

THE STORY OF BIG WELLS

by

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Big Wells Field is a rapidly developing oil field in northeastern Dimmit and southeastern Zavala Counties, Texas, approximately 75 miles southwest of San Antonio. Big Wells Field is a large and significant stratigraphic trap. Production is from a San Miguel sand of the Upper Taylor (Upper Cretaceous), a section noted for tight sand conditions and small 5-10 well oil fields in anticlinal structures usually associated with small volcanic extrusives. This trend has been considered high risk for "economical" fields and therefore ignored by the great majority of operators, both large and small. Big Wells has instigated the expected flurry of activity when a "dead" trend suddenly springs back to life.

Ranging from 5300-5700 feet in depth, with a minimum of 200 feet and possibly 400 feet of oil column, the field was found by Sun Oil in January, 1969. Development drilling began in the north part of the field where tight sand conditions were encountered casting doubt on the economics involved. Southward of the early drilling, much better sand reservoirs were encountered, resulting in full allowable flowing wells (142 BOPD in March, 1971). Deposited as an offshore bar, the Big Wells (San Miguel) sand is a very fine grain sand, with average porosity 18-20%, with permeability ranging from less than 1 Md. to 100 Md., but often having less than 5 Md. permeability. The sand is deposited in a characteristic bar shape thinning to an up dip and down dip limit. Today the field is 12 miles long and 3 miles wide. Nine rigs were operating in the field in March, 1971. With 160 wells completed by the end of May, the limits of the field were fairly well defined. Drilled on 80 acre spacing, approximately 200-250 wells are anticipated. Daily production in March 1971 was between 15,000-16,000 barrels of oil.

BIOGRAPHICAL SKETCH - R. L. Layden

Robert Layden, presently District Exploitation Geologist with Sun Oil Company, Corpus Christi, Texas, attended The University of Texas 1942-1948, receiving a Bachelor of Journalism Degree, plus two years graduate work in Geology. He was first employed by Sun Oil Company in 1949 at McAllen, Texas. From 1949-1956 he worked in McAllen, Corpus Christi, Dallas and San Antonio. In 1956 he moved to McAllen and in 1960 was made District Geologist. Additional positions held were District Geologist, Roswell, 1963-1965, District Geologist, Alaska, 1965, January-April, Regional Geologist, West Texas - New Mexico, 1965-1966, Regional Geologist, North Louisiana-Mississippi-Alabama-Florida, 1966-1967, Regional Geologist, Corpus Christi Region, 1967-1970. While Regional Geologist he was responsible for all geological development and exploration work and geophysical work in the regions under his responsibility. The Big Wells field was discovered while he was Regional Geologist for the Corpus Christi Region.

He is a member of the AAPG and Corpus Christi Geological Society. He served as President of the GCAGS in 1956.