INTERNATIONAL EXPLORATIONISTS

INTERNATIONAL EXPLORATIONISTS DINNER MEETING—OCTOBER 19, 1988

RON NELSON—Biographical Sketch

Ron Nelson was born in Chicago, Illinois, in 1948. He received a BS degree in geology fron Northern Illinois University in 1970, specializing in paleontology. He later received geological degrees from Texas A&M University in igneous geochemistry (MS, 1972) and structural geology and rock mechanics (PhD, 1975). Upon leaving graduate school, Ron joined Amoco Production Company's Research Center in Tulsa, Oklahoma, where he served as a researcher in structural geology for five years. In 1980 he became a supervisor of the newly formed Structural Geology Research Group. He remained in that position until 1985, when he transferred to Amoco's Africa and Middle East Region in Houston.

Over the years with Amoco, Ron has specialized in mechanical approaches to structural geology, the geology and petrophysics of fractured reservoirs, analysis of structural fabrics from satellite imagery, and structural styles in thrust belt and rift terrane. He has published over 30 references on structural geology and fractured reservoirs.

Ron is a member of AAPG (CPG), SPE, International Society of Rock Mechanics, and the Houston and Tulsa Geological Societies. He is married to Penelope C. Nelson, also a geologist, of Nelson Consulting here in Houston.

RIFT OFFSETS—GULF OF SUEZ, EGYPT*

Structure and stratigraphic mapping in the northern half of the Gulf of Suez (GOS) documents two en echelon, rift-parallel (Clysmic trend) rift segments. The segments are right stepping and share a zone of overlap which extends southward from the southern border of the Wadi Araba structure on the western shore of the Gulf, to the north end of the Abu Durba block on the east side of the Gulf. The spatial relationship of the two segments defines the central GOS rift offset, and the structural depression linking the segments in the area of overlap forms a rift-offset zone.

Within the rift-offset zone, surface and subsurface data record a variety of structural trends, with two being dominant: the Clysmic trend and a north-northeast trend. Bimodal fault populations with similar orientations relative to the rift axis are found in better exposed, right-stepping rift offsets (e.g., Rhinegraben, Rio Grande rift) and document the departure from the dominantly plane strain of rift segments oriented perpendicular to the extension direction to three-dimensional strain in rift segments oriented obliquely to the extension direction. The left-lateral component of slip documented on some of the oblique-trending faults in the central GOS offset (e.g., Abu Durba-Araba fault) is kinematically consistent with motion across a right-stepping rift offset. Formation of the structural offset zone may have been contemporaneous with the normal segments it joins or a relatively late feature due to linking of adjacent propagating segments.

Recognition of offset zones and their associated fault fabrics is essential for effective exploration of rift basins. For example, the alignment of producing fields and elongation directions of individual fields in the central GOS offset are anomalous relative to those of other producing trends in the Gulf.

**with T. L. Patton, Gulf of Suez Petroleum Company, Cairo, Egypt*