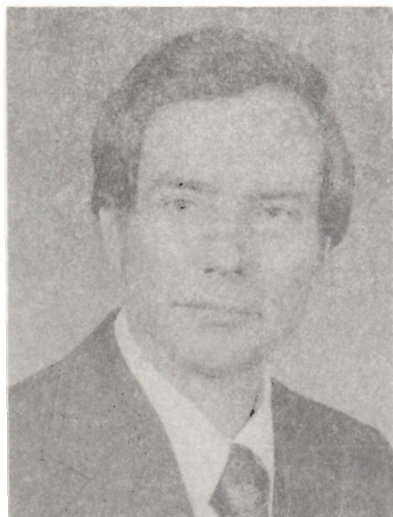


WILL GREEN
Biographical Review



Will Green is a Senior Geologist with Shell's International Ventures organization where he does exploration geology in Canada and the Arctic. He was transferred to Houston from Midland, Texas in August, 1973. He has 17 years of geologic experience in west Texas - eastern New Mexico and adjacent areas: 7 years based in Midland and 10 years in Roswell, New Mexico.

Mr. Green was employed by Shell in 1955 in Denver after graduating from the University of Texas (Austin) with a M.A. degree in geology. He earned B.S. degrees in geological engineering and petroleum engineering from Texas A & M University in 1953 and received an Outstanding Student award from the Houston Geological Society.

He is a member of A.A.P.G. (Certified Petroleum Geologist), S.E.P.M. (Past President of Permian Basin section), West Texas Geological Society and Houston Geological Society.

PENNSYLVANIAN SANDSTONES IN THE KERR BASIN OF CENTRAL TEXAS

Will Green

ABSTRACT

Lower Pennsylvanian sandstones are potential, but high risk, objectives for hydrocarbon reservoirs on the north flank of the Kerr Basin, located generally south of the Llano Uplift in Central Texas.

In northwest Bandera County stratigraphic traps could exist updip from multiple, oil-stained sandstone units penetrated at depths above 8000 feet by several wells. These sandstones are interpreted as marine turbidite packages, possibly including channel sequences. The sediment source was probably the Ouachita structural element to the south. Permeability in these sandstones is generally low; however, fluid recoveries indicate permeable zones are present locally.

In contrast to the tight sandstone in Bandera County, porous and permeable non-stained sandstones were penetrated at depths above 3000 feet in northern Kerr County. Tucker, Holton No. 1 drilled in 1970, penetrated 200 feet of sandstone having more than 10 percent sonic log porosity. Maximum measured porosity and permeability from core analysis was 24 percent and 193 millidarcys. Thin section study indicates that extreme variations in permeability are due to differences in sorting and amount of carbonate cement. The sandstones are interpreted as proximal turbidite-channel and fan deposits, after detailed study of 250 feet of slabbed core. The cores include 42 cycles having downward increasing grain size distribution which range

in thickness from 34 feet to less than 1 foot. The sediments probably were derived from sources in north Texas and the nearby Llano uplift. A boulder of Ellenburger dolomite cored in the clastic section probably originated from the Llano area. Traps could be stratigraphic/structural.