

FUTURE PETROLEUM PROVINCES OF THE GULF COAST - UPPER CRETACEOUS

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ABSTRACT

According to the findings of a geologically oriented study of the National Petroleum Council's Region 6 (Fig. 1), the prospects for significant additions to reserves in the Gulfian Series are good in southeast Louisiana, Mississippi, Alabama, and Florida, and fair to poor in the remainder of the area. In order to assign more finite terms to the potential of the unexplored area of the Gulfian of Region 6, the following parameters have been derived: an area classed as "Good" has a yield of 150,000 bbl/cu mi; "Fair" has a yield of 80,000 bbl/cu mi and "Poor" a yield of 50,000 bbl/cu mi. Using as criteria the presence or absence of reservoir-type rocks, source beds (which can usually be assumed to be present in the Gulf basin), and trap-forming structural deformation, we can rate the various geographical areas as shown in Fig. 1 and summarized below.

In the explored area of southeast Louisiana-Mississippi-Alabama-Florida, which contains 30,000 cubic miles of sediments, limited additional reserves may be expected in new discoveries and extensions. In the unexplored area (Area 1, Fig 1), with 17,000 cubic miles of sediments, lenticular Tuscaloosa sands should provide excellent possibilities for both structurally and stratigraphically trapped oil. Fair possibilities exist in similar sands of lower Eutaw age. Carbonate build-ups of reef-like limestones are possible in the Navarroan-age beds on the carbonate banks off the Florida Gulf Coast.

Louisiana-Arkansas's explored area (10,000 cubic miles) may have minor additions with continuing exploitation. The unexplored part (4700 cubic miles) in south Louisiana (Area 2) has poor potential with one possible exception. Where Woodbinian sands may occur as turbidites or as deep-water sands swept out past the Comanchean shelf, prospects are fair.

The explored part of East Texas (11,200 cubic miles) will have minor additions to reserves through further exploitation. The potential of the unexplored area (Area 3) (3600 cubic miles) is rated poor to fair. In the Woodbine, possible turbidites and marine sands on the south and southwest flanks of the Sabine Uplift offer fair prospects. In the Austin-Eagle Ford section, possibilities are poor to fair on the south and southeast flanks of the Sabine Uplift.

South Texas potential in the explored area (8800 cubic miles) is poor except for minor additions. The potential of the unexplored area (Area 4) (10,200 cubic miles) is also rated poor in view of the expected absence of reservoir beds.

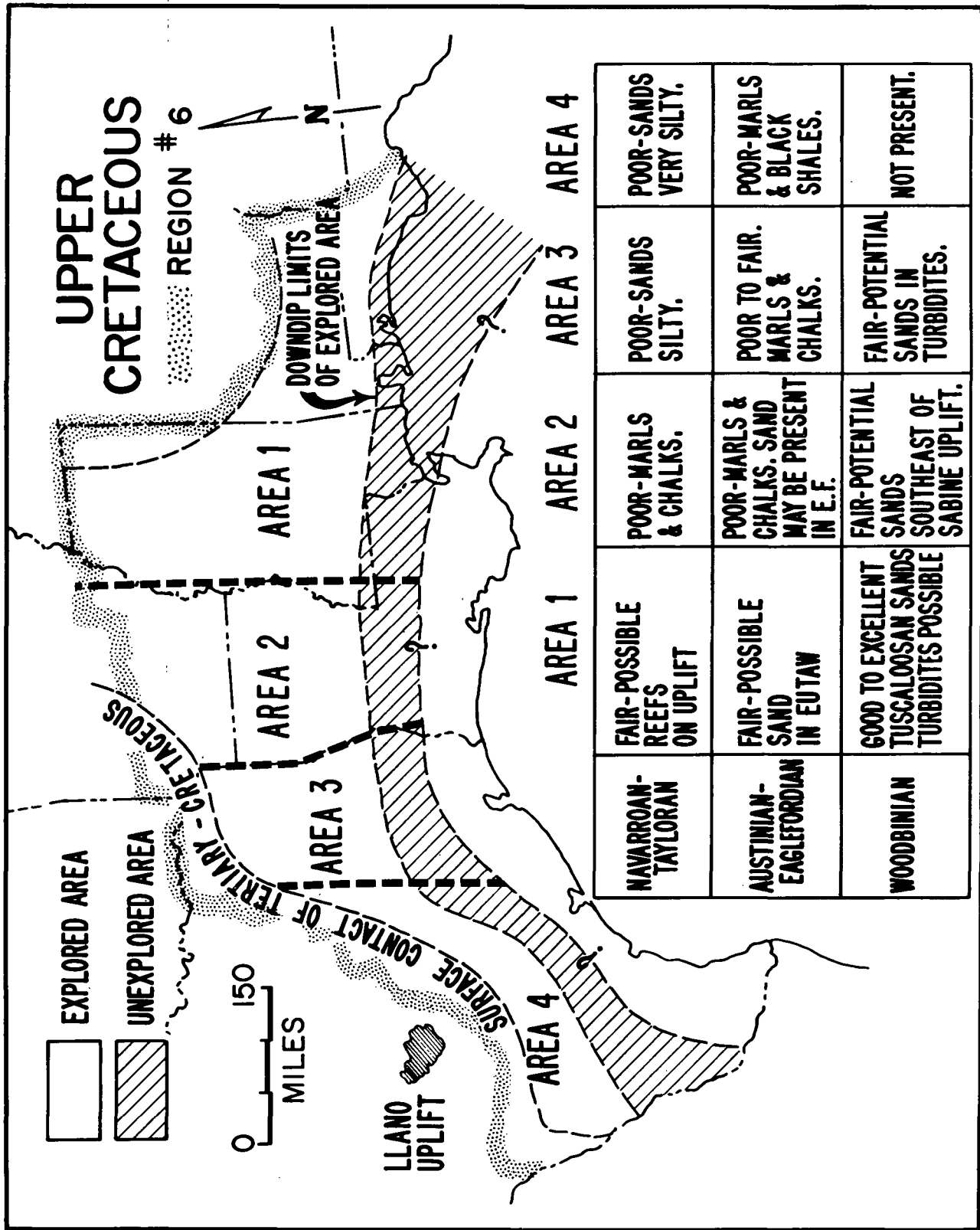


Figure 1. Summary of possible reservoir types in Gulfian unexplored area of Region 6.