

**HGS LUNCHEON MEETING—  
SEPTEMBER 25, 1991**

**ROBERT M. SNEIDER—Biographical Sketch**



Dr. Robert M. Sneider is a Houston-based explorer and consultant. Prior to forming his own company in 1981, he spent nearly 18 years with Shell Oil and Shell Development companies and seven years with Sneider and Meckel Associates in exploration, production, research, training and management. Sneider is a member of the AAPG Development Geology Committee and its first chairman, a long time HGS

member, and was a Distinguished Lecturer for AAPG and the Society of Petroleum Engineers.

Sneider is a 1991 recipient of AAPG's Distinguished Service Award. He received a B.S. in Geology and Engineering from Rutgers University and a Ph.D. in Geology and Mining Engineering from the University of Wisconsin.

**PETROPHYSICAL PROPERTIES OF SEALS**

Seals are defined as generally ductile rocks with a very high capillary entry pressure which can dam up hydrocarbons. Petrophysical and petrographic studies of conventional and sidewall cores from known seal-reservoir couplets of hydrocarbon-producing reservoirs provide a basis to quantify the capacity of a rock to trap a hydrocarbon column. The most important property of a seal is its pore-size distribution as measured in thin section, scanning electron microscope and very high pressure (up to 50,000 psi) air-mercury capillary pressure curves determined across bedding surfaces in vertical plugs.

Seal quality or capacity is determined by pore-size distribution and interconnection, and ductility. Using the density difference of normal saline water and 35° API gravity oil as a standard, an arbitrary scale of seal types is defined:

SEAL TYPES				
35° API Oil Column Held				
	METERS		FEET	
TYPE A	>300		>1000	
TYPE B	≥150	<300	≥500	<1000
TYPE C	≥30	<150	≥100	<500
TYPE D	≥15	<30	≥50	<100
TYPE E	<15		<50	
TYPE F	WASTE ZONE ROCKS			

Comparators of known seal types composed of samples of the rock type, SEM photographs and capillary pressure curve are used to estimate seal type under a binocular microscope at 50X magnification. A catalogue of petrophysical properties and photomicrographs allows one to make reliable estimates of seal capacity of unknown samples in cores and cuttings with a binocular microscope.