

Lab 5
Carbonate Rocks

| Number | Color and texture | Components | Name (Dunham) | Environment/Significance | sketch |
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Table 6.3 Classification of Limestones According to Depositional Textures

| A DEPOSITIONAL TEXTURE RECOGNIZABLE | | | | | | DEPOSITIONAL TEXTURE NOT RECOGNIZABLE | | |
|--|----------------------|-----------------|----------------------------------|------------|---|---|--|--|
| Original components not bound together during deposition | | | | | Original components were bound together during deposition . . . as shown by intergrown skeletal matter, lamination contrary to gravity, or sediment-floored cavities are roofed over by organic or questionably organic matter and are too large to be interstices. | CRYSTALLINE CARBONATE (Subdivide according to classifications designed to bear on physical texture or diagenesis.) | | |
| Contains mud (particles of clay and fine silt size) | | | | | | | | |
| Mud-supported | | Grain-supported | Lacks mud and is grain-supported | | | | | |
| Less than 10% grains | More than 10% grains | | | | | | | |
| MUDSTONE | WACKESTONE | PACKSTONE | GRAINSTONE | BOUNDSTONE | | | | |

| B ALLOCHTHONOUS LIMESTONE Original components not organically bound during deposition | | | | | | AUTOCHTHONOUS LIMESTONE Original components organically bound during deposition | | |
|--|-------------------------|-----------------|------------|----------------------------------|---------------------------|--|------------------------------------|----------------------------------|
| Less than 10% >2 mm components | | | | Greater than 10% >2mm components | | By organisms that build a rigid framework | By organisms that encrust and bind | By organisms that act as baffles |
| Contains lime mud (<0.03 mm) | | No lime mud | | Matrix-supported | >2 mm component-supported | | | |
| Mud-supported | | Grain-supported | | | | | | |
| Less than 10% grains (>0.03 mm <2 mm) | Greater than 10% grains | | | | | | | |
| MUDSTONE | WACKESTONE | PACKSTONE | GRAINSTONE | FLOATSTONE | RUDSTONE | BOUNDSTONE | | |
| | | | | | | FRAMESTONE | BINDSTONE | BAFFLESTONE |

Source: A. M. Dyer, P. L. 1963. Classification of limestones according to depositional texture. *Journal of Sedimentary Petrology*, 33, 1-10.

