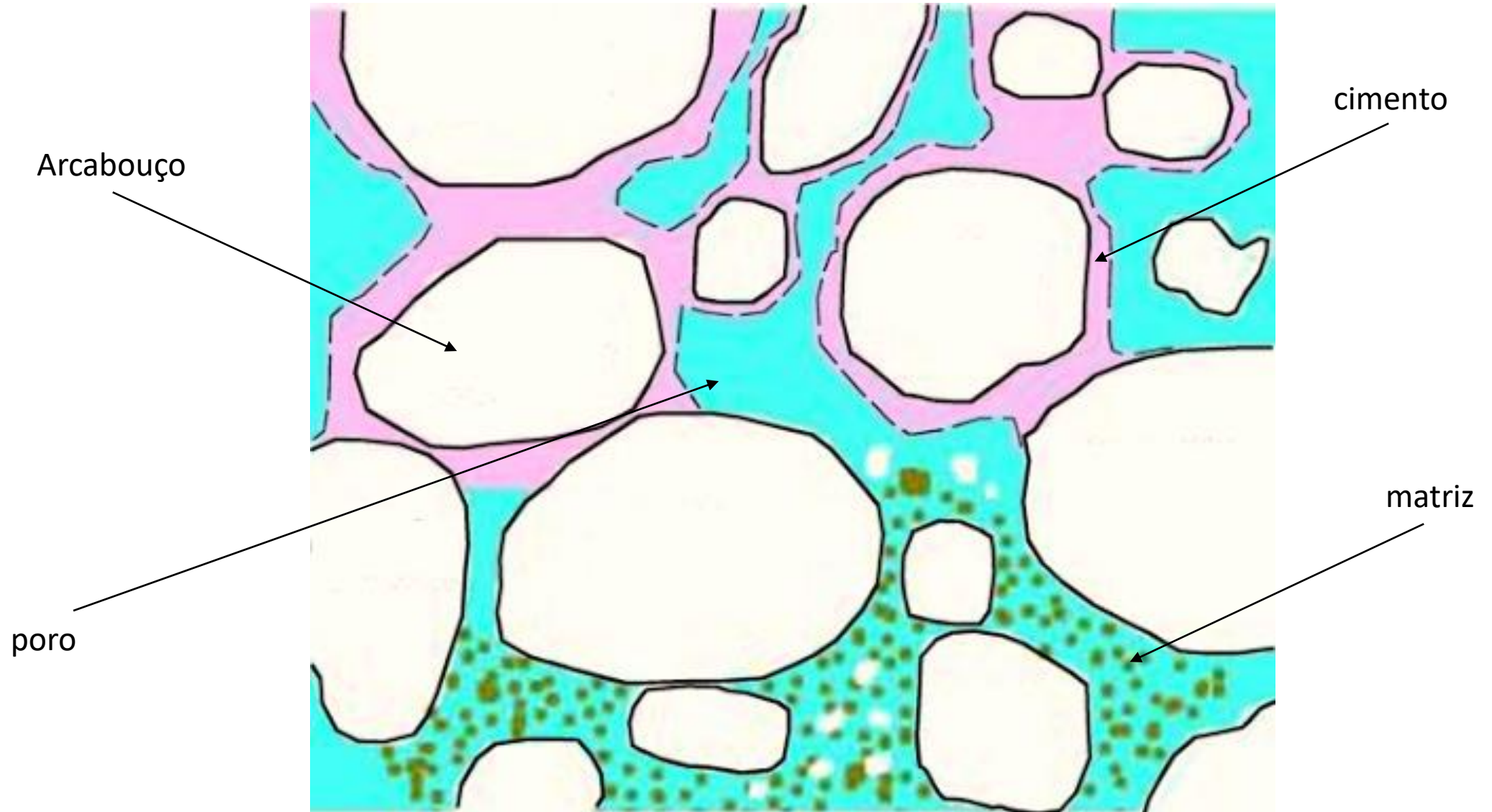


Classificação de arenitos & Diagênese

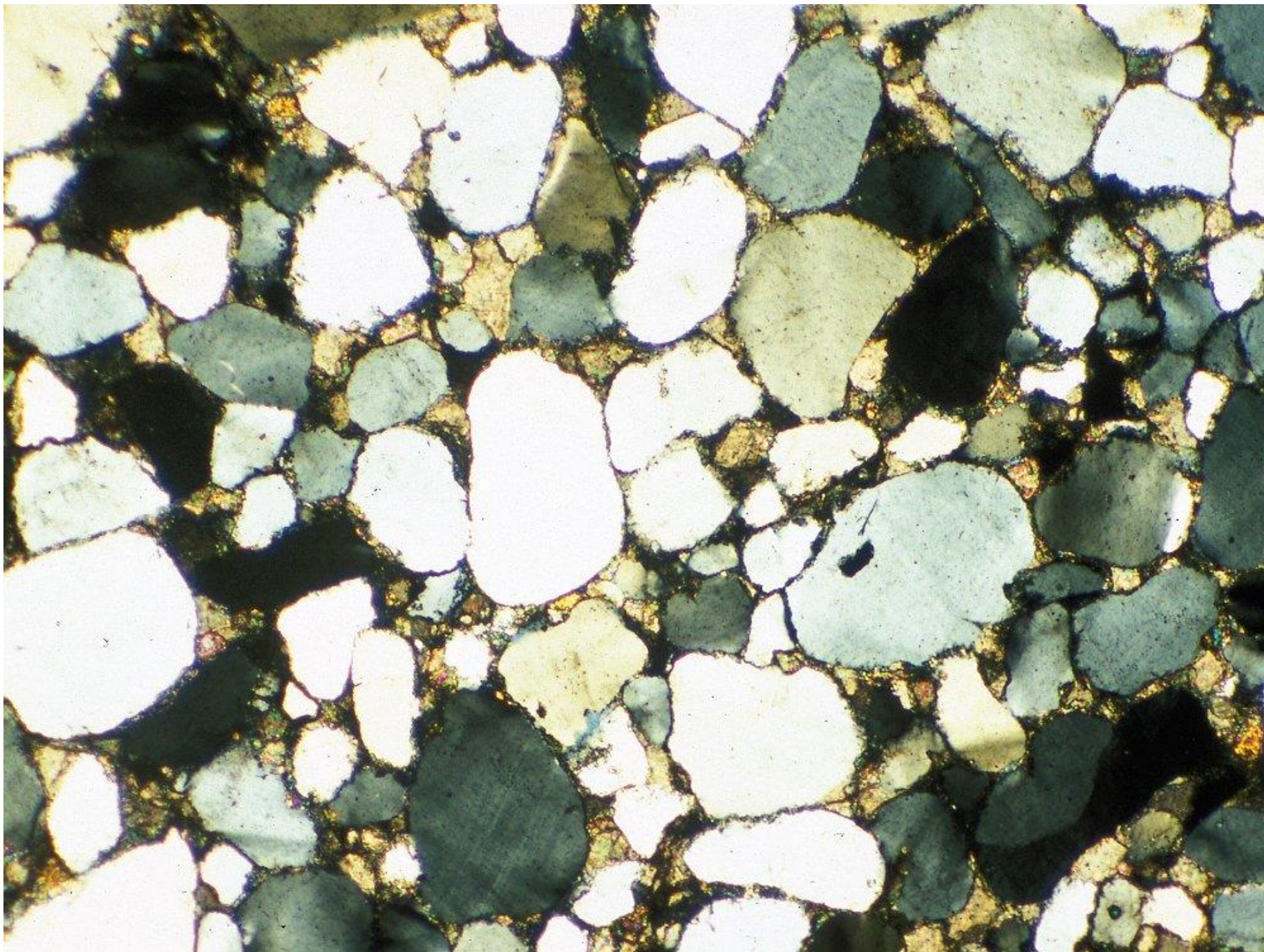


“Sandstone cemented by ochrous particles, upper beds.” (C. Darwin - Abrolhos)

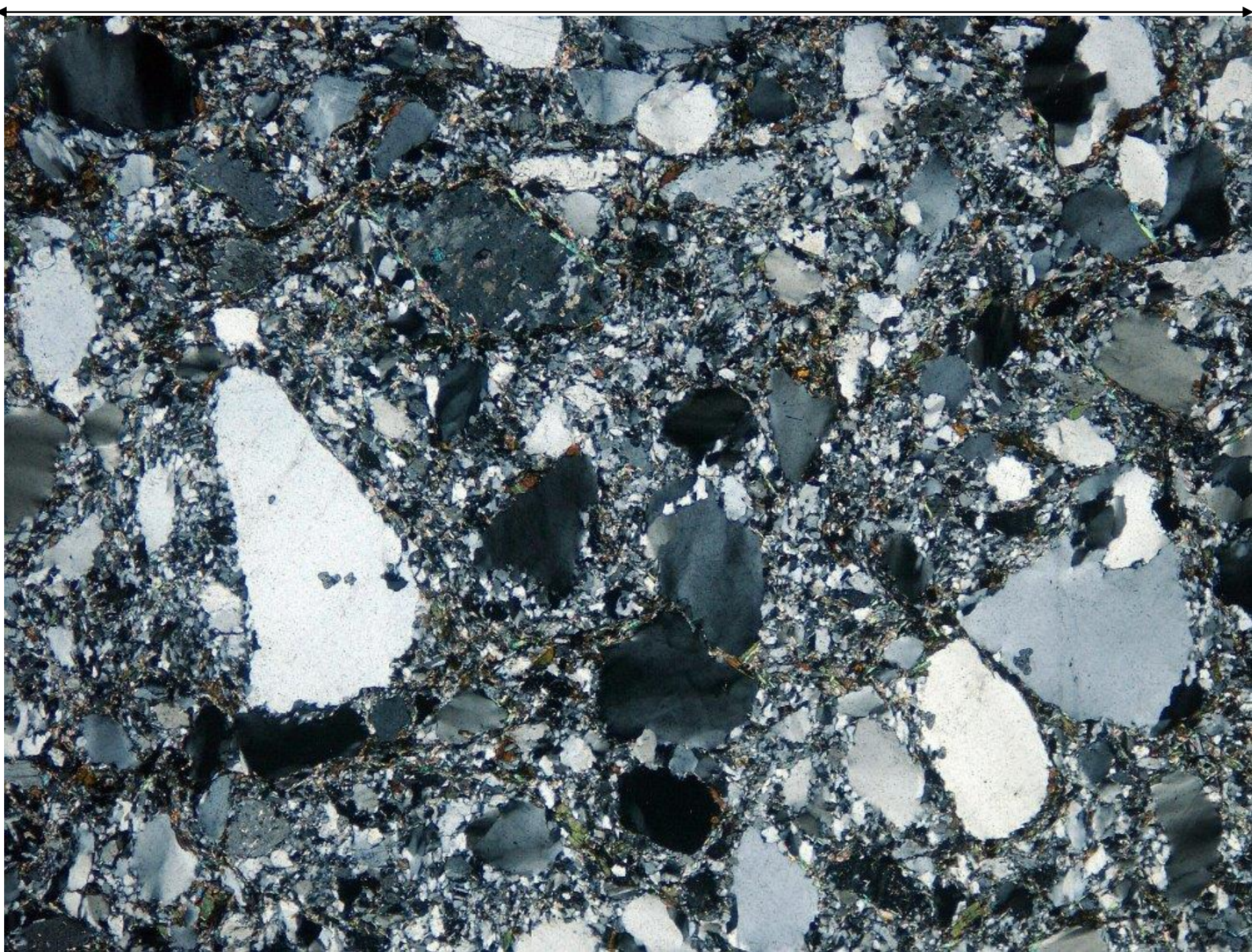
Arcabouço, matriz, cimento e poro

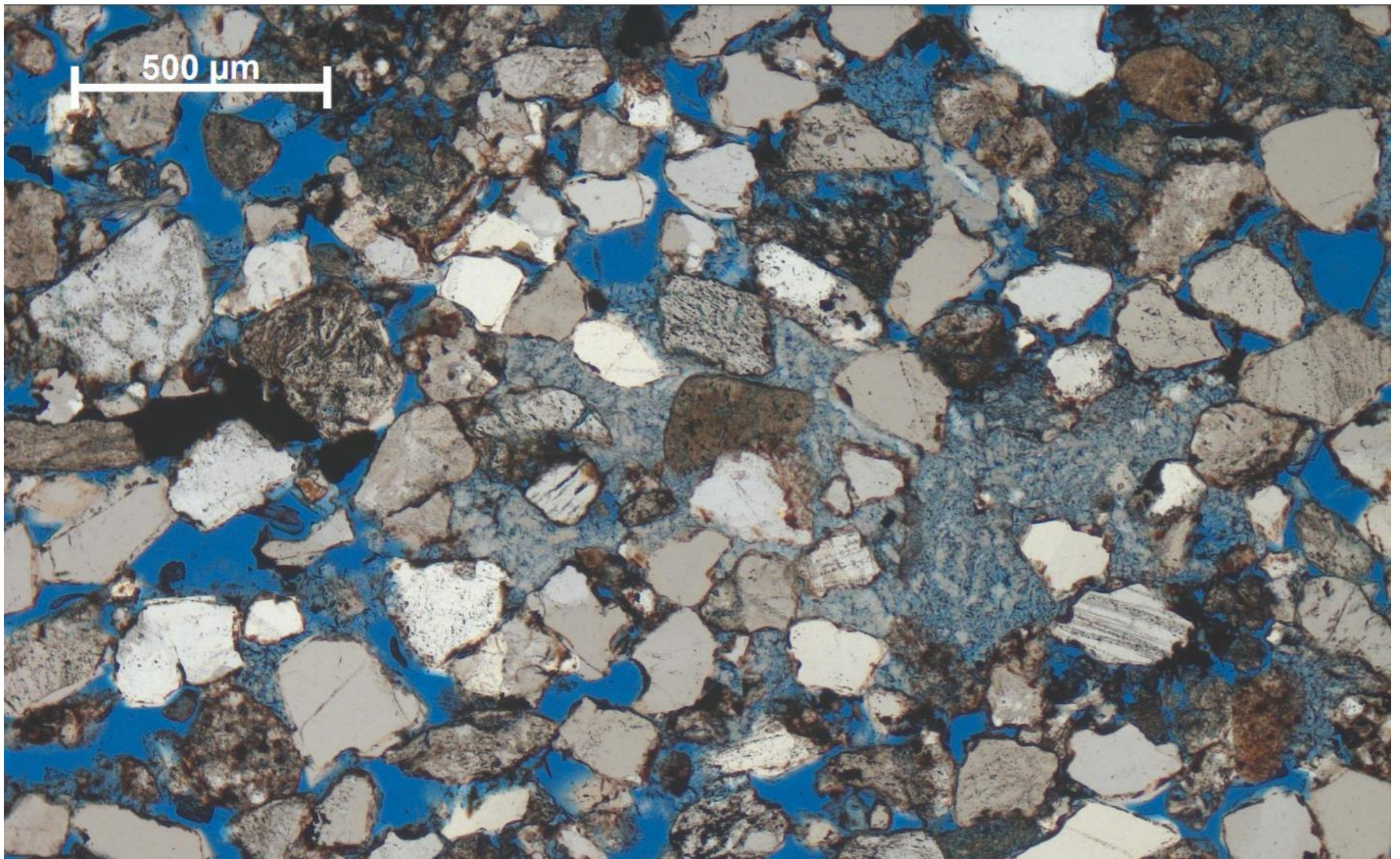


3,5 mm



5 mm

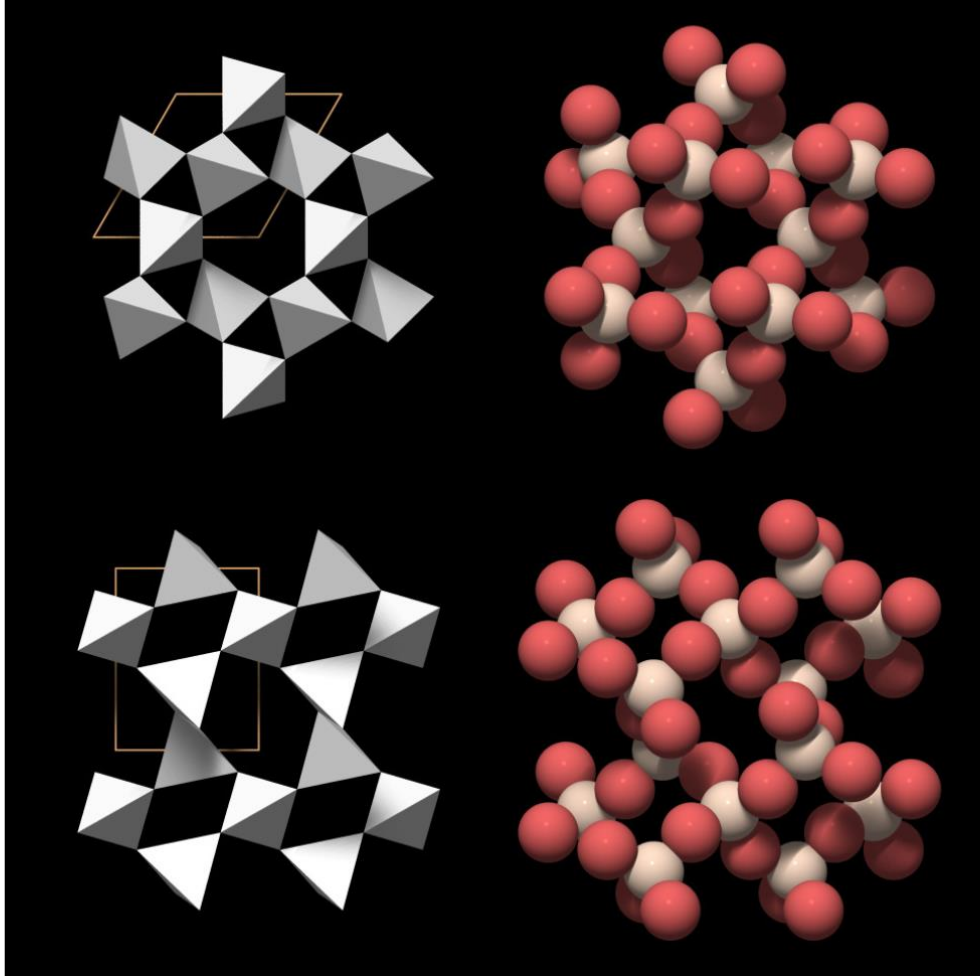




Componentes do arcabouço

- Quartzo
- Feldspato
- Fragmentos líticos
- Minerais pesados

Quartzo



www.mindat.org



www.sandatlas.org

Brilho: Vítreo

Dureza: 7

Densidade: 2.65 - 2.66 g/cm³

Feldspato

Brilho: Vítreo
Dureza: 6 - 6½
Densidade: 2.54-2.76 g/cm³

Feldspato potássico $K(AlSi_3O_8)$
Ortoclásio
Microclínio
Sanidina



www.mindat.org

Plagioclásio		
Nome	Composição	Fórmula
Anorthite	An ₁₀₀ Ab to An ₉₀ Ab ₁₀	CaAl ₂ Si ₂ O ₈
Bytownite	An ₉₀ Ab ₁₀ to An ₇₀ Ab ₃₀	(Ca,Na)Al(Al,Si)Si ₂ O ₈
Labradorite	An ₇₀ Ab ₃₀ to An ₅₀ Ab ₅₀	(Ca,Na)Al(Al,Si)Si ₂ O ₈
Andesine	An ₅₀ Ab ₅₀ to An ₃₀ Ab ₇₀	(Na,Ca)Al(Si,Al)Si ₂ O ₈
Oligoclase	An ₃₀ Ab ₇₀ to An ₁₀ Ab ₉₀	(Na,Ca)Al(Si,Al)Si ₂ O ₈
Albite	An ₁₀ Ab ₉₀ to AnAb ₁₀₀	NaAlSi ₃ O ₈

Fragmentos líticos

- ✓ Vulcânicos: riolito, andesito, basalto
- ✓ Sedimentares: pelito, arenito fino
- ✓ Metamórficos: xisto, filito, quartzito

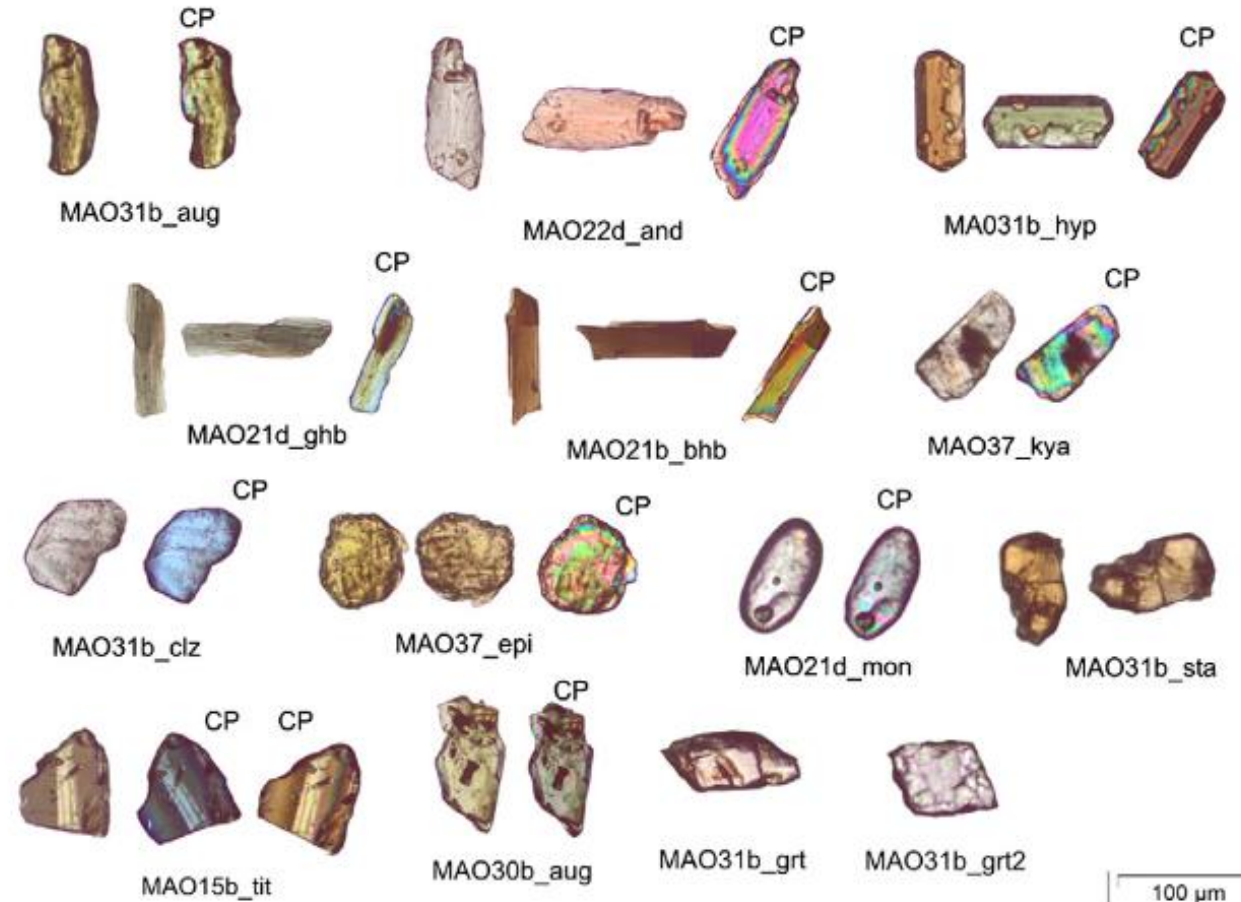


Minerais pesados

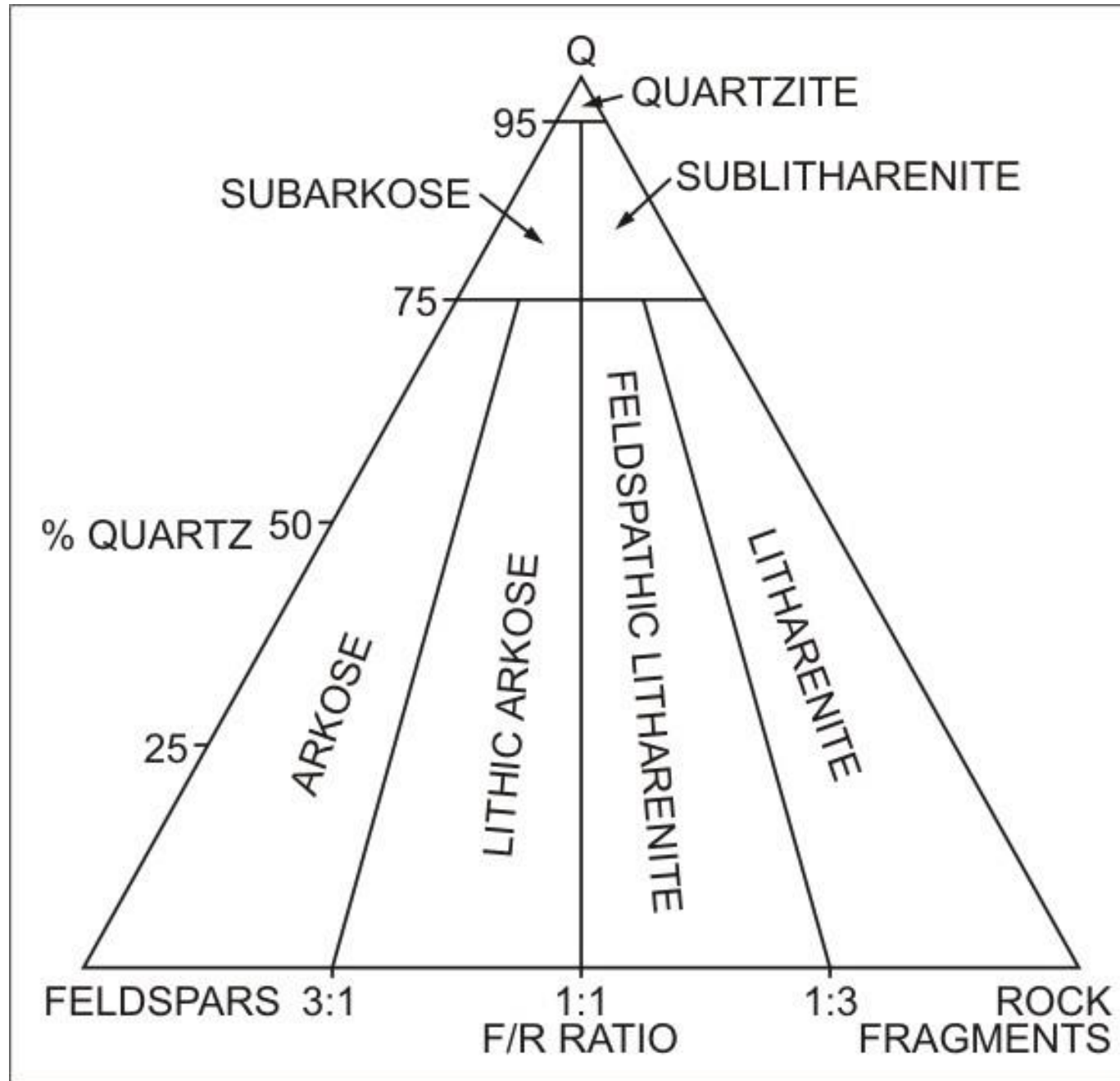
- Zircão
- Turmalina
- Rutilo
- Anatásio
- Granada
- Apatita
- Silimanita
- Cianita
- Andaluzita
- Estaurolita
- Epidoto
- Titanita
- Anfibólio
- Piroxênio
- Monazita
- Olivina

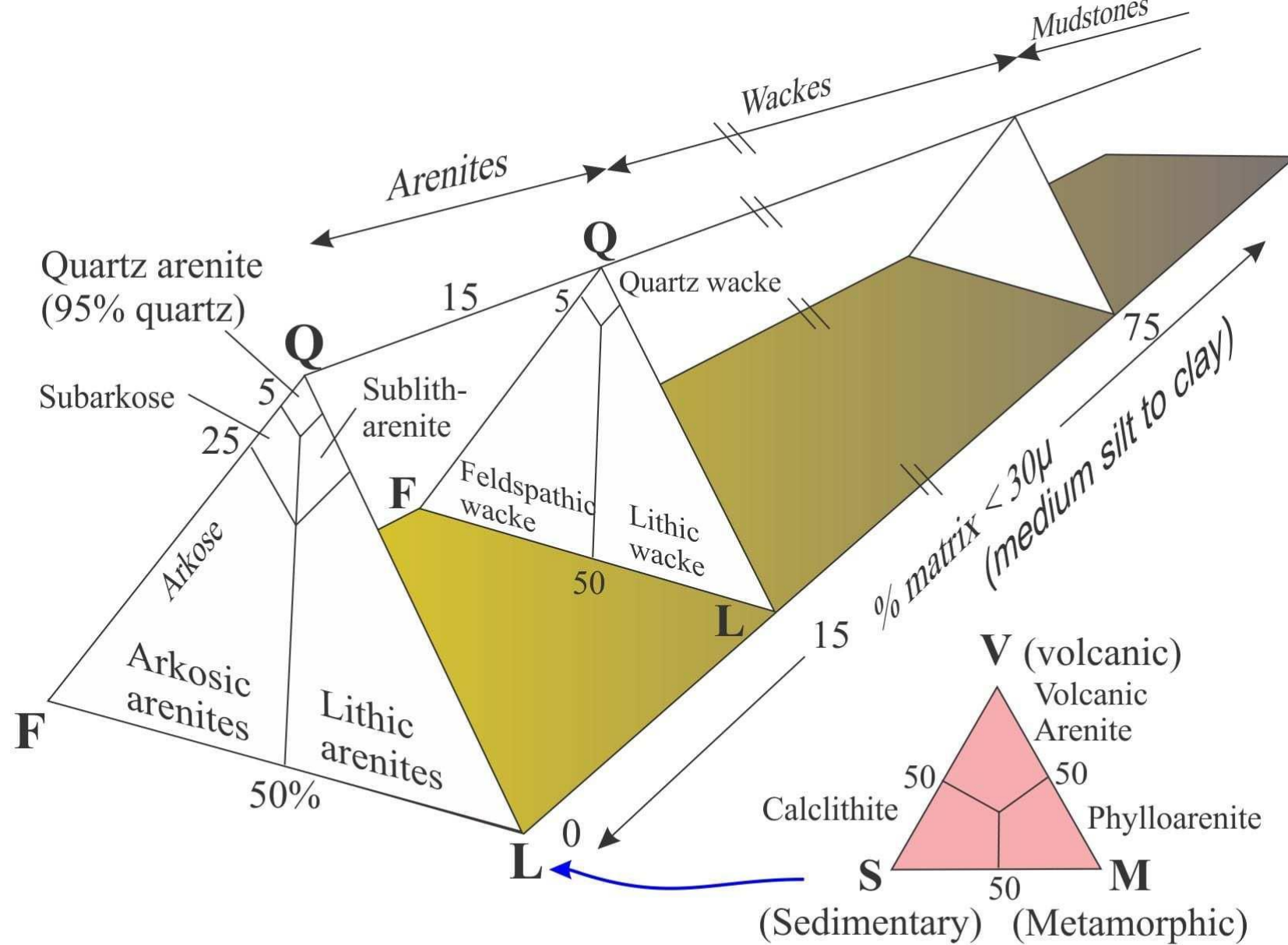


Densidade: $> 2.85 \text{ g/cm}^3$



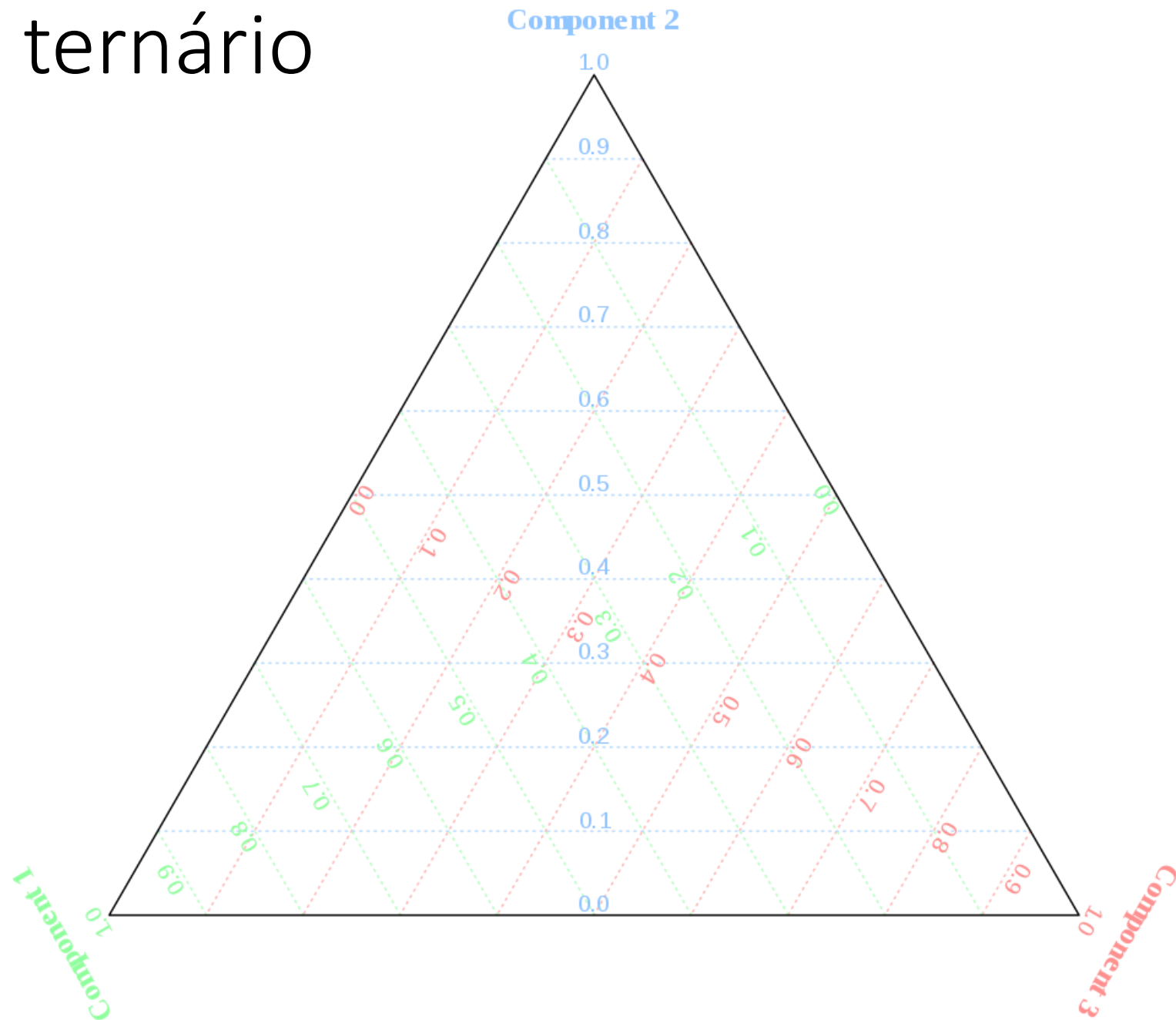
Classificação de Folk



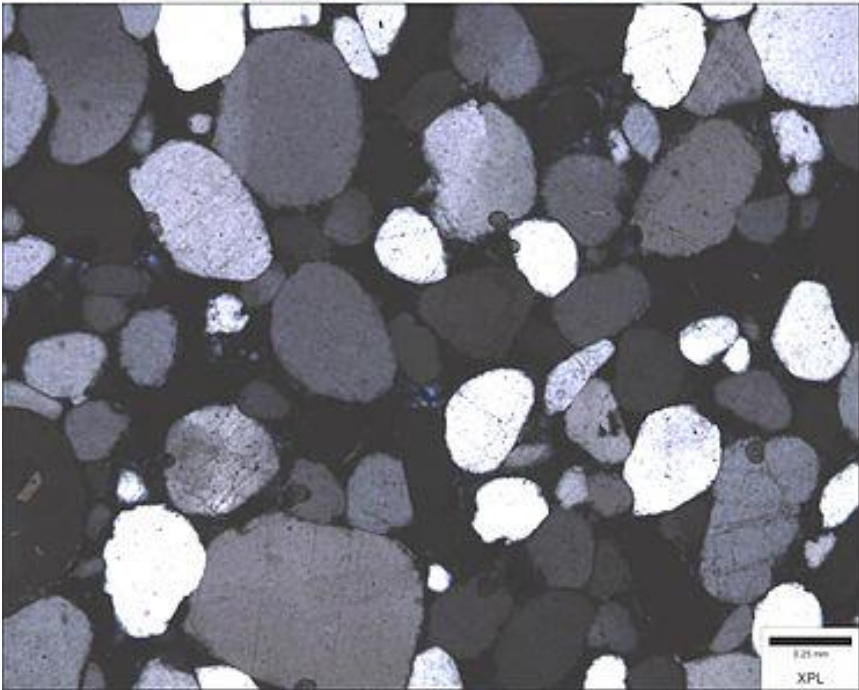
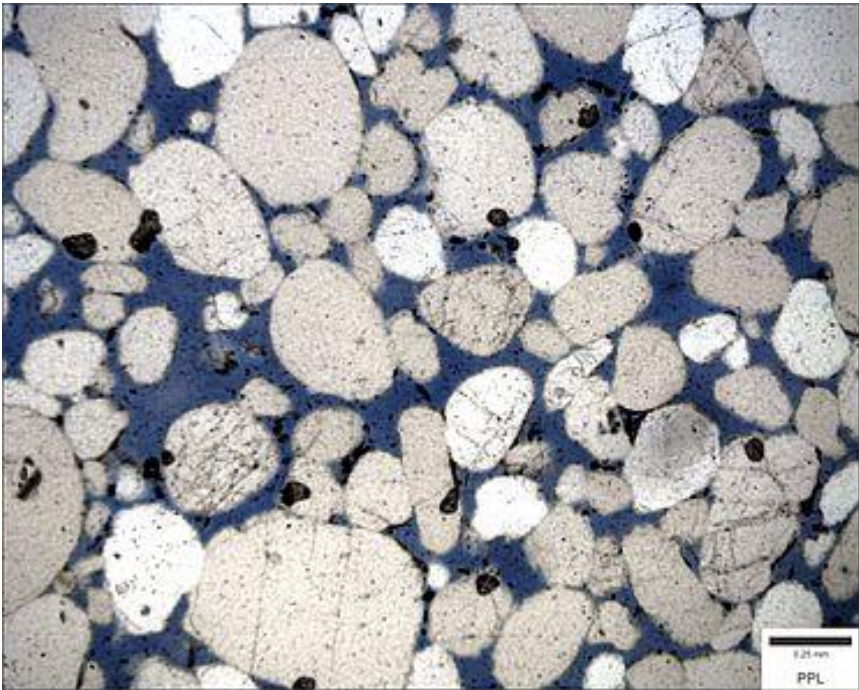


Classification of terrigenous sandstone, from Pettijohn, Potter and Siever, 1973, who in turn modified a diagram from R.H. Dott, 1964 (see text for references). Q = quartz, F = feldspar, L = lithics

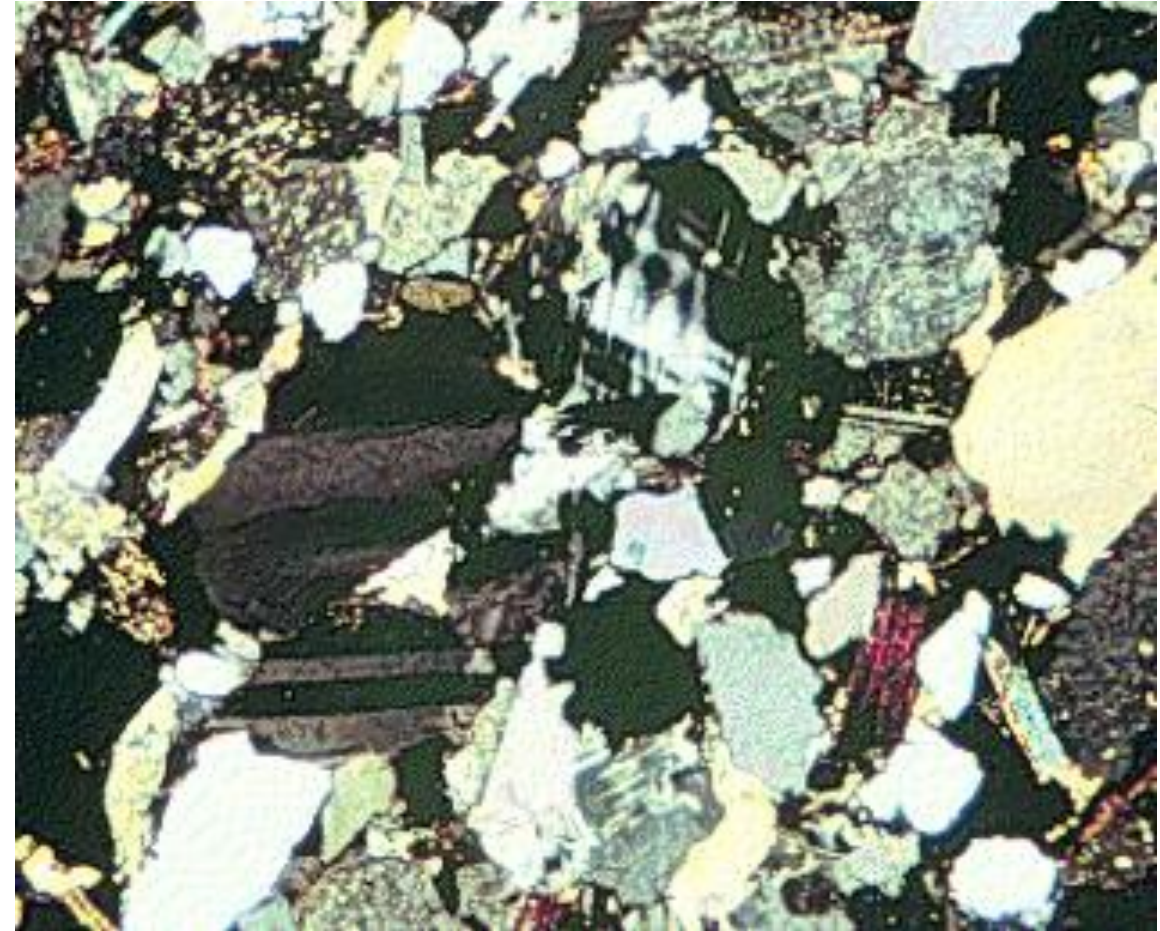
Diagrama ternário



Quartzo arenito



Arenito feldspático

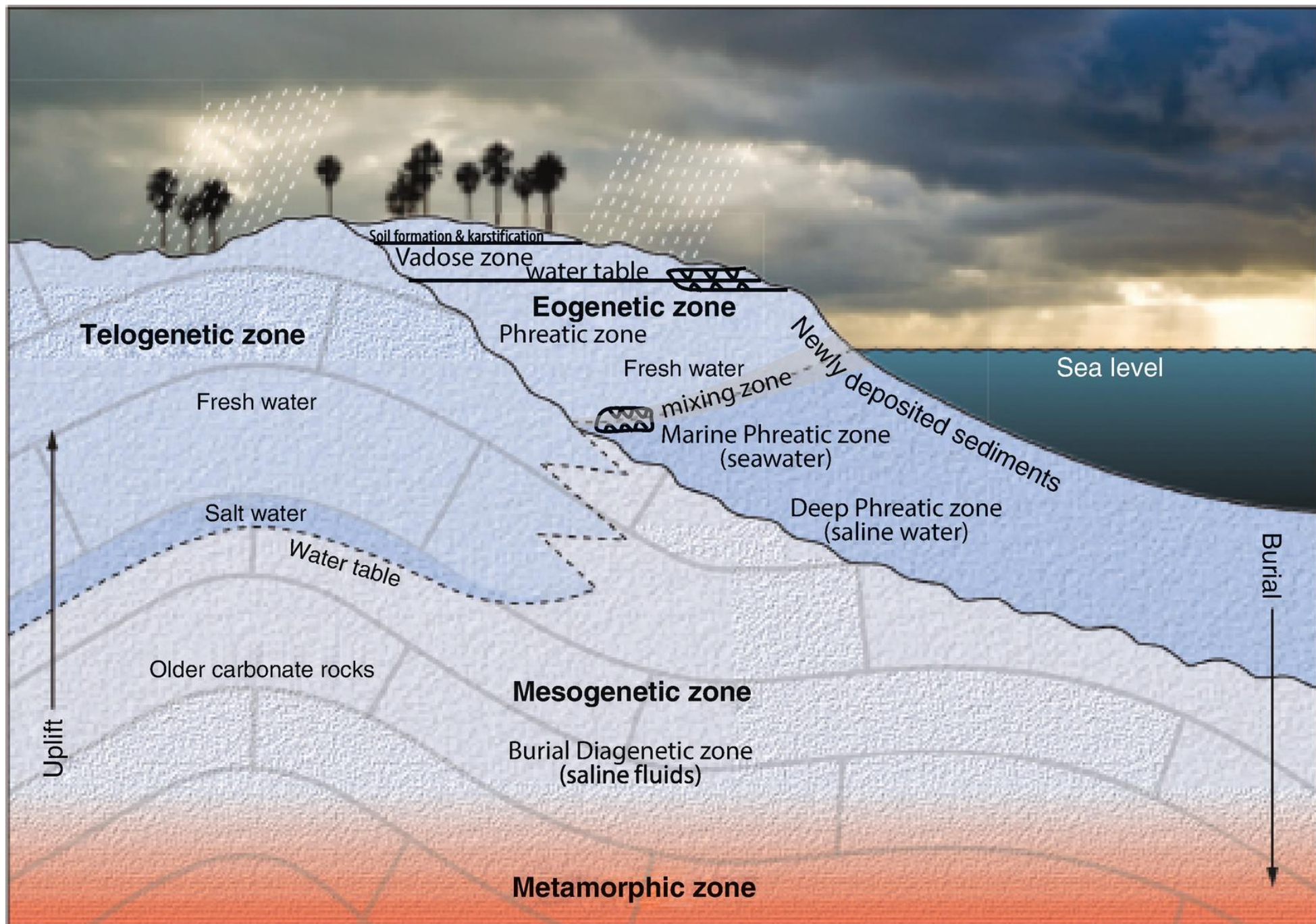


Arenito lítico

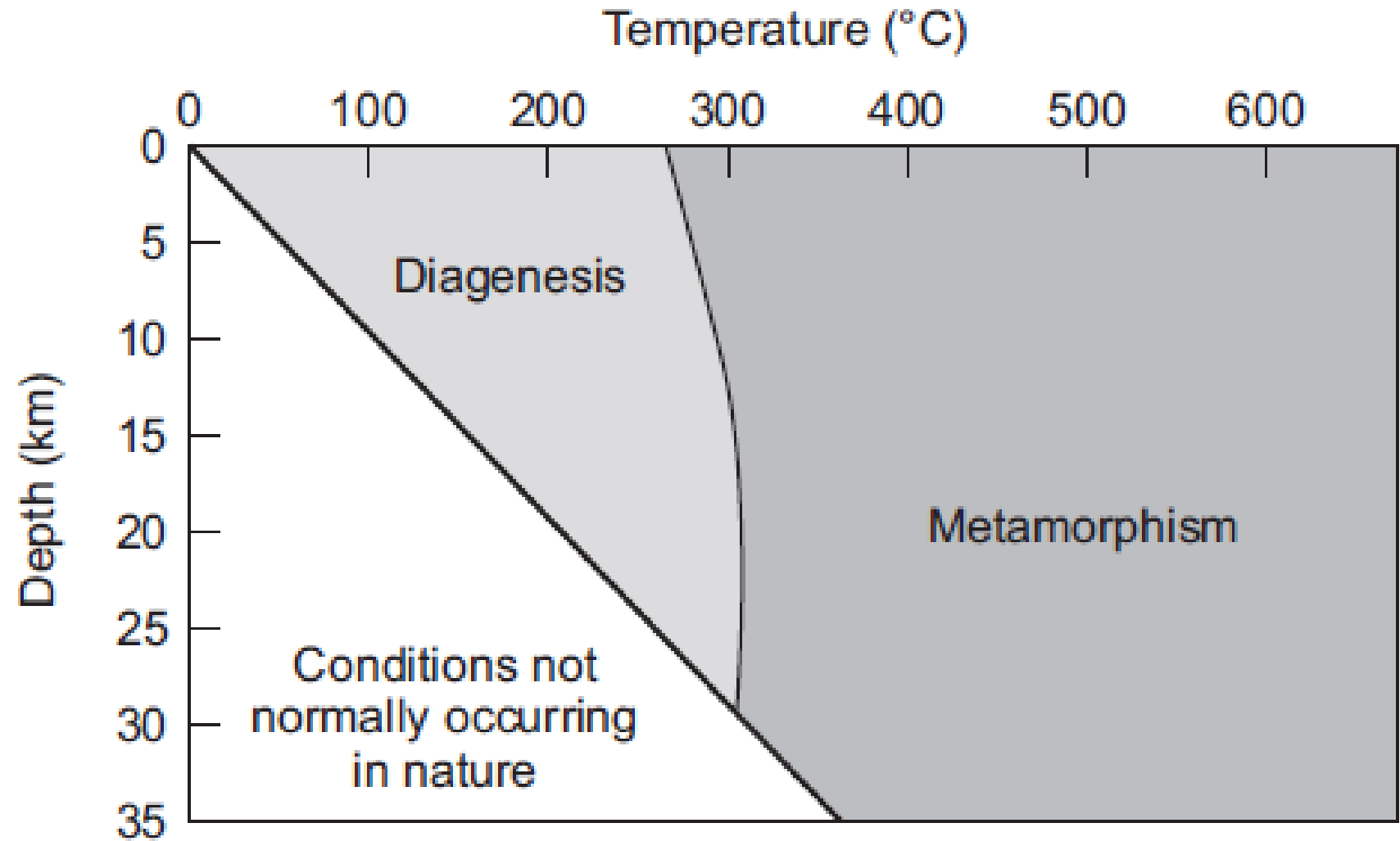


Diagênese

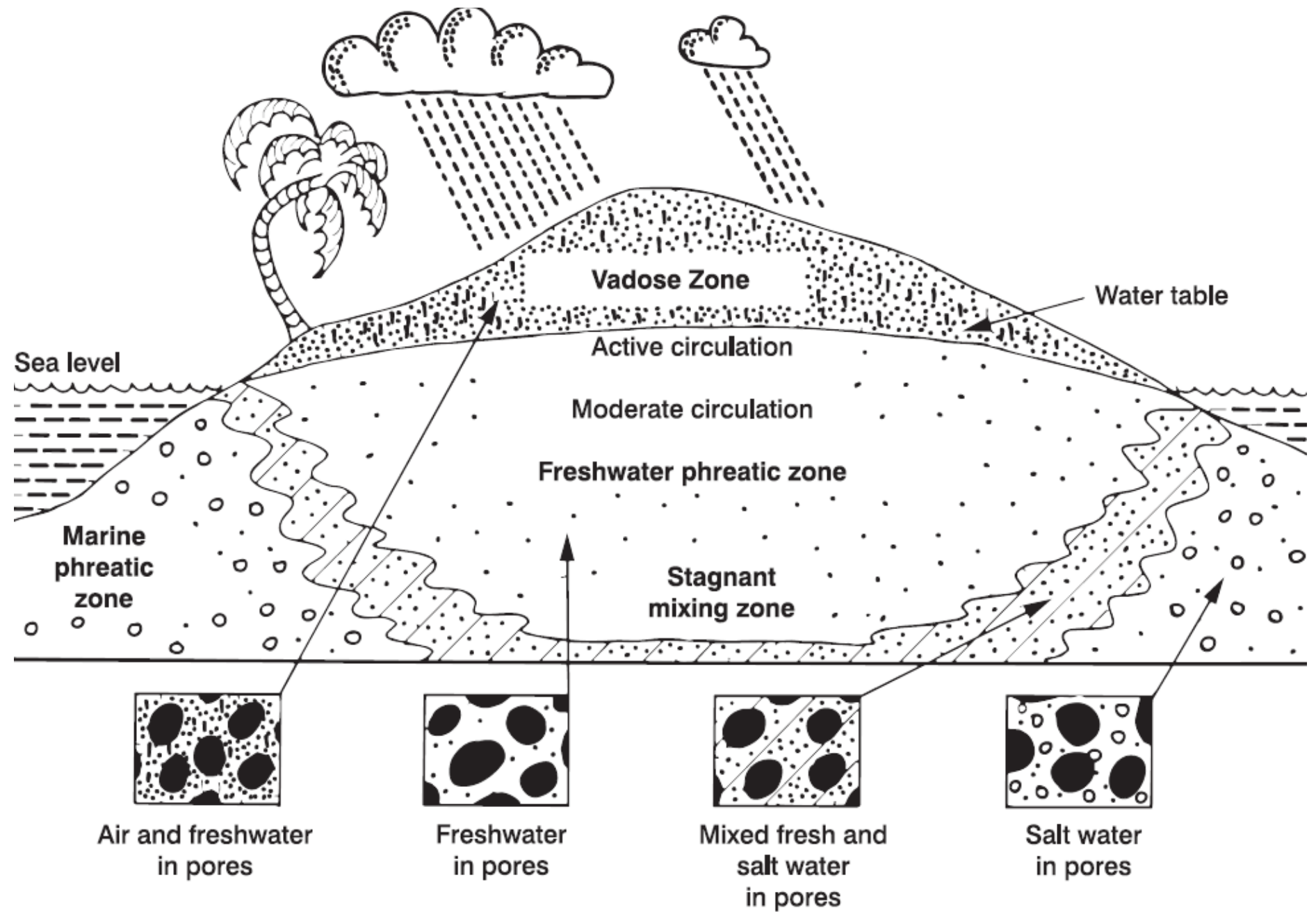
Diagênese



Diagenèse

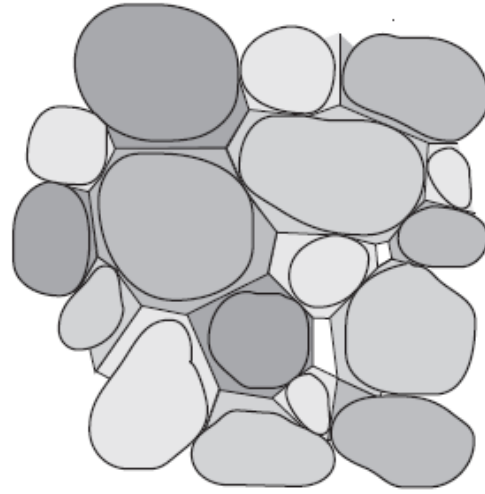


Eodiagênese



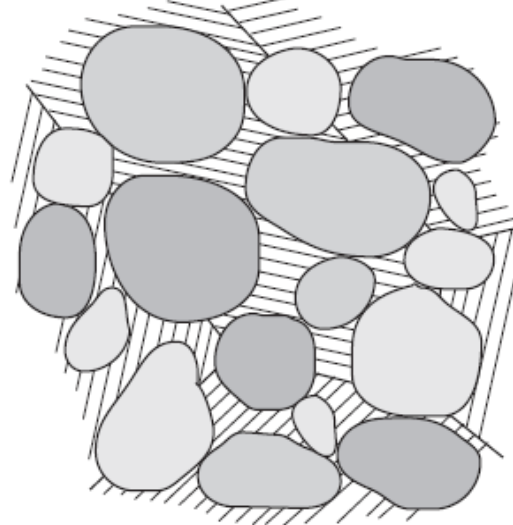
Cimentação

(a) Overgrowth cement



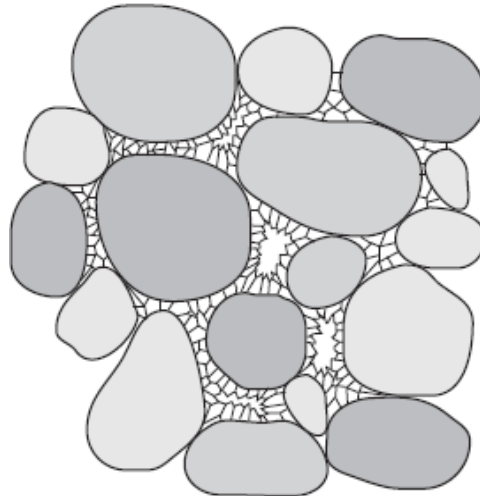
Cement growth is in optical continuity with the adjacent grain

(b) Poikilotopic cement



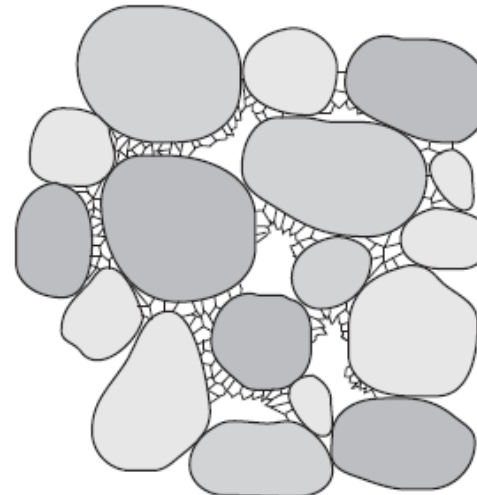
Grains are enveloped in large crystals of cement

(c) Isopachous cement



Crystals of cement grow uniformly into pores

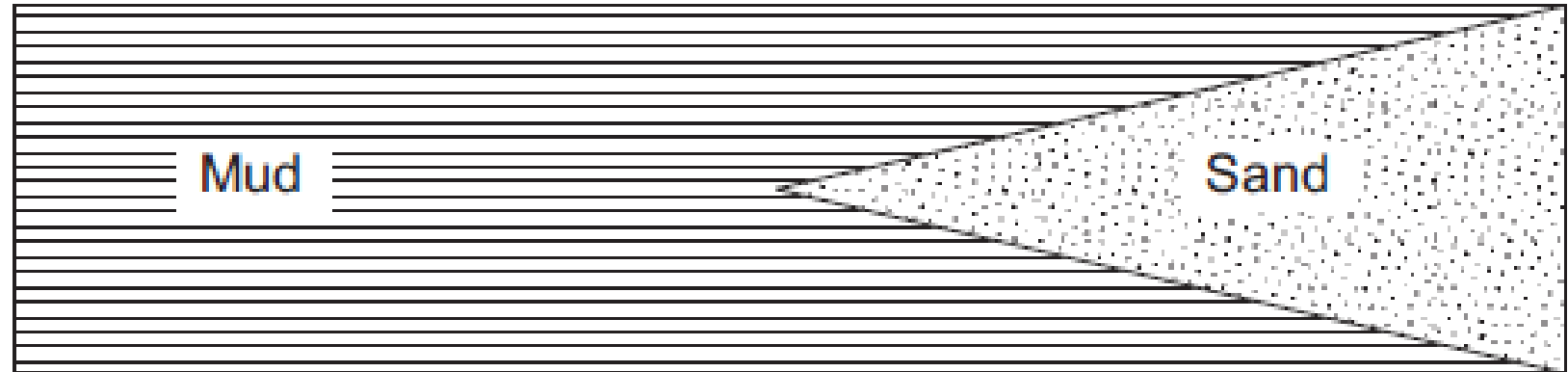
(d) Meniscus cement



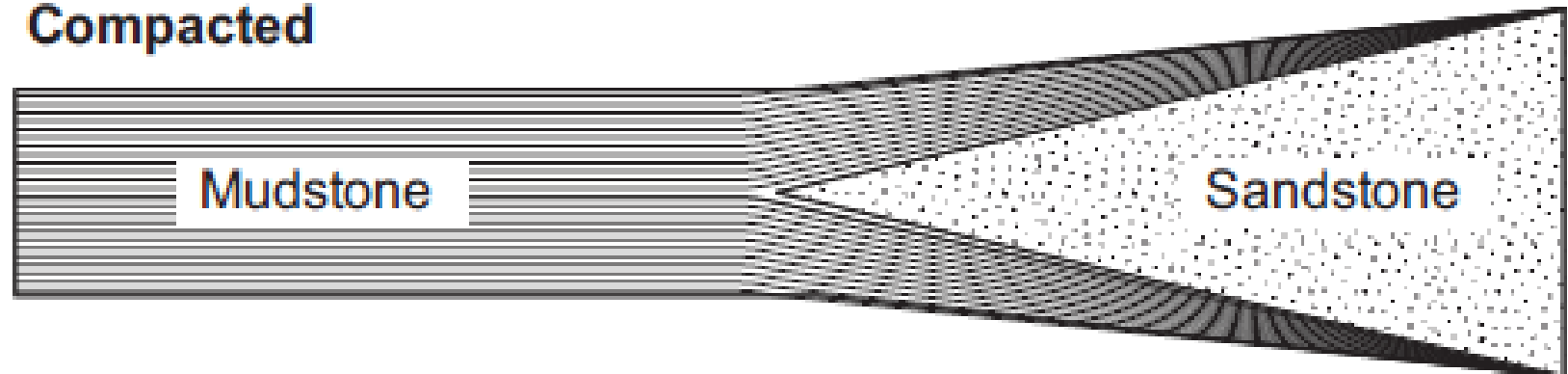
Cement develops from drops of pore water attached to grains

Compactação

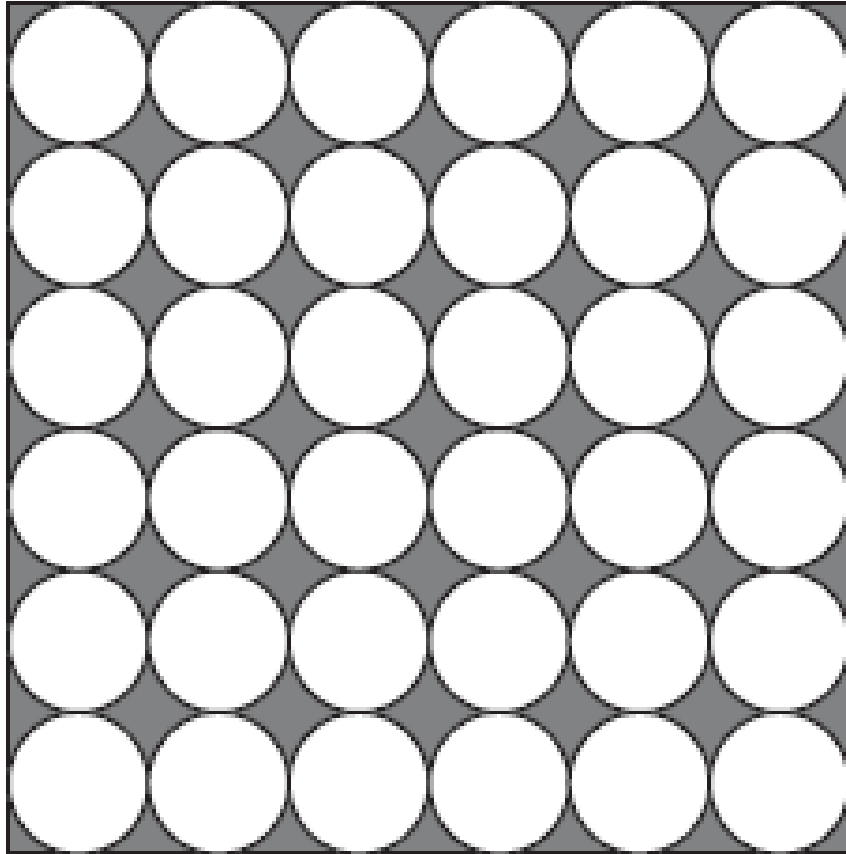
Uncompacted



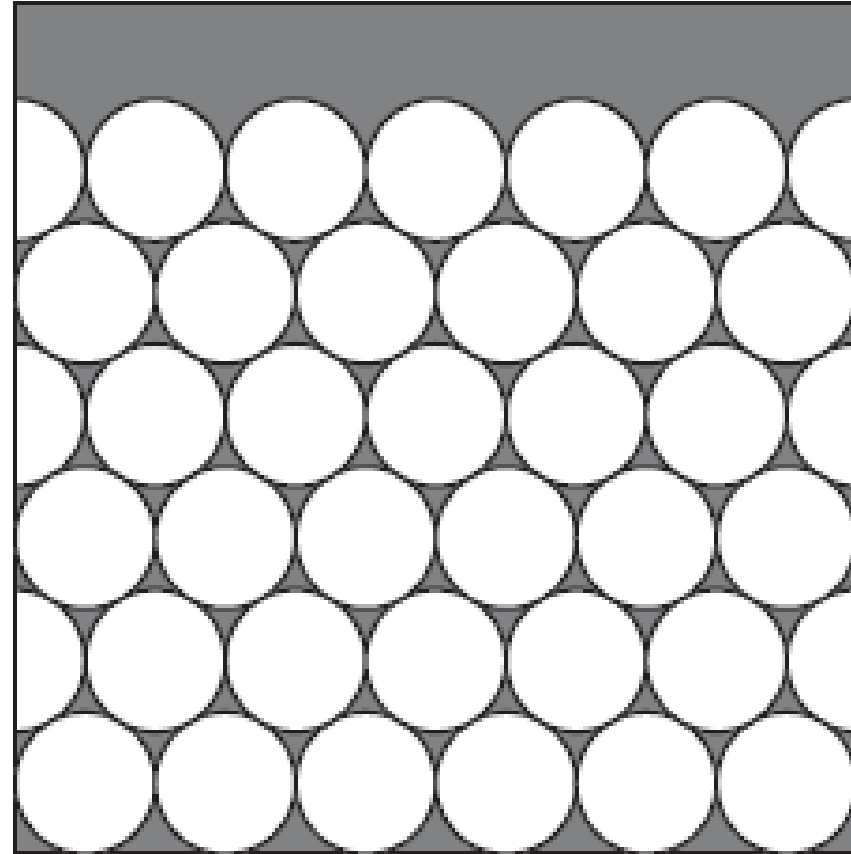
Compacted



Compactação mecânica



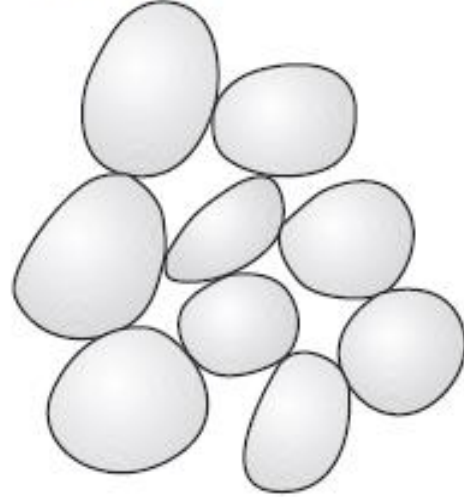
loose packing - pre-compaction



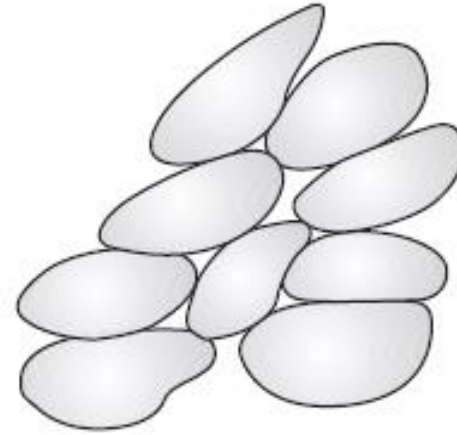
tight packing - post-compaction

Compactação química

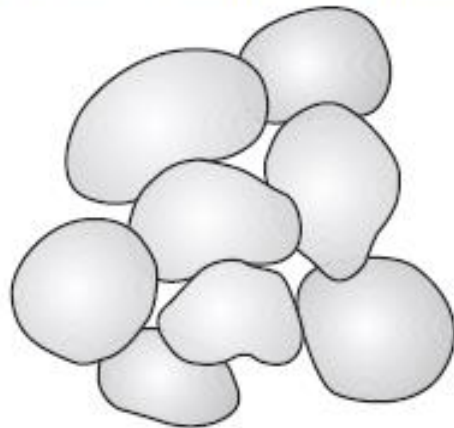
Point contacts



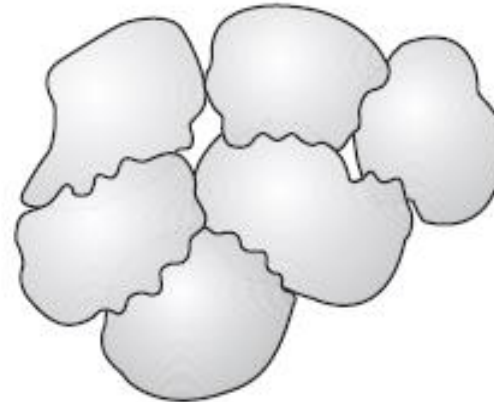
Long contacts



Concavo-convex contacts



Sutured contacts



Sites de interesse:

www.virtualmicroscope.org

www.mindat.org

www.sepm.org

<https://www.virtualmicroscope.org/content/feldspathic-sandstone>