

Rock Formations of New Mexico

Mar83 News Nuggets
Author unknown

In New Mexico, we can drive along the highways and look out of the car window and see where one formation or rock type ends and another begins. The line between two types of formations appears as if man has used heavy equipment to smooth out the lower formation. As one drives along highway 44 from San Ysidro towards Farmington, one can see a mountain chain begin and end - the Nacimiento Mountains. This should make it very easy to classify a rock formation into one of the classes that we have become accustomed to - Pliocene, for example. At this time, it will be necessary to refer to the chart in the January issue of the News Nuggets. There does not appear to be a clean separation because the Santa Fe Group spans not only the Pliocene but part of the Pleistocene and all of the Miocene. As a matter of fact, there is no rock formation on the chart that begins and ends with the Pliocene. Of course, this was the worse condition but it does point up what is to follow in this little summary.

According to some geologists, there are actually a fairly large number of Stratigraphic units which is a fancy way to say that there are a number of ways to classify rock formations such as the Santa Fe Group and the Sierra Ladrones Formation, for example. In addition to classifying rock formations on the basis properties such as mineral content, radioactivity, seismic velocity, chemical composition, and electric-log characteristics, the following major categories have come to the fore in order to make order out of apparent chaos:

1. **Lithostratigraphic Units** - Lithology (the description of rocks on the basis of such characteristics as color, grain size, and Mineralogic composition).

These units are recognized and defined by observable physical features and not by inferred geologic history. They may consist of two or more of the different kinds of rocks (sedimentary, metamorphic, or igneous).

2. **Geologic-time Unit**

This is the unit which we have become accustomed to and is divided into an age which is part of an epoch which is part of a period which is part of an era which is part of an eon.

3. **Biostratigraphic Unit**

This is the unit which is based on the fossil content and may contain one or more types of plant and/or animal life of the same configuration. In some cases, this type of unit could also be a Lithostratigraphic unit.

4. **Chronostratigraphic Unit**

This unit is represented by all the rocks formed during a certain time span. It is divided into a substage which is part of a stage which is part of a series which is part of a system which is part of an erathem which is part of an eonothem.