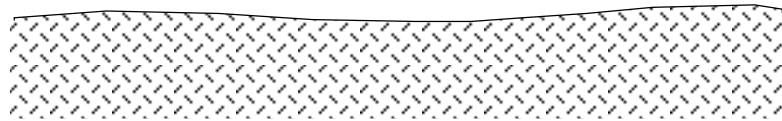


**Continental Crust:**

1

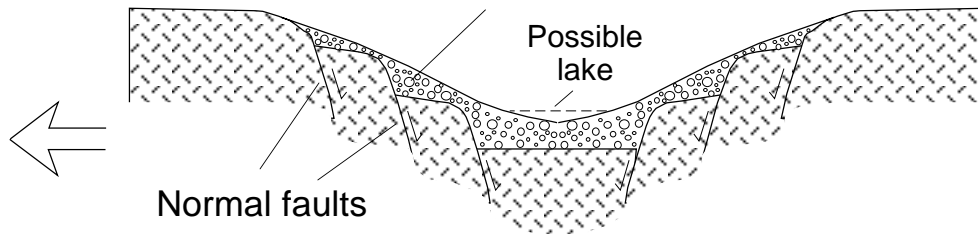


**Rifting and evolution  
of ocean basins from  
Divergent Plate Boundaries  
*a time series***

2






**Early Rifting:**

**Continental sediments**



Modern example:  
East Africa Rift

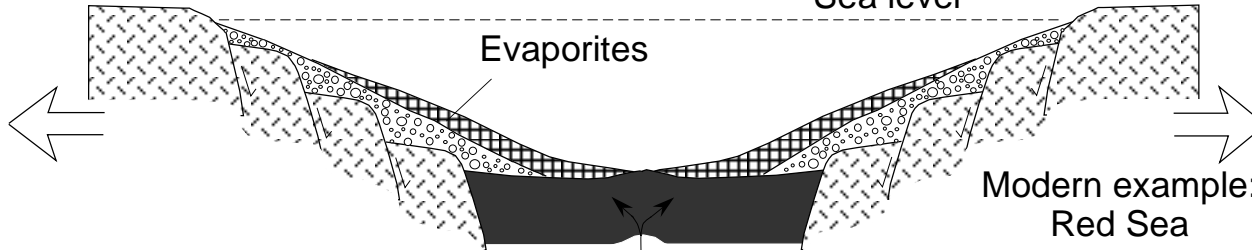
**Key:**

-  Open marine sediments (limestones, shales, etc.)
-  Evaporites
-  Continental Sediments (redbeds) (conglomerates, sandstones, etc.)
-  Continental Crust
-  Oceanic Crust (basalts over gabbros)

3

**Restricted Narrow Sea:**

**Sea level**



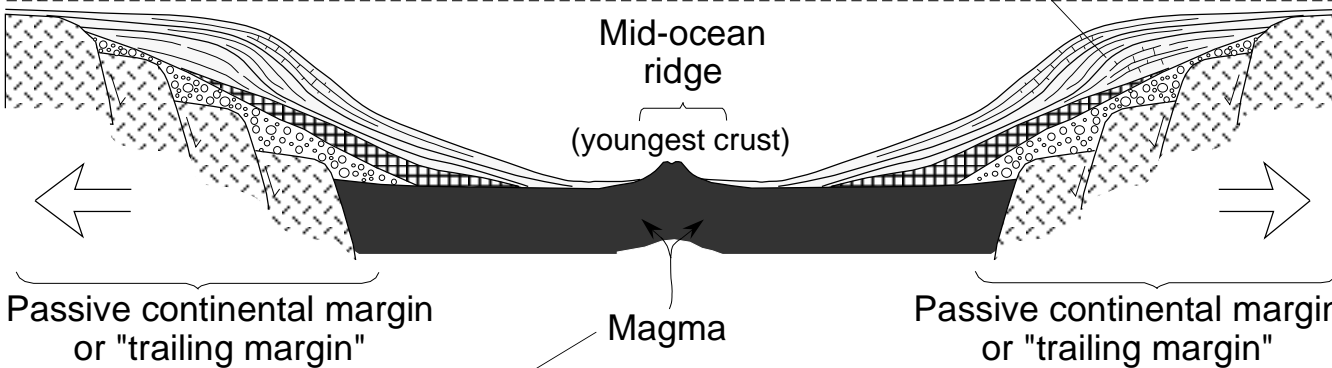
Modern example:  
Red Sea

4

**Open Ocean:**

**Sea level**

**Open marine sediments**



Modern example: Atlantic Ocean

This mafic magma is generated by pressure-release melting as underlying asthenosphere moves up into volume vacated by rifting.

The geology shown here has had great implications for archaeology in Africa, in that the sediments shown in Step 2 in the East African rift valleys are a far more likely place for preservation of fossils than the erosional surface at the flanks of Step 2 and everywhere in Step 1.