

**Lab 4, part two: Blakely Formation strat column**

*Analysis*

Draw a **stratigraphic column** of the Blakely Formation in the Newport Way area. The stacked rectangles below represent the framework of the column. Note that the number of rectangles corresponds to the number of members of the Blakely Formation we saw at Newport Way.

According to the law of superposition, which rectangle is the oldest member? Using the *Geology in the Field* "Appendix 8: Lithologic Patterns" handout, fill in the rectangle with the pattern that best describes the rock you identified as the oldest member. For each successive member, fill in the corresponding rectangle with the correct rock pattern.

To the right of the column, note that there are member names. To the right of the names, write a short **description** of the rock, summarizing the **rock name**, the **thickness of layers** within the members (use the adjective "**massive**" if you don't see any layers), general rock **color**, **fossil** content, and any **distinctive layers** within the member. For instance, "Dolomite, thick-bedded, medium-grained, yellowish gray. Sporadic thin beds of light olive-gray oolitic limestone with fragments of trilobites and straight cephalopods".

**Blakely Formation Stratigraphic Column**

|  |            |
|--|------------|
|  | Member E — |
|  | Member D — |
|  | Member C — |
|  | Member B — |
|  | Member A — |

In part three, you will deduce some details about earth history from this column.

**Lab 4, part three: Interpreting the stratigraphic column**

Using your data from the Newport Way Blakely Formation stratigraphic column, develop a **short geologic history** of the area represented in the rock record at Newport Way. Assume there are no major unconformities; thus, the formation may be broken up into four distinct **members**. As before, call the oldest member you saw A and letter the members in alphabetical order by letter (so the youngest would be D).

For the field trips, the history should be written up in paragraph form, but for the Newport Way history, it is okay to fill out the following chart:

| Member (use letter designation) | Depositional environment | Major events during period | Change in sea level |
|---------------------------------|--------------------------|----------------------------|---------------------|
|                                 |                          |                            |                     |
|                                 |                          |                            |                     |
|                                 |                          |                            |                     |
|                                 |                          |                            |                     |
|                                 |                          |                            |                     |
|                                 |                          |                            |                     |

Under depositional environments, see the depositional environment handout from class.

Under major events, list volcanic eruptions, earthquakes, landslides, extinctions, etc. Try to estimate how far away the event occurred geographically. Use "**distal**" for distant and "**proximal**" for nearby. Remember, you must have evidence for these events within the member. Note that steady deposition of sediment doesn't count as a "major event"; it is what normally happens in these environments (cf. uniformitarianism).

Under change in sea level, write "**transgression**", "**regression**" or "**no change**".