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## **ADDITIONAL DATA ON THE REGIONAL STRATIGRAPHY OF THE PRE-PUNTA GORDA ROCKS IN SOUTH FLORIDA**

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This paper represents an expansion of the lithologic data presented in Applegate, Winston and Palacas (1981), and is based on the microscopic examination of drill cuttings in more than 16 deep tests in the area. A generalized geologic column (Figure 1) and a geographic and well location map (Figure 2) are included for the convenience of the reader.

The Basal Clastic section (essentially Wood River in age in south Florida) is composed of some 60 m (200 ft) of mainly red shale, with subsidiary amounts of cryptocrystalline dolomite and sandstone. Sandstone percentage increases northward. The sandstone is usually poorly cemented, and is occasionally porous. Dolomite is variegated and usually sandy.

The Wood River section in south Florida averages some 1700 feet and consists of anhydrite, dolomite and limestone; a few thin salt stringers are present in the deeper portion of the basin. Dolomite is euhedral and brown, with frequent relict oolite textures. Crystal size ranges from very fine microcrystalline to microcrystalline. Limestone increases in percentage basinward, and is mainly micritic with occasional oolitic beds. Porous beds and potential source rocks so far have been thin. The Wood River is probably Late Jurassic in age, and rests on basic extrusives dated in a few instances as Jurassic.

The overlying Bone Island averages some 1300 feet and consists of limestone dolomite and anhydrite. Limestone is mostly micritic, occasionally with scattered skeletal, oolite and pellet grains, and is predominately brown and tan. Dolomite is euhedral and very fine microcrystalline with occasional relic oolite and skeletal grains. Colors are brown, occasionally dark brown, or tan. The Bone Island is Coahuilan Early Cretaceous in age by stratigraphic position.

Overlying the Bone Island is the Pumpkin Bay, predominately limestone, with minor anhydrite and dolomite beds. It averages 900 feet in thickness. The limestone is micritic and frequently lithographic with a typically low percentages of skeletal and oolite grains. *Miliolids* are common in some areas. Palacas et al. (1981) report good source potential for the upper part of this formation, but porosity has been rarely encountered so far. By regional correlation, the Pumpkin Bay is also Coahuilan Early Cretaceous in age.

The West Felda member of the Lehigh Acres Formation consists of some 50 feet of calcareous, gray shale. Southeastward in the Keys area, it appears to be replaced by limestone similar in texture to the overlying Twelve Mile member. The entire Lehigh Acres Formation is Comanchean by faunal control.

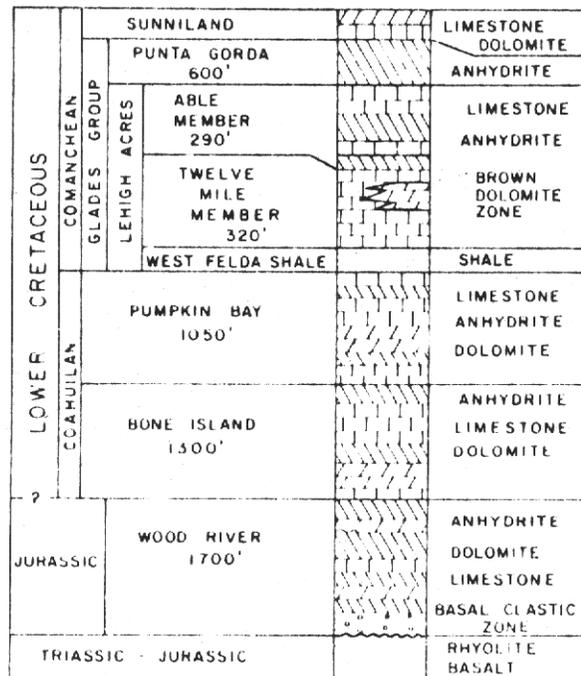


Figure 1. Generalized geologic column of Lower Cretaceous Jurassic (?) rocks in South Florida Basin

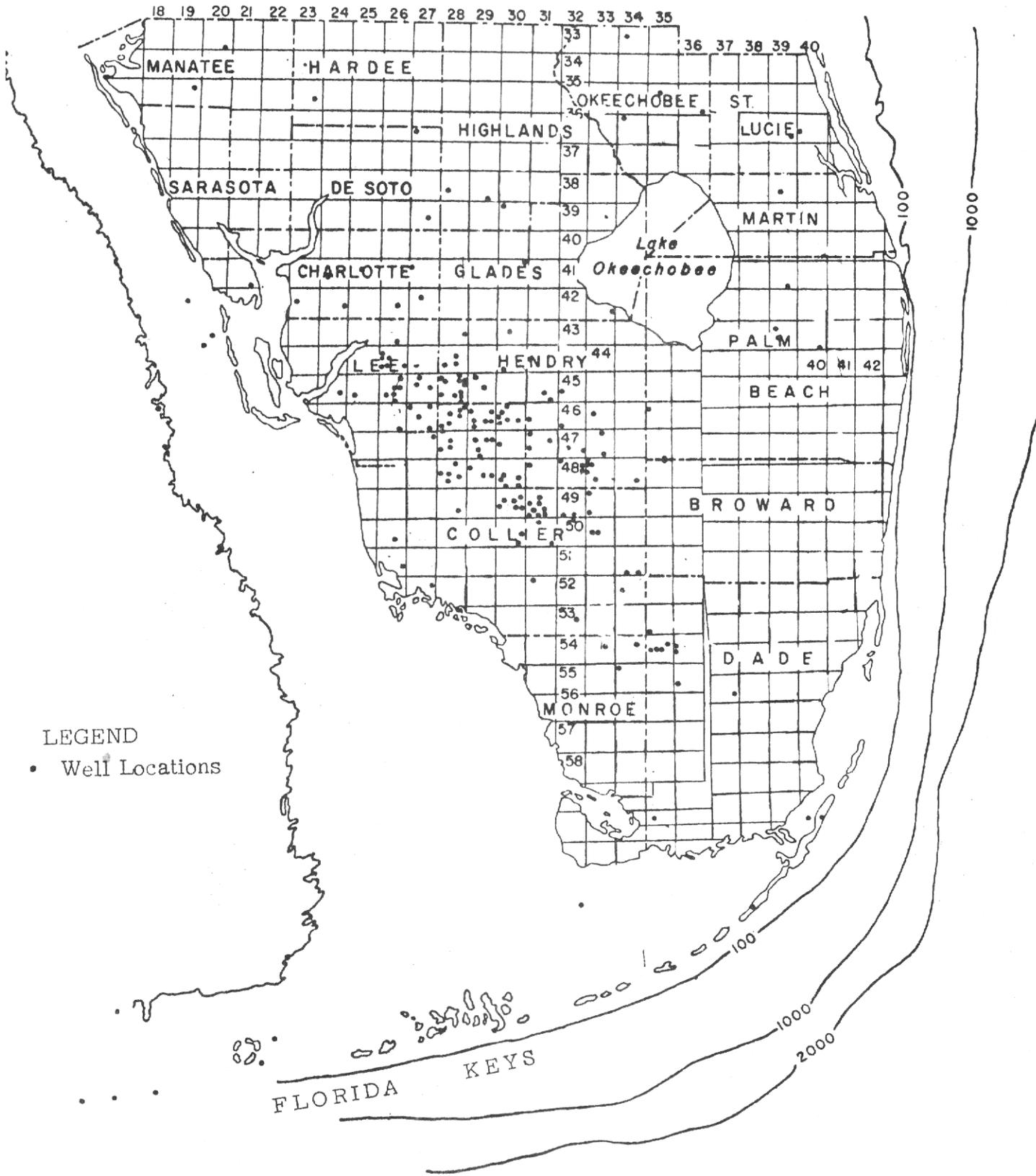


Figure 2 Geographic map showing counties and well locations

The Twelve Mile member of the Lehigh Acres Formation averages 150 feet and consists principally of skeletal grains, miliolids are also common. The "Brown Dolomite" occurs in the west around Lee County, and in the western Florida Keys. This lentil is up to 210 feet in the Keys and consists of a medium to coarse crystalline euhedral dolomite which is usually porous. Possible source beds consisting of dark brown limestone occur in the same areas as the "Brown Dolomite".

The Able Member of the Lehigh Acres Formation is composed mainly of limestone and anhydrite. The unit averages 300 feet in thickness. The limestone is very dark brown, occasionally black, and frequently argillaceous. Dolomite is minor in much of the basin, but becomes more common northward. When present, it is euhedral, very fine microcrystalline and dark. Source potential is considered to be good due to the large quantities of dark carbonates; porosity is absent.

#### REFERENCES

- Applegate, A.V., Winston, G.O. and Palacas, J.G., 1981, Subdivision and regional stratigraphy of the pre-Punta Gorda rocks (lowermost Cretaceous-Jurassic?) in south Florida: Transactions of the Gulf Coast Association of Geological Societies, 31st Annual Meeting, p. 447-453.
- Palacas, J.G., Daws, T.A. and Applegate, A.V., 1981, Preliminary petroleum source-rock assessment of pre-Punta Gorda rocks (lowermost Cretaceous-Jurassic?) in south Florida: Transactions of Gulf Coast Association of Geological Societies 31st Annual Meeting, p. 369-376.