

Rochas carbonáticas: introdução e classificação

GSA0252-Sedimentologia



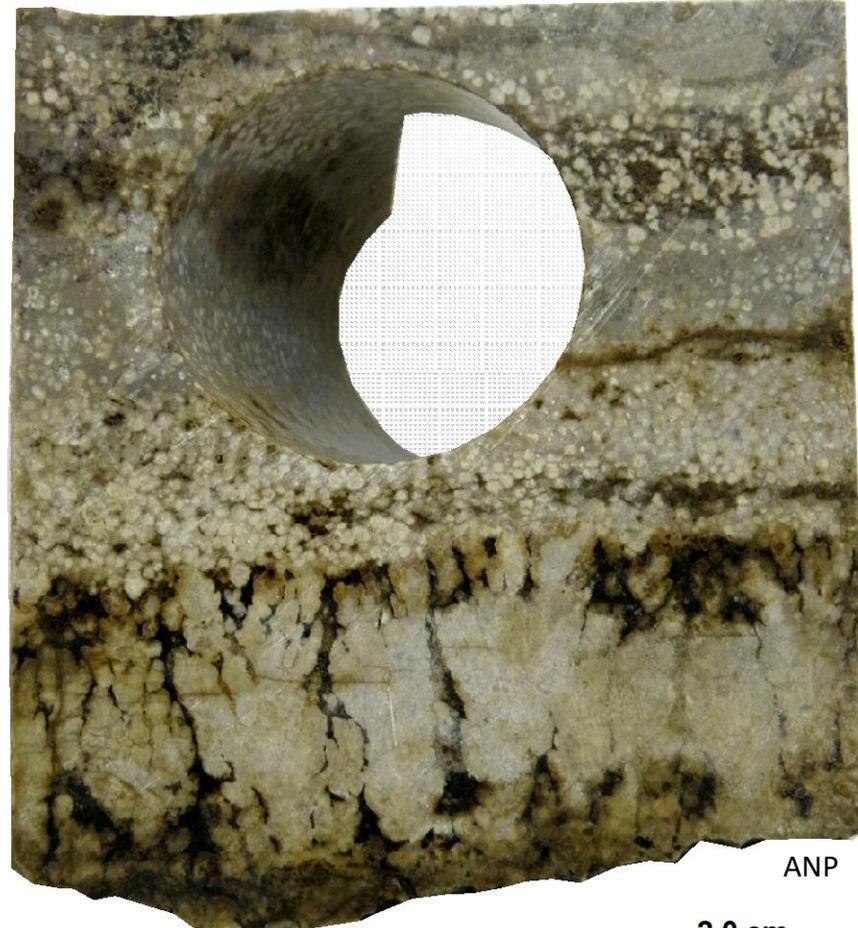
National Geographic



SIGEP-CPRM



Getty Images/iStockphoto



ANP

2,0 cm

Minerais carbonáticos formadores de rochas sedimentares

- Calcita (CaCO_3)
 - Calcita-baixo Mg (<4% Mg)
 - Calcita-alto Mg (>10-20% Mg)
- Aragonita (CaCO_3)
- Dolomita $\text{MgCa}(\text{CO}_3)_2$

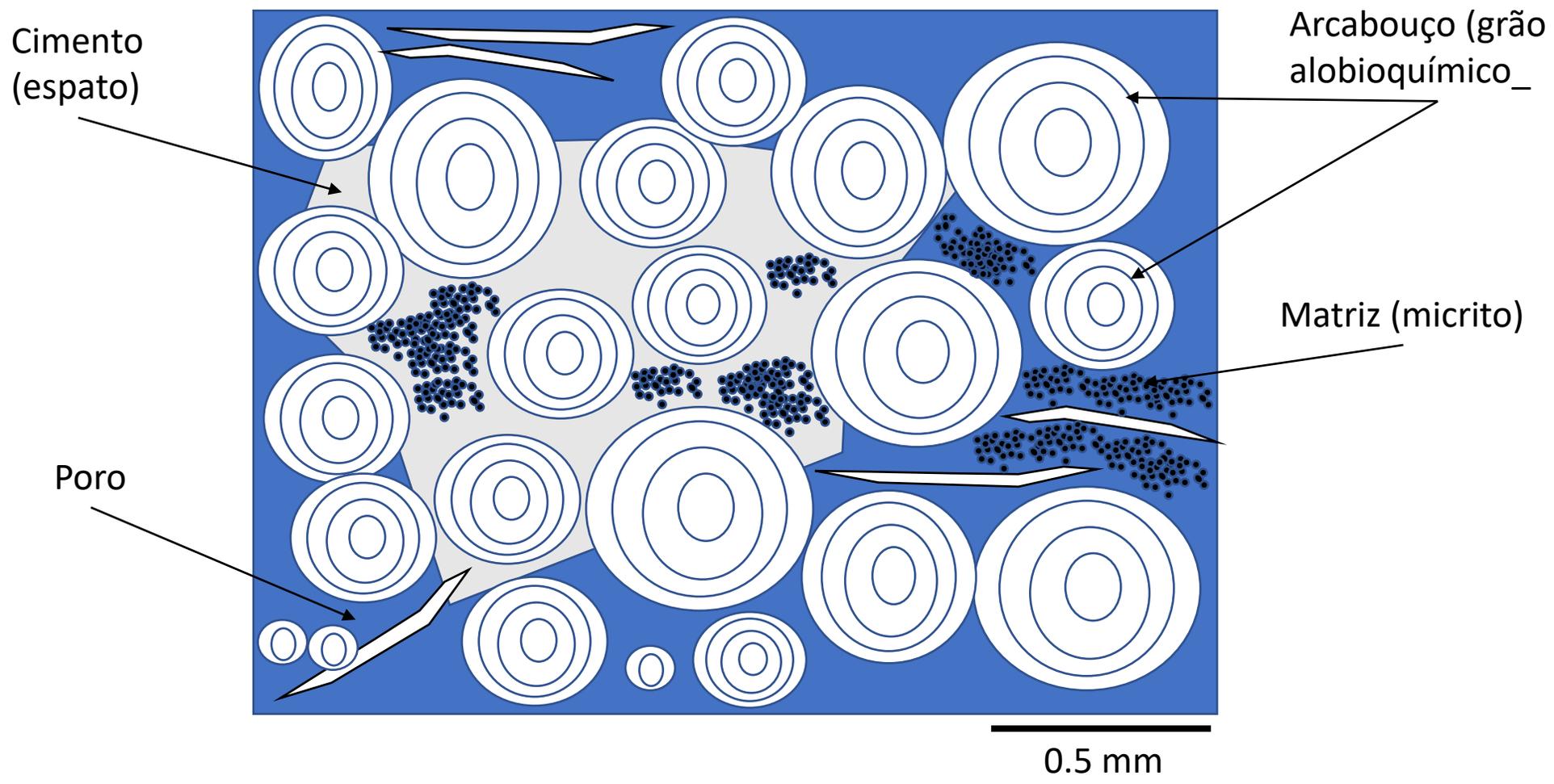
Mineralogy of major fossil groups		Aragonite	Low-Mg calcite	High-Mg calcite	Aragonite+calcite
Bivalves					
Gastropods					
Cephalopods					
Brachiopods					
Echinoderms					
Foraminifera					
Corals					
Bryozoans					
Sponges					
Rhodophyta (algae)					
Chlorophyta (algae)					
Chrysophyta (algae)					

Classificação composicional

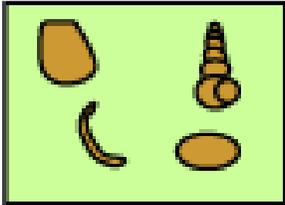
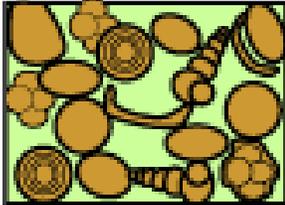
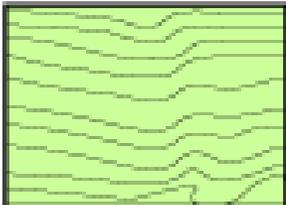
- Calcário
- Dolomito
- Marga

Classificação textural

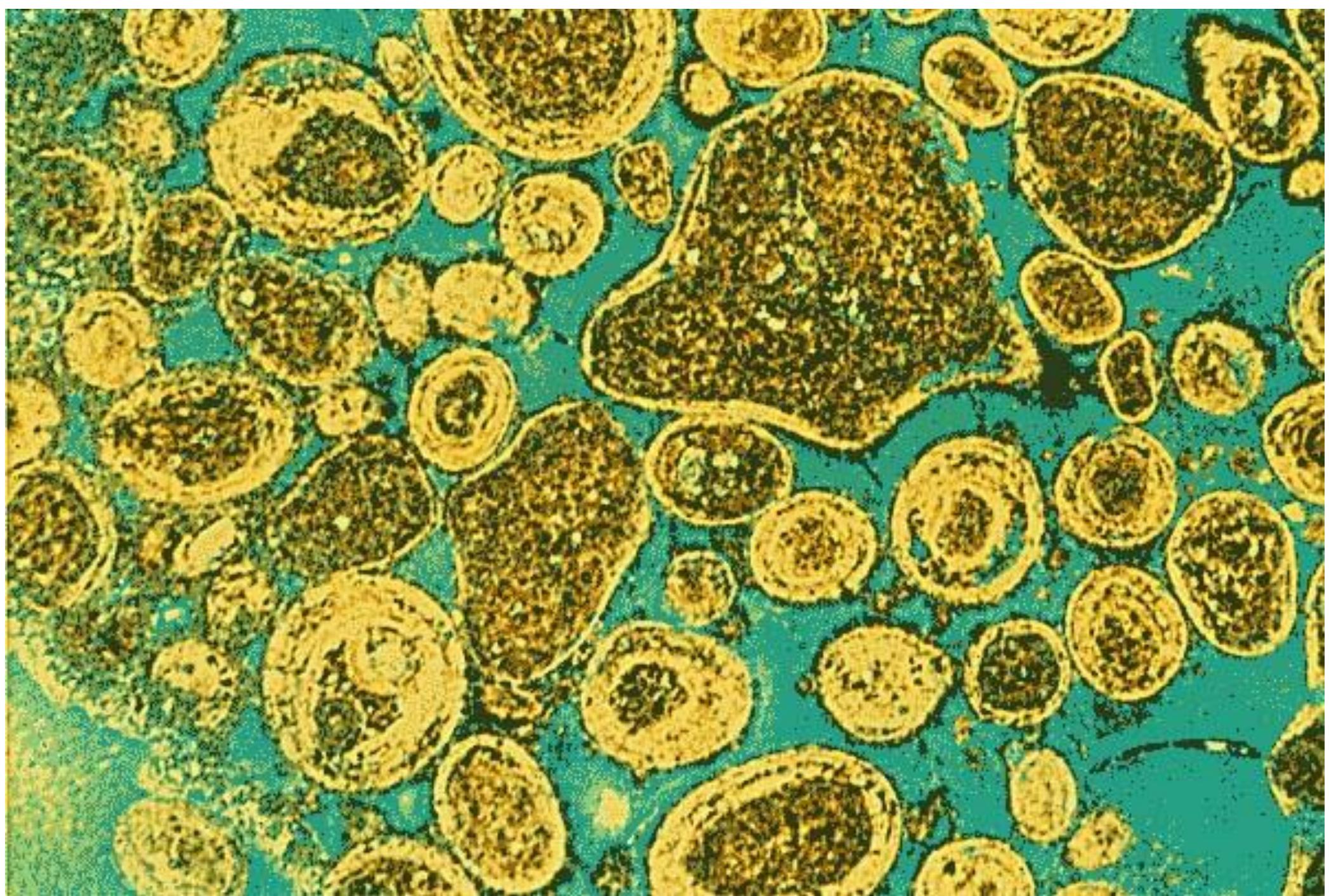
- Calcirrudito
- Calciarenito
- Calcilutito

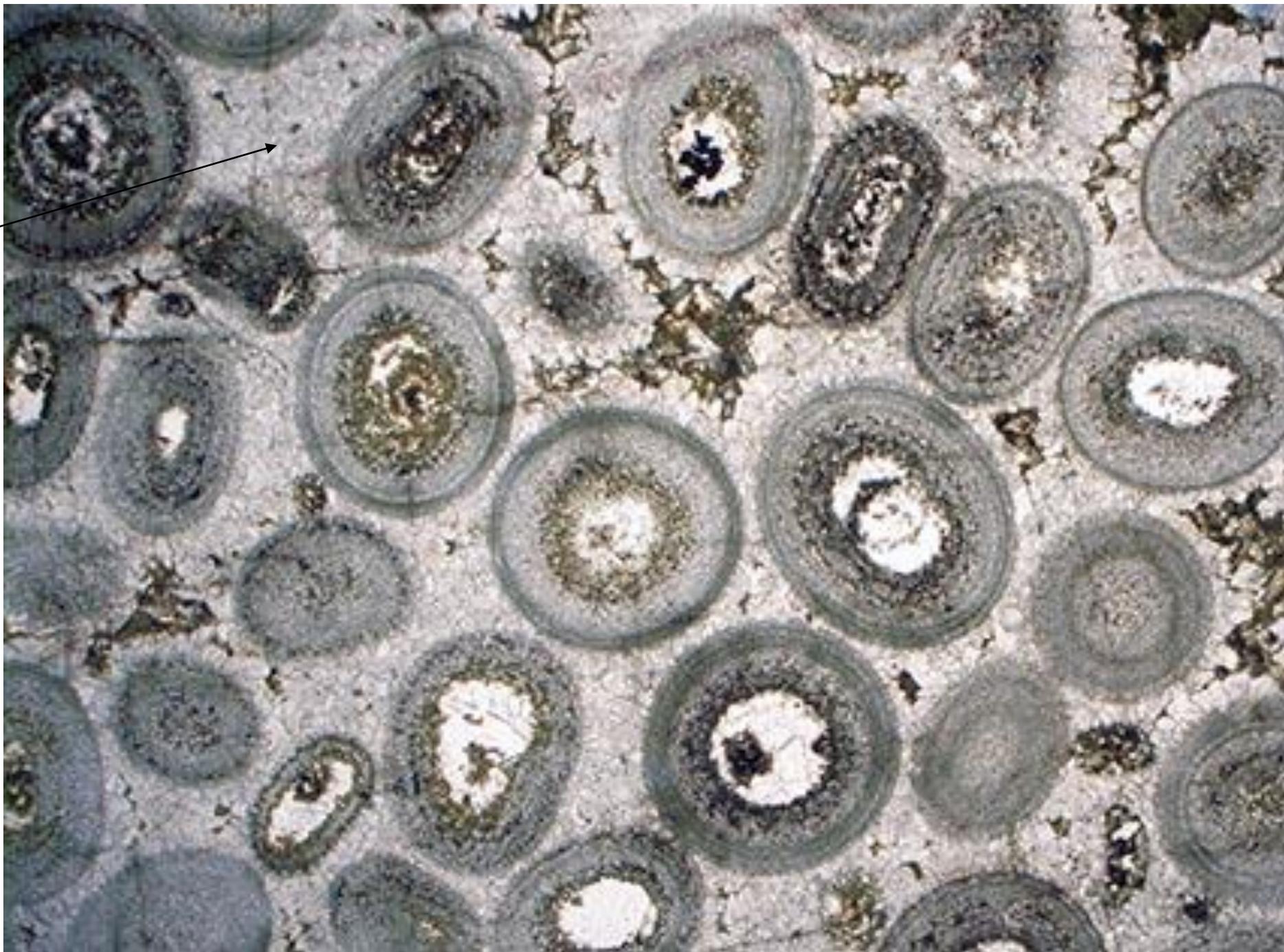


Classificação de Dunham (1962)

Original components not bound together at deposition				Original components bound together at deposition. Intergrown skeletal material, lamination contrary to gravity, or cavities floored by sediment, roofed over by organic material but too large to be interstices
Contains mud (particles of clay and fine silt size)		Lacks Mud		
Mud-supported		Grain-supported		
Less than 10% Grains	More than 10% Grains			
Mudstone 	Wackestone 	Packstone 	Grainstone 	Boundstone 

C. G. St. C. Kendall, 2005 (after Dunham, 1962, AAPG Memoir 1)





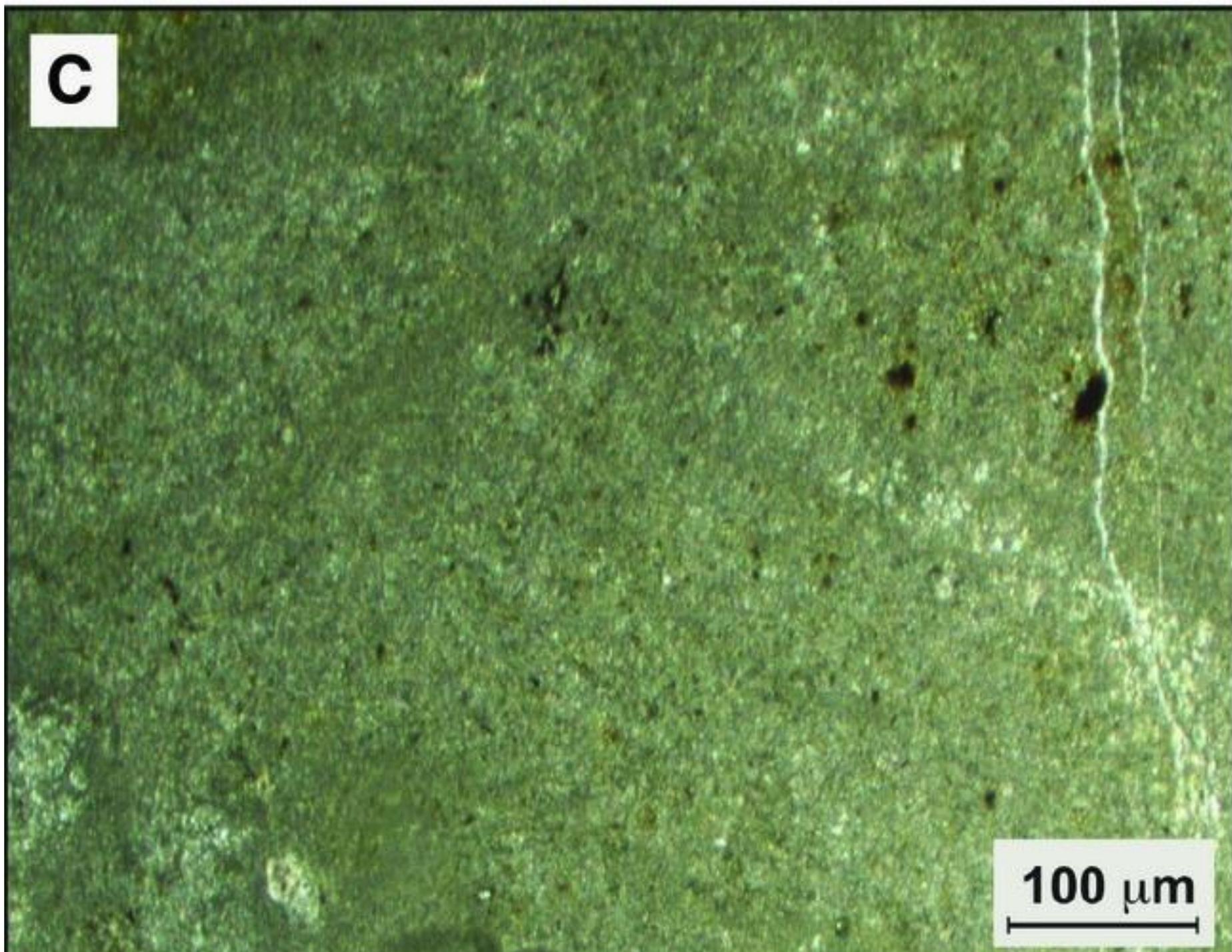
Espato ou
Esparito
("spar calcite")

Micrita
($< 4 \mu\text{m}$)



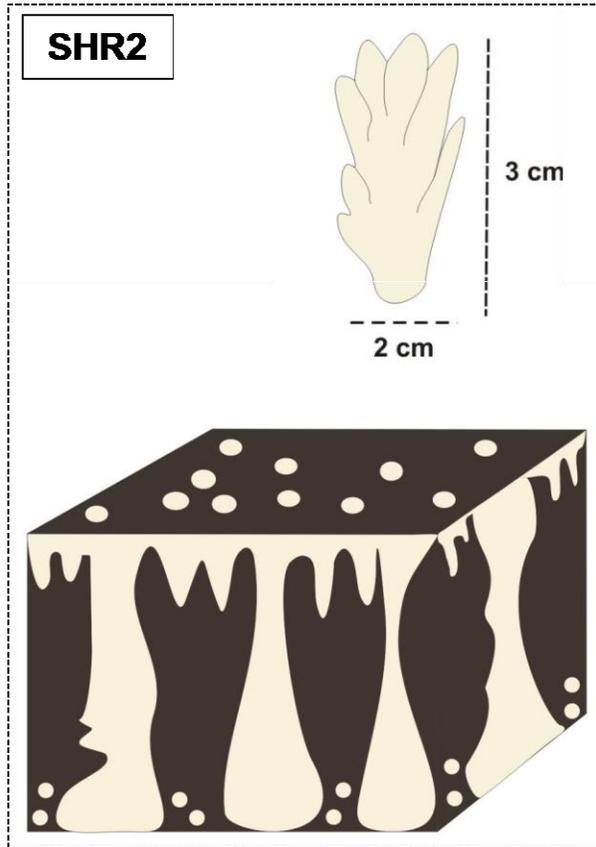
C

100 μm

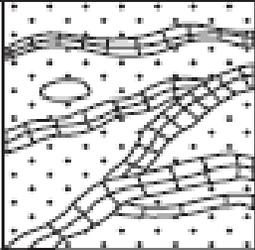
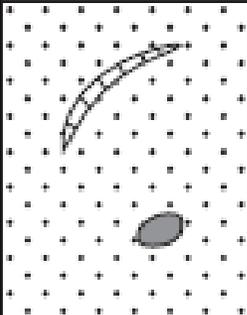
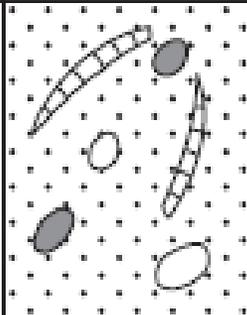
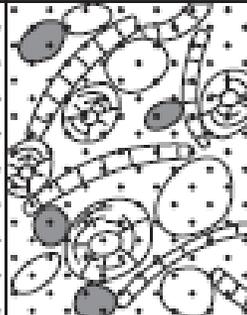
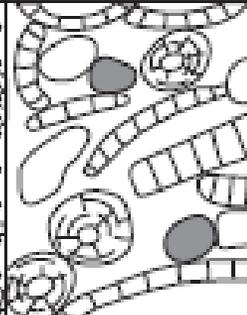
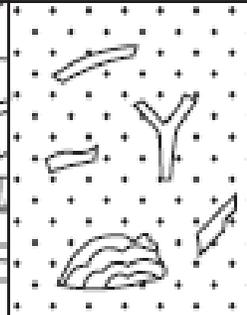
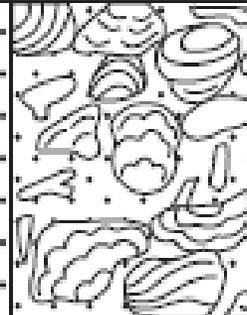
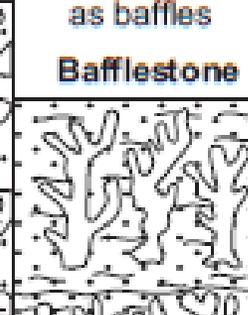
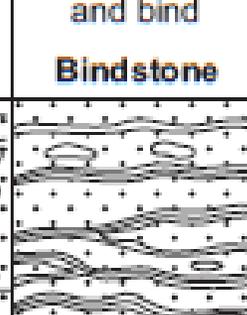
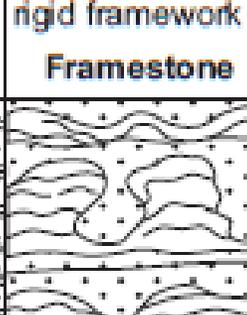
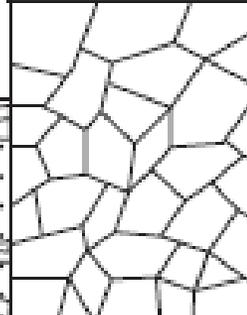




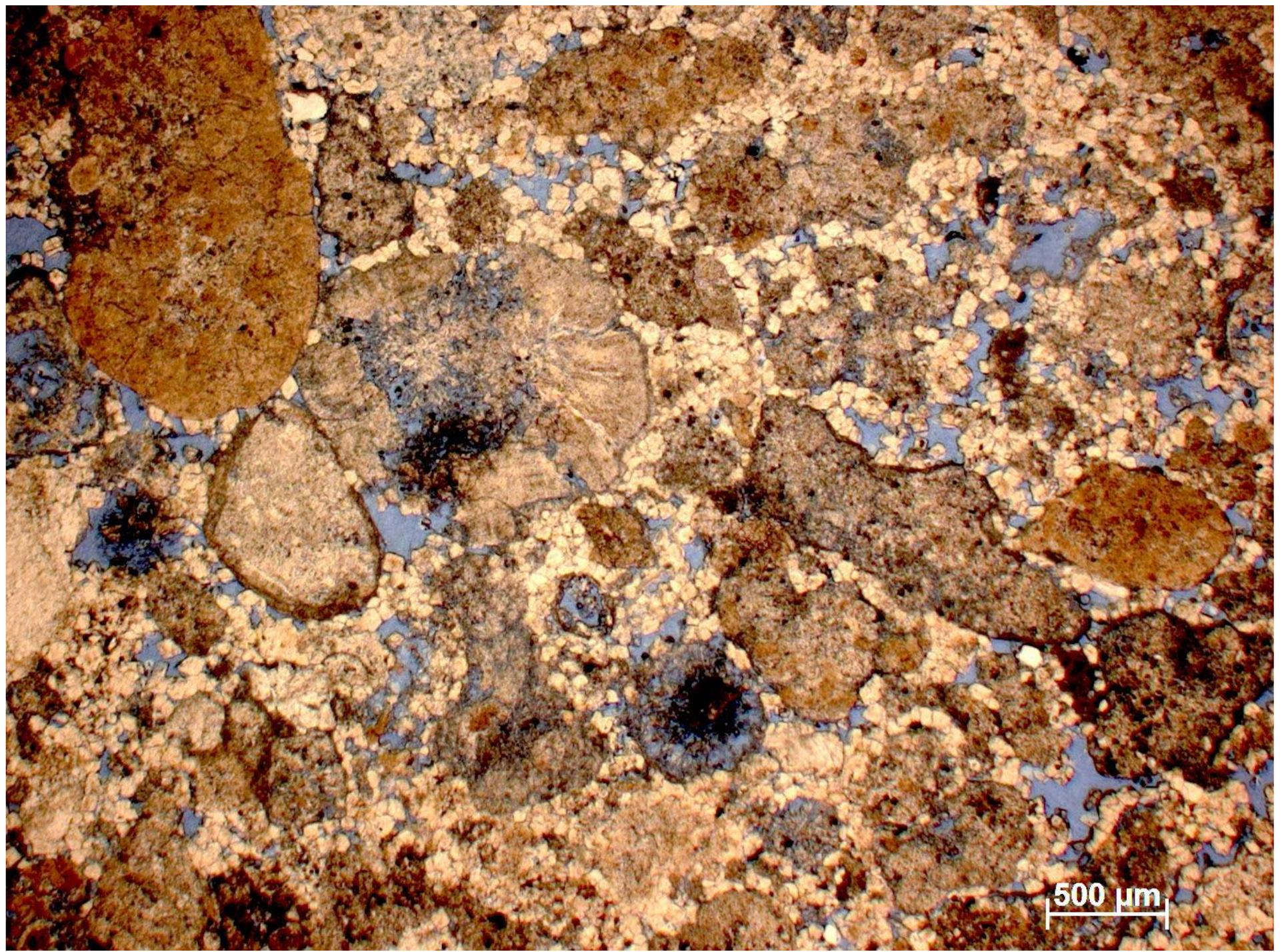
Franco (Bacia de Santos)

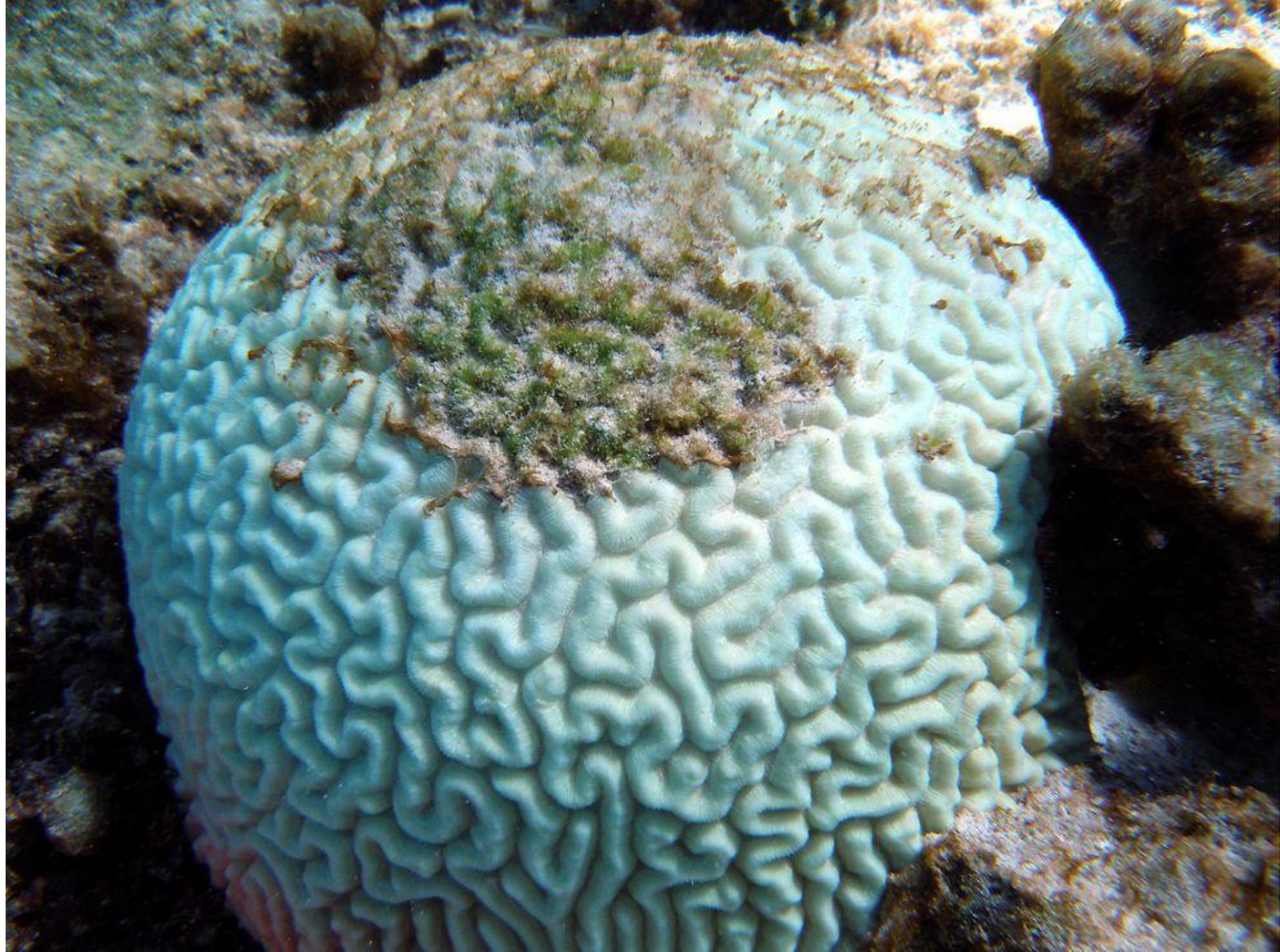


Dunham (1962) modificado por Embry & Klovan (1971)

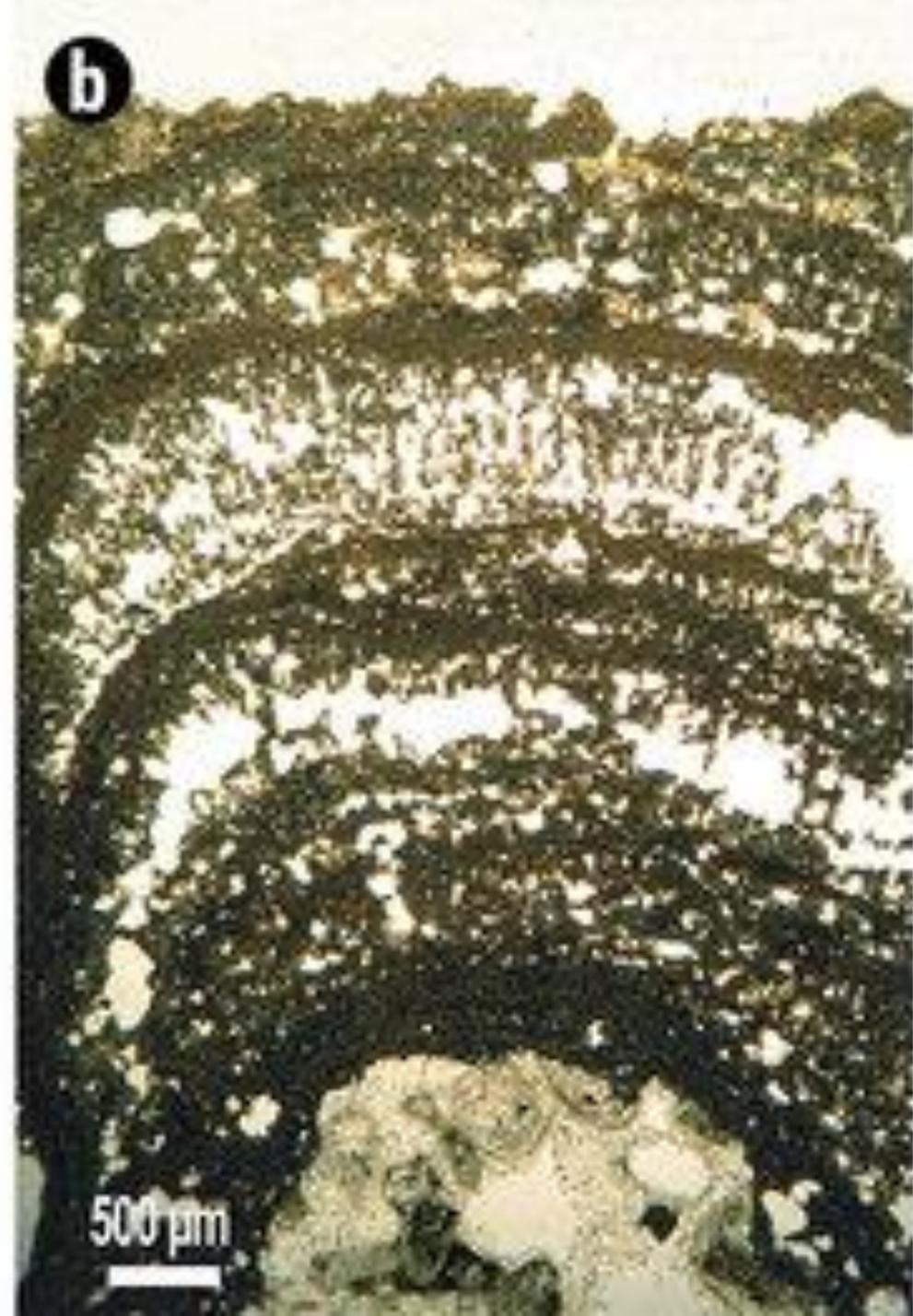
Depositional texture recognisable						Depositional texture not recognisable			
Original components not bound together during deposition				Original components organically bound during deposition					
Contains mud (clay and fine silt-size carbonate)		Lacks mud and is grain-supported		>10% grains >2mm		Boundstone <i>(may be divided into three types below)</i> 			
Mud-supported		Grain-supported		Matrix-supported	Supported by > 2mm component				
Less than 10% grains	More than 10% grains					By organisms which act as baffles	By organisms which encrust and bind	By organisms which build a rigid framework	
Mudstone	Wackestone	Packstone	Grainstone	Floatstone	Rudstone	Bafflestone	Bindstone	Framestone	Crystalline
									

Libra (B. de Santos,
ANP)









Fotossíntese e calcificação

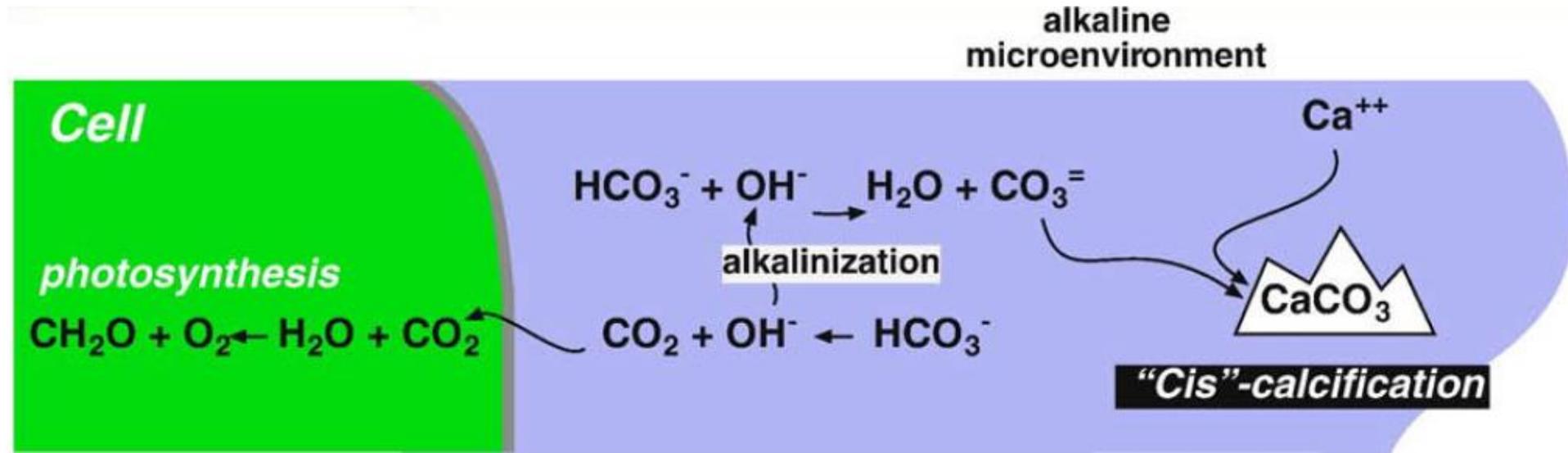
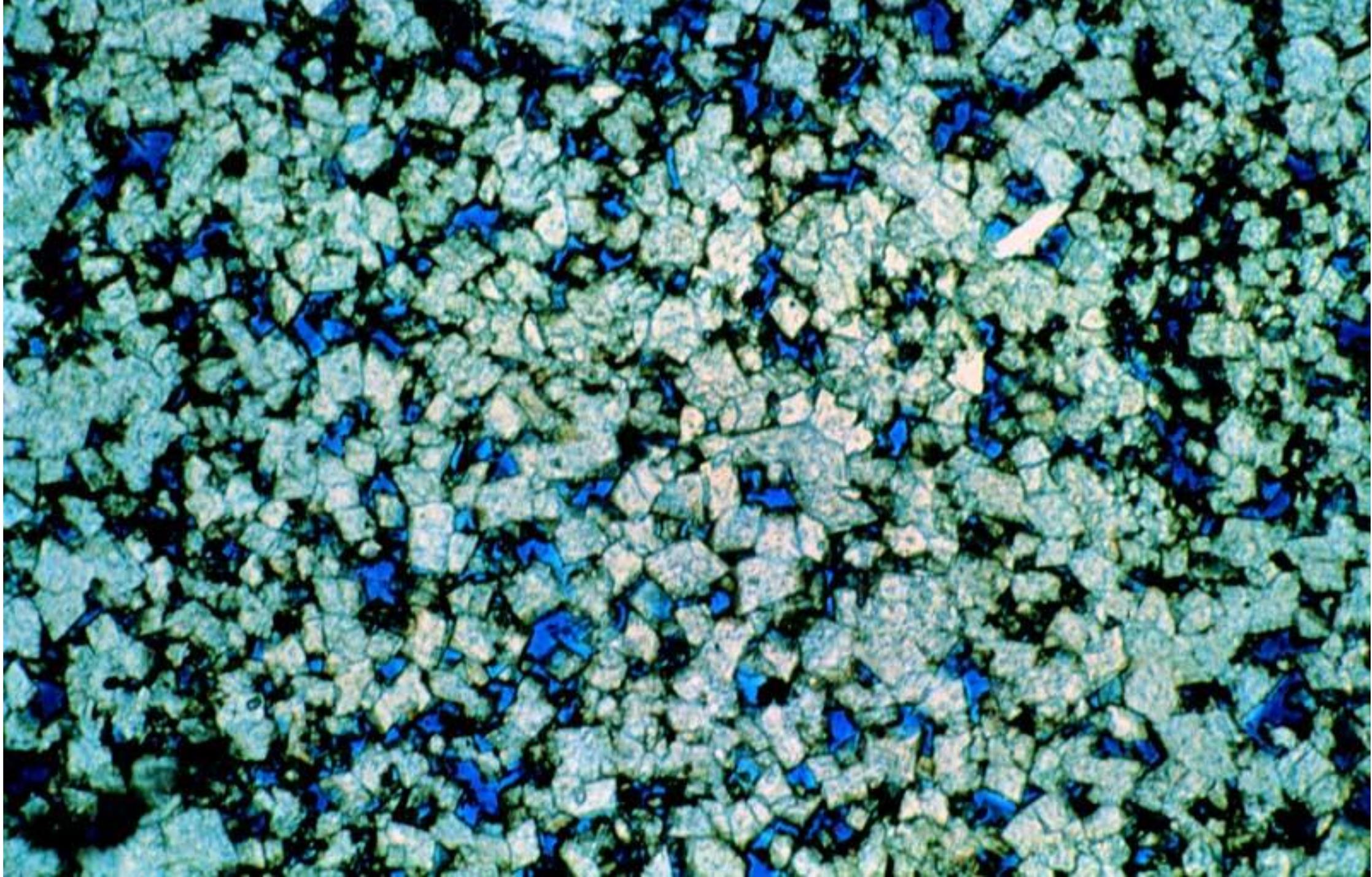
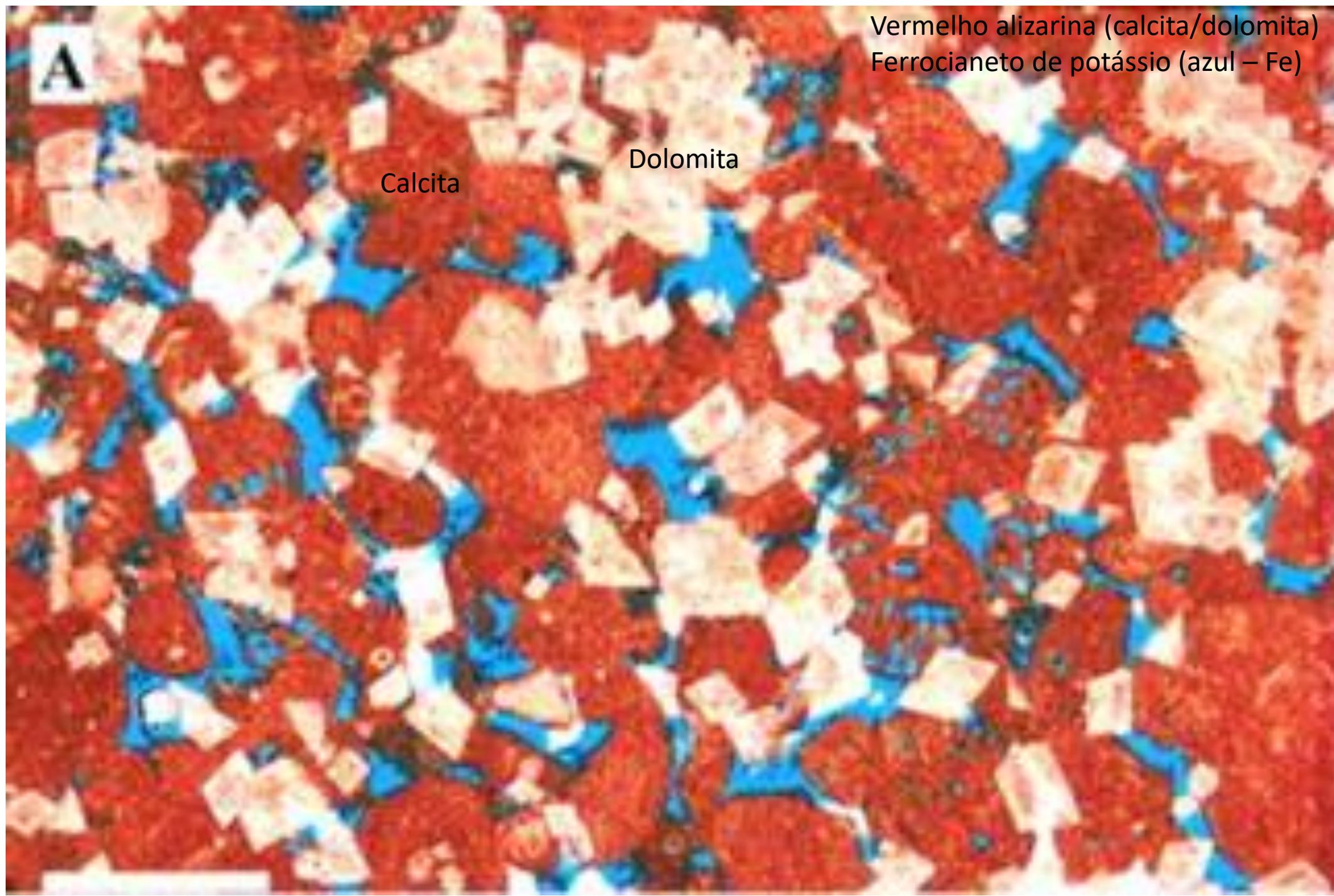


Fig. 2. Calcification processes associated to photosynthesis (based on McConnaughey and Whelan, 1997; Yates and Robbins, 1999).





Sumário

- Classificação composicional
- Classificação textural
- Componentes
- Grãos alobioquímicos, micrita e espato
- Classificação de Dunham (1962)
- Classificação de Embry & Klovan (1971)

<http://sepmstrata.org/page.aspx?pageid=89>

Nichols (2009) – Cap. 3, p.28-36

