THE SUN CITY POOL

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LOCATION Barber County

Sections 22, 26, 27, 34, 35-30S-15W

METHOD OF EXPLORATION
LEADING TO DISCOVERY

Surface work with pre-Pennsylvanian production as the primary objective. The Massey zone (Marmaton) production was unexpected.

DISCOVERY

The Pryor and Lockhart #1 Massey (C/EL NE NW Section 35-30-15W) was completed in December, 1941 through perforations from 4,342-44 for an initial potential of 3,000 barrels of oil per day. Bottom hole pressure of 1570# was recorded and the well made no water. Production in the Sun City pool is from the Massey zone, a local name which has been applied to the producing horizon, considered to be an upper limestone member of the Marmaton group.

NATURE OF TRAP

The Sun City pool is a stratigraphic trap in which the Massey zone of the Marmaton group is characterized by abrupt facies changes from limestone to shaly lime and/or limey shale. Production is located along the south flank of a regional high, which extends north of the pool.

PRODUCTIVE AREA AND TYPE DRIVE

Approximately 300 acres (?) producing by gas solution drive.

THICKNESS AND LITHOLOGY OF RESERVOIR

The reservoir rock (when productive) varies from buff and brown dense, very fossiliferous lime to buff and brown, fine to coarse crystalline, very fossiliferous, vuggy lime. Large vugs lined with calcite crystals and very good inter-crystalline porosity have been found in cores from the Massey zone. The presence of numerous algae, in association with the type of porosity which is found, has been compared to that of reef-type porosity. Where not represented by a clean limestone, as found in the producing wells, the Massey zone consists of limey shale containing large lime nodules. A conglomeratic appearance is not uncommon. The Massey zone ranges a great deal in thickness. Average thickness is 10-12 feet. Within the pool a thickness of 35 feet has been noted in one well.