Name _____ Section _____

409 LAB 6 GEOLOGY AND THE ENVIRONMENT - CAMPUS WALKABOUT

1. Thompson Hall portico arches: Igneous, sedimentary, or metamorphic? _____
Rock name:_____ Minerals:_____
This rock was quarried near Conway, NH, and is Jurassic in age. What properties make this rock good for building stone?

2. Boulder at fork in sidewalks west of T Hall: Igneous, sedimentary, or metamorphic?

3. Cross Main Street to look at roche moutonnee. Draw a sketch to show its shape. Toward what direction can we infer for the glacier's movement?

4. Cross back to the south side of Main Street. Note granite posts and curbs, quarried from north of Concord, NH (Devonian). How is the Concord granite different from the Conway granite?

5. Sidewalk cut in rocks toward downtown: How is this different from the two granites?
Color: _____Texture: _____ Rock name: _____
This unit is named after Exeter, NH, and has been dated by the U/Pb method at 406 +/- 1 m.y. It has been used extensively for foundations and rock walls all around Durham. Physical and chemical weathering characteristics at this outcrop?

6. Pass Hamilton Smith Hall and cross College Brook.
a. How wide is the apparent floodplain?
b. Do you note any point bars or cut banks?
c. Is any sediment moving at the present velocity (sand on the bottom, or turbidity in the water)?
d. What is the steep bank made of on the north side?_____ This is the Presumpscot Formation, which in places contains Pleistocene fossil marine shells. We'll attempt a sample in the cut bank or stream channel.

7. Inspect the tall stone wall at west end of Paul Fine Arts Center. If these rocks were gathered locally, are they from the bedrock or are they erratics? Look for examples of foliation, porphyritic texture, etc.

8. Roadcut in front and north side of Kingsbury Hall. Look closely to see if any of this cut resembles the rock at Stop #5. There are two rock types here. Make a sketch showing their geometrical relations. Measure strike of the dike. Age relations?

9. Cross overpass between Spaulding and Rudman.
a. The footings for Rudman went down almost 100 feet in marine clay without hitting bedrock. What does this tell us about the shape of the underlying bedrock topography? Where was sea level at the time?

b. The smooth-cut dimension stones along the overpass are not from either Conway or Concord. How is this granite different?

c. Compare the boulders in the taller wall near Spaulding to those near the Arts Center.

10. Rock wall of RR overpass, facing Nesmith Hall.
a. What is the building stone here?
b. Note flowstone on lower surfaces. What mineral I wonder? How does it form? (Related to why some concrete steps on campus are falling apart!)

AS WE GO ALONG PLEASE tabulate the kinds of weathering (physical/chemical/both) at each stop, **THEN AS HOMEWORK**, Choose one of the stops (or choose another on campus) - return, reexamine, and in a paragraph, describe in detail the kind or kinds of weathering that there and cite whatever environmental issues that weathering might raise.