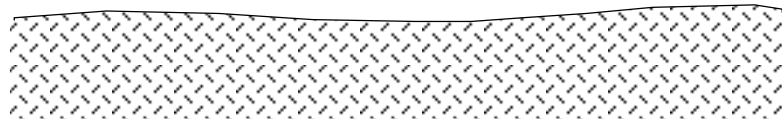


Continental Crust:

1

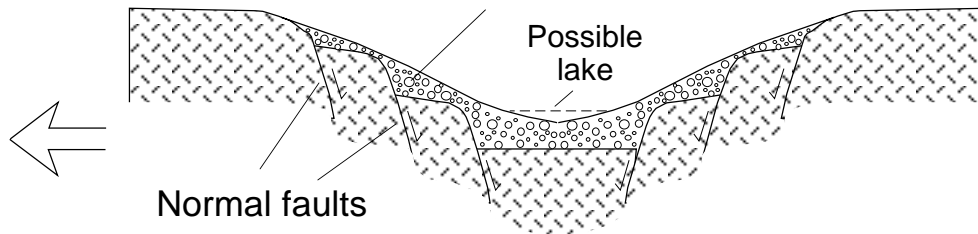


**Rifting and evolution
of ocean basins from
Divergent Plate Boundaries
*a time series***

2






Early Rifting:

Continental sediments



Modern example:
East Africa Rift

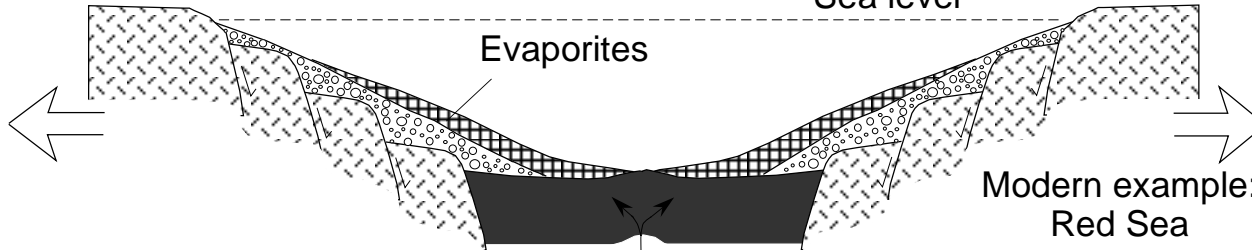
Key:

-  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



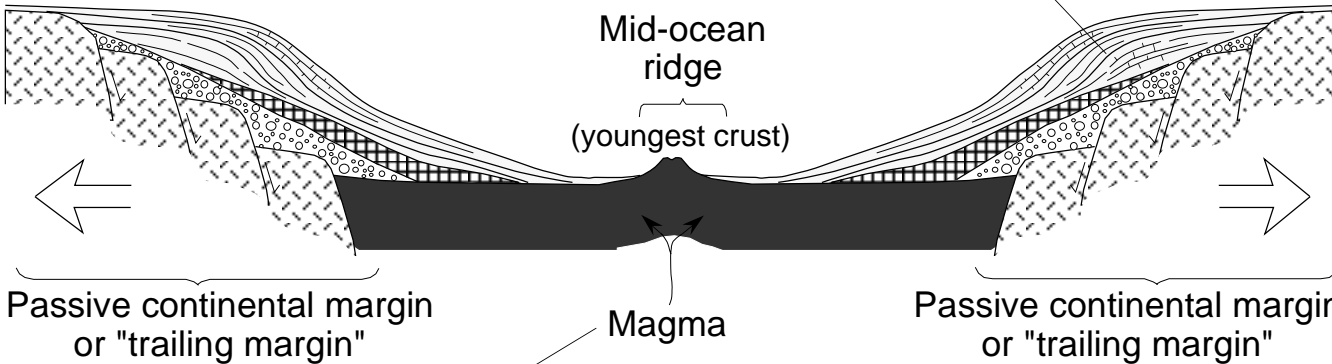
Modern example:
Red Sea

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.