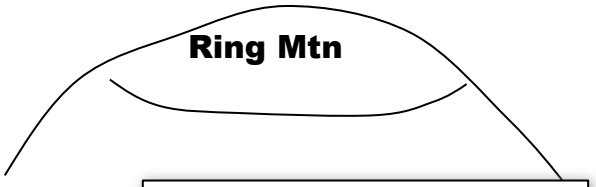
Field Trip 1: Ring Mtn



turbidite = layered sedimentary rock; deposited underwater

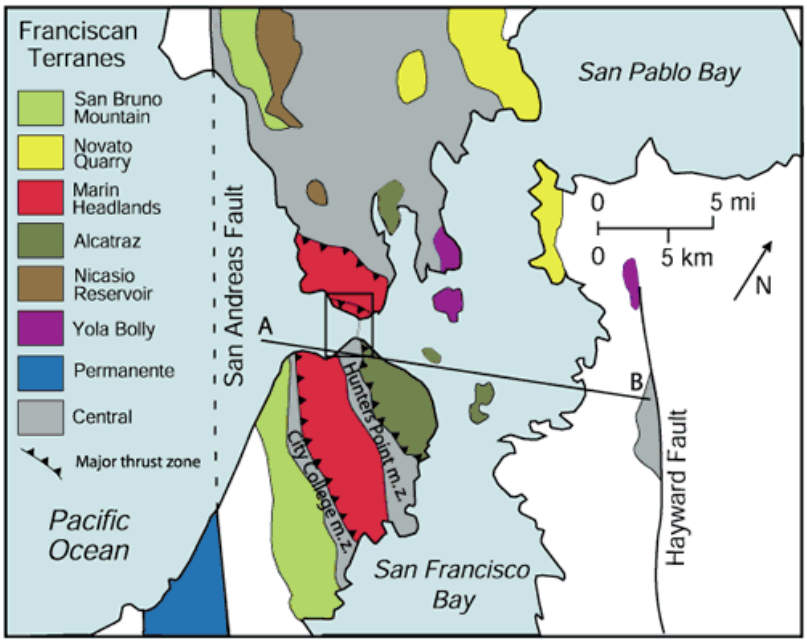
Stop 1: Paradise Dr.

1. *from CoM, turn right (east) on Sir Francis Drake*
2. *go on 101 south for about a mile*
3. *exit.at Paradise Dr.*
4. *turn left onto Tamalpais and cross over 101*
5. *turn right onto San Clemente*
6. *just after Westward Dr., pull over on the side of the road*

Stop 2: Tiburon Yacht Club

1. *continue on Paradise Dr.*
2. *turn left on Antilles Way*
3. *turn left on Martinique*
4. *turn left on Trinidad*
5. *veer right and park near YC*

terranes--Milo

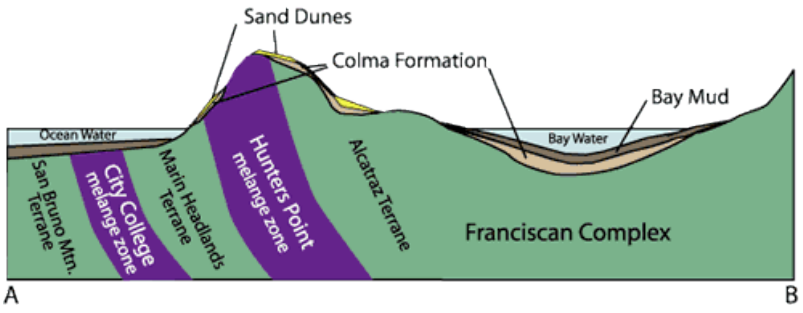


Stop 3: Path

1. *return to Paradise, turn right, backtracking*
2. *just after Marin Montessori, pull over on the side of the road*

metamorphism--Rich

slate< phyllite < schist< gneiss
garnet (garnetiferous)

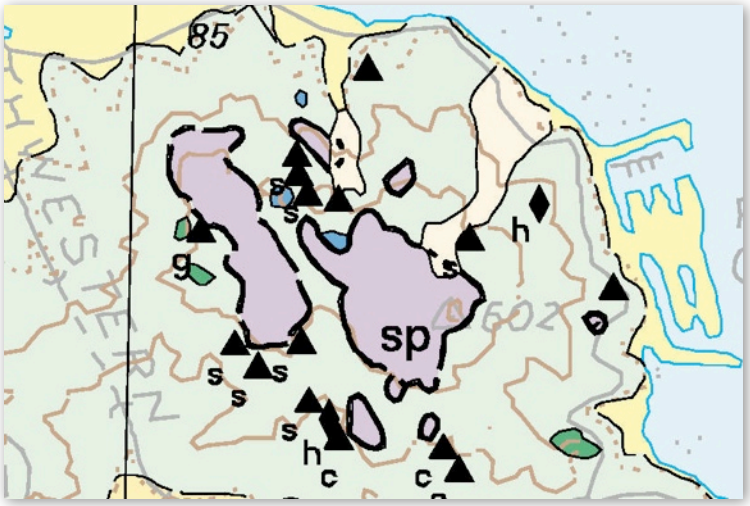


Stop 4: Endeavor Cove

1. *continue on Paradise*
2. *keft on Prince Royal*
3. *right on Endeavor Dr.*
4. *left onto Endeavor Cove*

subduction--Sanford

serpentinite (2.7 g)
periodotite (3.3 g/cm^3)
ultramafic
hydrolyzed



Serpentine is the state rock of California. It is a magnesium-iron silicate hydroxide [$(Mg,Fe)_3Si_2O_5(OH)_4$].

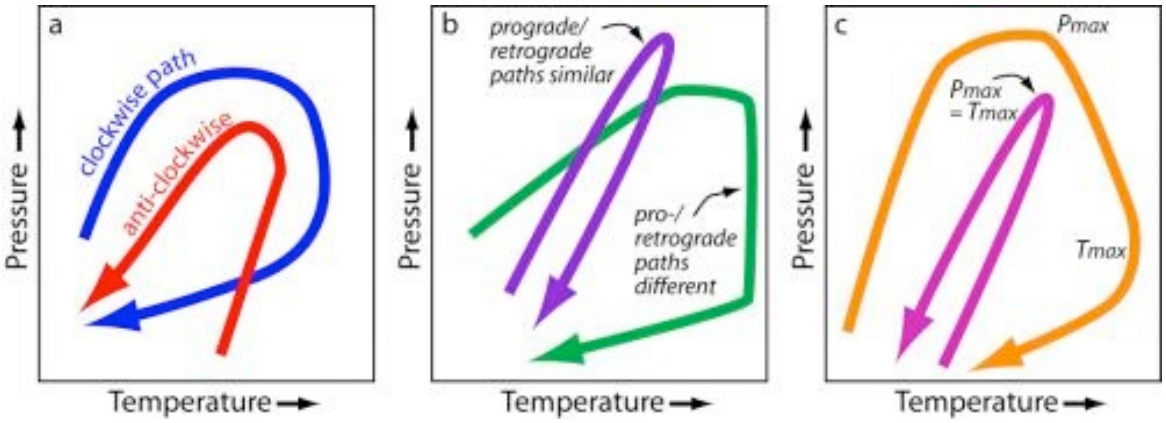
There are three main mineral components to serpentine: lizardite, chrysotile, antigorite.

lizardite—small scales, sometimes white
antigorite—darker scales, schistose
chrysotile—light green parallel fibers. This is common asbestos.

A bit portion of most soil is composed of clay minerals. A common clay is kaolinite: $Al_2Si_2O_5(OH)_4$. What element is missing from serpentine sources? Why can't clays form?

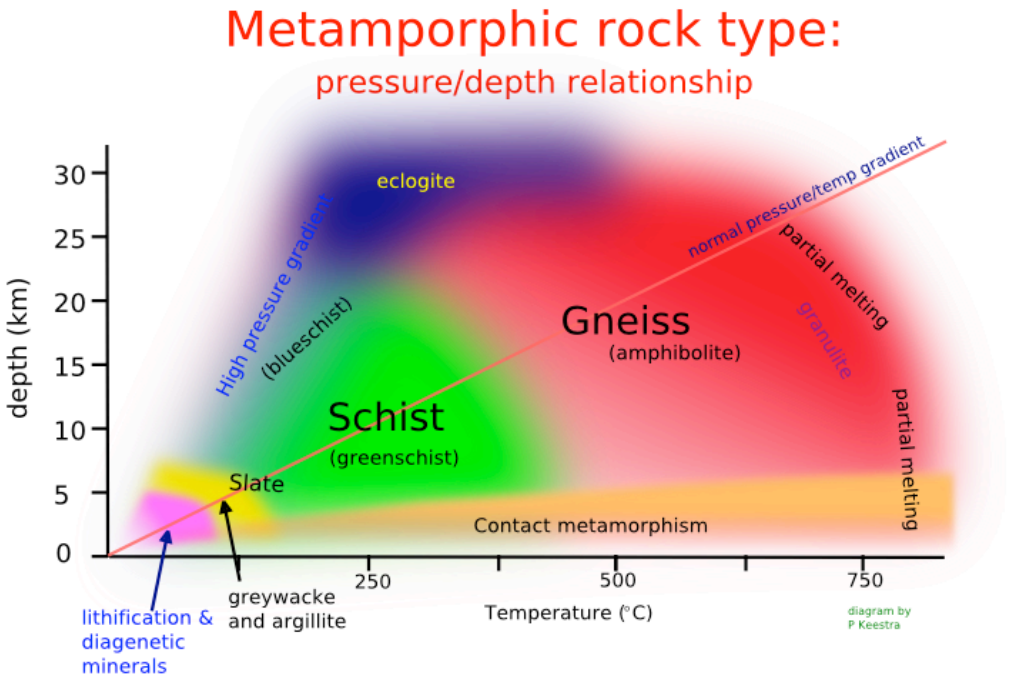
lunch

1. *return to Paradise, turn left*
2. *meet at Paradise Market*



Stop 5: Ring Mountain

1. *return to Paradise*
2. *right onto Prince Royal*
3. *right on Endeavor*
4. *go past Endeavor Cove*
5. *park where road ends*



blueschist--Lee

Franciscan Formation
melange
crenulation
ecologite
slickensides

References & Resources:

http://www.marin.cc.ca.us/~jim/ring/

Jim Locke, of College of Marin, has set up this great site.

http://mineral.galleries.com/Minerals/Silicate/SERPENTI/SERPENTI.htm

a good page about the mineralogic properties of serpentine

Writeup:

For credit for the field trip, I want you to email me (geology.prof@yahoo.com) a short descriptions of each stop. Include your observations and notes of what we discussed. This might be a good place for you to include photos you've taken.