varied sediments which cover the reefs.)

Now suppose that someone were to postulate that these cycles of evaporites did not form as salt flats along a coast line, but formed in some other manner? There are variations of opinion as to exactly how these sabkha layers were accumulated in the oil field deposits, but all who have studied them agree that they are the result of evaporative processes. The soluble minerals of the sea water must become concentrated before they can be deposited, and evaporation is the only possible way by which such a concentrating could occur. So all agree that the sabkha cycles in the oil fields are a record of long periods of time. And this is a part of God's time record in nature.

Thus our realization of the antiquity of the oil field strata in Alberta is not based merely on the gross thickness of the strata through which the oil drills pass. It is based on (a) information concerning the time required for forming the fossiliferous, foundation strata on which the reefs grew, (b) an understanding of the time which was necessary for growth of these reefs which now serve as sources of oil, (c) a knowledge of the characteristics of the sea water which furnished the minerals for the evaporite coverings, (d) an understanding of the processes by which the thinly laminated anhydrite, calcite, and dolomite of the first evaporite coverings were deposited, (e) the study of the rates of formation of sabkha cycles, and (f) a knowledge of the rates of formation of the many kinds of limestone and other rock layers which lie above these. (Some rates of formation of limestones will be taken up in a later chapter.)

FOOTNOTES

1. Not nearly all limestone and dolostone are sufficiently porous to serve as a reservoir for petroleum.

2. D. G. Bebout and W. R. Maiklem, "Ancient Anhydrite Facies and Environments, Middle Devonian Elk Point Basin, Alberta," Bulletin of Canadian Petroleum Geology, v. 21 (1973), p. 287.

3. P. K. Weyl, Oceanography, 1970, p. 324.

4. This level of depth is in the Muskeg Formation of the Middle Devonian geologic period.

5. M. E. Hriskevich, "Middle Devonian Reef Production, Rainbow Area, Alberta, Canada," American Association of Petroleum Geologists Bulletin, v. 54 (1970), p. 2279.

6. J. R. Langton and G. E. Chin, "Rainbow Member Facies and Related Reservoir Properties, Rainbow Lake, Alberta," American Association of Petroleum Geologists Bulletin, v. 52 (1968), p. 1925 and 1927.

7. Hriskevich, "Middle Devonian," p. 2260-2281.