

PALYNOLOGICAL CORRELATION OF LATE DEVONIAN AND CARBONIFEROUS ROCKS FROM SAUDI ARABIA; GEOLOGICAL IMPLICATIONS

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Latest Devonian and Lower Carboniferous sequences are poorly represented in Saudi Arabia. However, well-preserved miospore assemblages have been obtained from several wells, permitting detailed correlation with sections in Syria and North Africa. Integration of data from other areas, notably Libya and Algeria, has permitted the establishment of a regional zonal scheme applicable through much of the northern Gondwana region. Correlation of the palynostratigraphy with the chronostratigraphy is imprecise due to the paucity of independent faunal or microfaunal evidence but tentative correlations with Western Europe are proposed. Although palynological evidence proves the presence of latest Devonian ('Strunian') and Lower Carboniferous (Tournaisian) rocks in Saudi Arabia, strata containing the Devonian / Carboniferous boundary have not yet been located in any of the wells investigated. Several breaks in the succession have been identified, representing either periods of non deposition or deposition followed by subsequent erosion. These are not apparent from the lithostratigraphy or electric logs but are of significant magnitude in terms of their time span. The most important separates Viséan from lower Tournaisian rocks and can be correlated from the Arabian Gulf through Syria and across North Africa. The abundance of reworked Strunian miospores throughout the Carboniferous succession in Saudi Arabia suggests prolonged denudation of an extensive Upper Devonian terrain.