

T-TH GEOL 1404 HISTORICAL GEOLOGY LAB

Ch. 2 Textural Clues to the History of Sediment - Questions for Discussion

DUE in ~~class~~: LAB JAN 30

- 1) How would the mineralogical composition of sediment derived directly from the weathering of igneous rocks differ from sediment derived from the weathering of preexisting clastic sedimentary rock like sandstone?

- 2) Explain how both angular and rounded sand grains could be found in a quartz sandstone? (HINT: I want a story of how the location of where the sediment was deposited could have both rounded and angular grains.)

This could occur at a delta with medium to low energy with the rounded grains traveled a longer distance and the angular grains were at the mouth of the delta

one started further down and erosion & deposition occurring while traveling

- 3) Is it common for sediment to be texturally mature but compositionally very immature? Explain your answer.

No, sediment that is texturally mature would be well rounded and well sorted due to the distance transported over a longer period of time. Compositionally immature sediment contains minerals that are not stable at the earth's surface which leads to angular shaped grains and grains of various sizes

- 4) Calcite ooids (aka, oolites) are very rounded, but sediment or sedimentary rocks containing ooids are not typically described as texturally mature. Explain why the concept of textural maturity does not apply to oolitic sediment?

Texturally mature doesn't apply to ooids because the sediment is found where it was deposited where maturity deals with distance of transport.