

not represent a true barrier reef, his explanation shows that he had no doubt but that the intertonguing was a slow, normal, process.¹⁰

It is well known that laminated beds of evaporites have been laid down as a result of the evaporation of sea water. This process is still going on today in some parts of the world; e.g., in the Sabkha^{Kha} areas of the Trucial Coast of the Arabian Gulf, and in the Gulf of Karabogaz.¹¹ There is unquestionable evidence that the evaporites of the Delaware Basin (which is skirted by the Capitan reef), and also the evaporites which were deposited later on top of the reef, were laid down by a precipitation process, ~~similar~~ similar to this.

We wish to now state some of the evidences concerning the deposition of the evaporites which lie in the basin itself, and later to refer to those which were deposited over both the basin and the reef. The accompanying diagram (Figure 1) shows the position of the main parts of these evaporite deposits in relation to the reef. The study which Walter E. Dean recently made, of the evaporites in the basin, is perhaps the most significant work on the subject.¹² Most of the basin is filled with a finely laminated anhydrite (CaSO_4) which is frequently referred to as "banded anhydrite." (the anhydrite layers labeled "Castile" in the figure).

The length of the Delaware Basin from north to south is approximately 160 miles, and its width 87 miles. Numerous aspects of the nature of this basin can be learned by examining a "basement map" of the area, and some of the many contour maps which show the depth and slope of the various deposits in the basin, as determined from the drilling records of hundreds of wells into the strata of the basin. (Dean's own study included drilling records from 415 wells.)

Dean's dissertation is almost entirely objective, with little or nothing being said about evolution or many millions of years. He carefully studied well cores of the banded anhydrite of the Castile Formation which fills the Basin, and found (in one well) more than 200,000 remarkably uniform calcite-anhydrite couplet layers arranged in vertical sequence, 400 meters in depth (thickness). These couplet layers cover a wide area, and some of the individual couplets can be traced from well to well for a distance of 60 kilometers by carefully noting the exact percentages