

usually are deposited as a result of evaporation of seawater or other salt water. Common salt, and calcium sulfate in its 2 forms--gypsum and anhydrite--are the most abundant of these mineral deposits.) Buried reefs with very thick evaporite layers covering them are found in many oil fields of the world and account for a major part of the world's oil production. In a summary statement concerning the importance of evaporite strata in the oil fields, Kirkland and Evans state:

Evaporites, a mere 2% of the total volume of the sediments in the platforms of the continents (Ronov, 1968), overlie carbonates that contain an estimated one-half of the world's reserves of petroleum.... Evaporites are associated with reservoirs or form the trap in 53% of the fields that have an ultimate recovery of 500 million barrels or more and in 38% of the gas fields that have an ultimate recovery of 3.5 trillion cubic feet or more... (Kirkland and Evans, 1981, p. 181).

The "carbonates" to which this quotation refers consist of limestone (mainly calcium carbonate) and dolostone (mainly dolomite, which is calcium magnesium carbonate ( $\text{CaMg}(\text{CO}_3)_2$ ). These carbonate deposits usually contain mound-like "bioherms" which show by their content that they were produced naturally by the organic growth of lime-secreting, marine organisms. And some of these deposits contain porous, true-coral reefs which still possess the shape, contours and general structure of the living coral reefs found in the Great Barrier Reef and other parts of the Pacific Ocean, even though they are now buried beneath great thicknesses of other types of sedimentary rock. We speak of these as "true-coral reefs" because they contain many easily-identifiable fossils of various kinds of corals, many of which are in their original growth position and still cemented together in the reef mounds in which they grew. Such reefs are especially well known in the oil fields of northern Alberta and of the southern and central parts of Michigan.

The fact that such reefs could not have been built by flood waters, and that the natural laws of biological growth preclude the possibility of their having developed in only a few thousand years, has apparently not affected young-earth creationists much. Almost none of these creationists have any contact with petroleum geologists; buried reefs and the deposits which lie above them just remain as a "blank area" in their knowledge. So far as I know, none of the creationist leaders has ever taken time to study any of the actual research reports which describe such reefs. If they were to do so they would find that these reports, most of which were published in petroleum-geology journals, represent very careful, objective research which was done by teams of sedimentary geologists and paleontologists who worked closely together and were checked on by other petroleum geologists.

The purposes of this paper prevent our including a lengthy description of the buried coral reefs of Alberta and Michigan, and of the evaporite strata which cover them, but I have written a moderate-length description of them in Wonderly (1977 and 1987). In Chapter 5 of the 1977 work I provide specific data taken from the oil-producing reefs and evaporites of Alberta cited from 8 major, petroleum-geology research reports. Two of these are in the Bulletin of Canadian Petroleum Geology, five are in the American Association of Petroleum Geologists Bulletin, and one is in the Geological Society of America Bulletin. Each of these research projects was a major, long-term study carried out by a team of geologists who were working for one or more petroleum companies. And each study involved both field and laboratory work; nearly all involved extensive drilling-core studies and seismic data. Then in Chapters 8 and 9 of Wonderly, 1987, I cited data from several additional research projects which involved the Alberta reefs, the Michigan reefs, and evaporative coastal environments where stratified evaporites resembling those which cover these reefs are being produced today. I have referred to these listings