

Directions for the in-lieu-of-fieldtrip report
EESC 2200 The Solid Earth System

Fall 2004

Your assignment is to write a paper entitled, "Overview of the Newark Sedimentary Basin". It must be turned in at the beginning of the class on October 27, 2004 (the day of the midterm). The paper must be at least 5 double-spaced pages long, plus a sixth page of references, plus a seventh page containing two hand-drawn (by you) figures: a map of the basin and a vertical cross-section through the basin. I will grade your paper on a scale of EXCELLENT, GOOD, ACCEPTABLE and POOR. A grade of EXCELLENT, GOOD or ACCEPTABLE is OK, but a POOR grade (or failure to turn in the report) will result in an overall course grade that is 'one notch' lower than it otherwise would have been. Late reports will not be accepted.

You are required to read the following three papers:

1) Olsen, Stratigraphic Record ..., Ann. Rev. Earth. Planet. Sci. 1997, which I have placed at http://www.ldeo.columbia.edu/users/menke/Olsen_1997.pdf. This is the same Olsen who is a professor here at Columbia and who teaches the 'Dinosaurs' course.

2) Manspeizer and Cousminer, Late Triassic-Early Jurassic synrift basins ..., in The Geology of North America Volume I-2 The Atlantic Continental Margin, 1988, which I have placed on reserve in the Geology Library.

3) One further paper, published in a scientific journal, but otherwise of your choice. I recommend that you use the GEOREF index <http://www.columbia.edu/cu/libraries/indexes/georef.html> to track down a short, interesting paper to read.

You can supplement these readings with other material, either from libraries or from web archives.

The paper should include discussion of the following:

- The location and size of the basin;
- The geological process that 'made the hole';
- The start time and duration, in millions of years;
- The kind of sediment(s) that it contains and any "patterns" that they make;
- The kinds of fossils that the sediments contain;
- What the sediments and fossils tell us about the climatic and ecological conditions of the time;
- Volcanism that the basin experienced;
- What the basin looks like today, especially with regard to topography;
- And overall, why the basin is interesting to study.