REPORT ON CORE FROM SOUTHERN FLORIDA

Diameter: 4 3/4 inches

First piece, 2 inches thick. Core consists of uniform to somewhat cloudy, hard, light brownish gray, nondolomitic, microscopically fine-grained limestone, fracturing very irregularly or hackly and enclosing various unrecognizable fragments of small fossils. Some of the latter are calcitic and laminated, like fragments of oysters. They evidently belong to Ostrea, Gryphaea, Exogyra, or some other genus of the family Ostreidae, but are not identifiable. One fossil is a stone filling of an imperfect ammonite shell of 2 inches diameter and 0.3 inch thickness, lying horizontal. This is a Dufrenoya, a genus which is characteristic of the Aptian. Although the species can not be identified, it is very similar to Dufrenoya justinae (Hill) which is common in the Cow Creek limestone of central Texas. The shell itself is dissolved, and in its stead there is in some parts a think black film presumably composed of manganese oxides.

Black stylolites of 2 to 3 mm amplitude are present. So are two sets of parallel tectonic joints. One set is vertical and filled and completely rehealed with anhydrite. The largest joint of this set is 0.8 inch wide, and the smallest are hair line joints. The second set dips about 60 degrees and gapes open very slightly. No anhydrite fills these joints and they cut the anhydrite of the first set, hence they are younger. The two sets indicate perhaps two distinct periods of deformation.

Environment of deposition was the open sea, provided the ammonite is not a single stray specimen but is typical of this limestone. Ammonites lived in the open sea and did not enter brackish or hypersaline lagoons or estuaries, nor did they enter lagoons protected by barrier islands. This environment contrasts with that which produced the anhydrite beds; the anhydrite was deposited in an enclosed basin not inhabited by ammonites. The anhydrite in this core is secondary; it was dissolved from an anhydrite bed and redeposited in the joints of the limestone.

Second piece of the core consists of uniform, hard, medium gray, massive, lithographic, nondolomitic limestone of subconchoidal fracture, containing one fossil, probably a crustacean, otherwise unrecognizable. No other fossils are visible. There is no anhydrite, and only one vertical tectonic joint is present.

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