

The Wilson Cycle and A Plate Tectonic Rock Cycle

Adopted from: Fichter, L.S. and Poche, D.J

Ancient Environments and the Interpretation of Geologic History, 3rd ed., 2001

Tectonics is the study of the geological record in order to interpret tectonic conditions and the over all geologic history of an area in the typical situation where most of the geologic record is fragmented, altered or absent completely. Conversely, the plate tectonic paradigm provides a fundamental framework, or coherent logic, for the interpretation of geological history

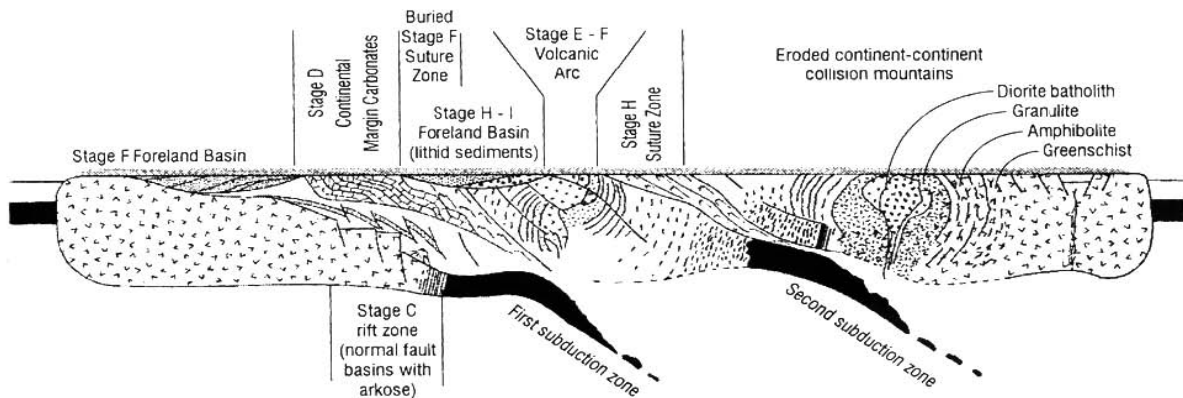
This lab is basically a study guide to the Wilson Cycle and the Tectonic Rock Cycle presented in a www presentation by Dr. Lynn Fichter at:

<http://csmres.jmu.edu/geollab/Fichter/Wilson/PTRC.html> and reproduced in Chapter 1 and 2 in the Minerals and Rocks Custom Publication (**M&RCP**).

The Wilson Cycle is a model for plate interactions that revolves (cycle..... revolves, get it?) around the opening and closing of ocean basins and describes, in a general way, the main components in the evolution of the earth's surface layers including the lithosphere. The Plate Tectonic Rock Cycle is a model for the cyclic evolution of earth materials through repetition of plate tectonic processes in the Wilson cycle.

These models have great appeal since, with a fairly minimal investment of intellectual energy, one gains tremendous insight into the origin and evolution of earth materials, earth structures, and the interpretation of Earth history. What a deal. This is your opportunity to INVEST!

A Stable Continental Craton following Multiple Wilson Cycles



Part 1

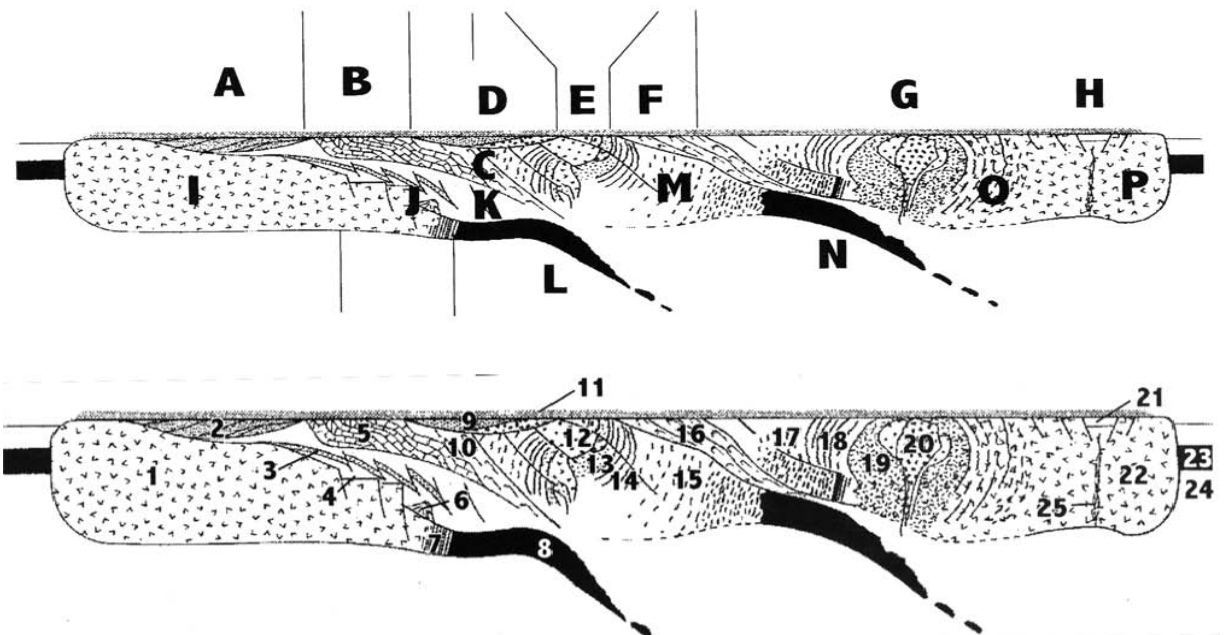
Backarc basin	Forearc
Backarc	Foreland
Collision orogeny	Foreland basin



Exercises: For Part 1 label the plate tectonic features listed above on the cartoon cross section. Some of the features occur more than once, label all occurrences.

Part2

X-section 1



X-section-2

For Part 2 in cross section 1 fill in the table below:

Tectonic Regime (e.g. DCM, volcanic arc, etc.)	Wilson Cycle Stage (A through I)
A	
B	
C	
D	
E	
F	
G	
H	
I	
J	
K	
L	
M	
N	
O	
P	

On the next page fill in the table on the basis of cross section 2

