

GLY-302 PETROLOGY

1st Hour Exam Study Guide

Concepts

interpretation of igneous phase diagrams during both crystallization and melting, including the lever rule
applications of the phase rule
three fundamental magma types, names, and dominant minerals
origin of magma with respect to partial melting
relationship between magma origin and plate tectonics
effects of adding water to magma
mineralogy of wet granites versus dry granites
why continent-continent collisions produce few, if any, volcanoes
ophiolite suite and how each part forms
controls on magma explosivity
controls on gravitational setting & layered intrusions
the economic value of layered intrusions (i.e. what metals?)
interpretation of compositional zoning in igneous minerals showing solid solution (e.g. olivine, plagioclase)
controls on magma viscosity
volcanic construct types

Terms:

eutectic
peritectic
cotectic
incongruent melting / crystallization
obduction
adiabatic decompressional melting
pyroclastic flow
column collapse
caldera