

HYDROCARBONS (NEW FRONTIERS) ABSTRACTS

MAYCOCK, IAN D., Hunt Oil Company, Dallas, TX

Oil Exploration and Development in Marib/Al Jawf Basin, Yemen Arab Republic

In 1981, Yemen Hunt Oil Company (YHOC) negotiated a production-sharing agreement covering 12,600 km² in the northeast part of the Yemen Arab Republic. A reconnaissance seismic program of 1,864 km acquired in 1982 revealed the presence of a major half graben, designated the Marib/Al Jawf basin by YHOC. A sedimentary section up to 18,000 ft thick has been recognized. Geologic field mapping identified Jurassic carbonates covered by Cretaceous sands overlying Permian glaciolacustrine sediments, Paleozoic sandstones, or Precambrian basement.

The first well drilled in 1984, aimed at a possible Jurassic carbonate objective, encountered hydrocarbon-bearing sands in the Jurassic-Cretaceous transition between 5,000 and 6,000 ft. A successful appraisal drilling program has demonstrated satisfactory lateral reservoir continuity. Further wildcat drilling demonstrates macro-unit correlation within the eastern part of the basin. Rapid basin development apparently commenced in the late Kimmeridgian, culminating with the deposition of Tithonian evaporites.

Available geochemical analysis indicates sourcing from restricted-basin sediments. Excellent traps, reservoirs, and source beds underlying the Tithonian evaporites indicate that a significant new petroliferous province is present.