

ning of the Oligocene. Furthermore, there were previous and posthumous movements, the last of which is very important in the Isthmus and in the Macuspana and Pichucalco basins.

2. Short Discussion of Mexican Oil Fields, Antonio Garcia Rojas, chief geophysicist, *Petroleos Mexicanos*.

Mexico's oil production comes from three main provinces which according to their importance could be arranged as follows:

(1) Northern zone (Tampico-Tuxpan oil fields), (2) Southern zone (Isthmus, Saline Basin), and (3) Northeastern Mexico.

Most of the production of the Tampico-Tuxpan oil fields comes from the Tamaulipas limestone, Cretaceous in age, and which has a wide variation of facies. The total production from these fields has amounted to 2,160 million barrels, divided in three main producing areas: Faja de Oro (Golden Lane), Panuco-Ebano, and Poza Rica.

The Isthmus oil fields produce from Miocene sands and a very small production has been obtained from cap rocks. All producing structures in the Isthmus areas are related to salt domes. The total production obtained from these fields is about 140 million barrels.

No commercial production has been found until recently in northeastern Mexico, but some gas fields have been in production for several years.

Pemex has discovered recently the Reynosa field, which has two producing oil wells with a capacity of about 1,100 barrels per day for both wells.

3. Geology and Development of Poza Rica Field, State of Vera Cruz, Mexico, Ing. G. P. Salas, chief geologist, *Petroleos Mexicanos*.

The Poza Rica field is the most important and largest producing field in Mexico. It lies on the Gulf Coastal Plain approximately at 160 kms. south-southwest of Tampico and at 175 kms. northeast of Mexico City. The structure was found originally by geophysics through an almost simultaneous torsion balance and refraction shooting survey. Poza Rica No. 2 well, completed on May 2, 1930, as a gas producer, discovered a subsurface trap drilling in the gas cap in a porous Tamabra limestone at -2,047.3 meters (-6,715 feet).

Further deepening of the well brought it in as an oil producer. It was later shut in, because of high gas-oil ratio, in 1933.

Later reflection shooting revealed possible extensions and permitted development program. First exploration wells were located at distances between 600 and 1,000 meters (1,968 and 3,288 feet).

Completion of wells was first accomplished through 4 $\frac{1}{4}$ -inch liner. Later wells produced through 2 $\frac{1}{2}$ -inch tubing.

There are at present 93 wells of which only 4 were dry through lack of porosity in the limestone. Seventy-eight are producing at present. The structure at Poza Rica, as revealed from both seismos and subsurface geology, is a broad anticline in a Tamabra limestone which is open, as yet, toward the west northwest. The highest well, Poza Rica No. 65, found the limestone at -1,947 meters (6,386 feet). The lowest producing well, Escolin No. 2, found the limestone still porous at -2,178 meters (-7,144 feet). Apparently the porous producing zone is due to a reef facies deposited on the highest part of a Cretaceous limestone anticline. Later regional tilting, and subsequent folding apparently displaced the porous zone toward the northeast flank, so that at present no porosity has been found on the south flank. Poza Rica No. 8 and No. 46 are the southernmost wells drilled to the limestone without finding it porous.

This field has produced 50,380,902 M³ (316,895,800 barrels) since 1930, and is considered to have a potential reserve of 143,169,000 M³ (900,533,000 barrels).

4. New Petroleum Development by Pemex in Northeastern Mexico, Eduardo J. Guzman, geologist, *Petroleos Mexicanos*.

A brief outline is given of the geological, geophysical and drilling explorations done by *Petroleos Mexicanos* in northeastern Mexico. The area under consideration is stratigraphically and structurally part of the geologic province commonly designated as the Coastal Plain or Gulf Coast of Texas and Louisiana.

The subsurface stratigraphic sequence and descriptions as given are used for identification purposes by *Petroleos Mexicanos* without attempting any revision on age or correlation of these formations.

A summary is given of the criteria used in the correlation of the well sections with the corresponding sections in other wells. The writer describes briefly the structures drilled or being drilled by *Petroleos Mexicanos* near the border, presents their seismological maps and cross sections and gives tentative correlations with wells on the American side.

Production and completion data of such wells are also given.