

creases with depth, due to over-all thinning in a southeasterly direction, to a point of minimum section at about the NW.  $\frac{1}{4}$  of Sec. 9, 32-24. The southwest flanks of the folds are locally oversteepened, without resultant shift of axes, suggestive of similar folding. A probable fault, referred to as the "Maguire" fault, separates the old "Maguire" sand pool from the "27-B" pool. The "Maguire" sand is considered to be the southeastern extension of the "27-B" sand.

The assignation of the "27-B" sand to the Etchegoin (Pliocene) is considered erroneous. Conclusive faunal evidence is lacking, but from other evidence available at present, a Pliocene-Miocene break is preferred above the "27-B" sands.

A maximum net sand thickness of about 110 feet occurs in Sec. 36, 31-23. The individual sand lenses (E<sub>1</sub>-E<sub>4</sub>) pinch out not far down dip on the northeast flank of the hills, at higher structural elevations than is the case on the southwest flank. This is the apparent reason for the much higher water table on the northeast flanks,—a case of water entrapment against a permeability barrier. Edge water on the southwest flank is found to be 300 feet structurally lower than the structural spill point. This is explained by pinch-out of the individual sand lenses in the W.  $\frac{1}{2}$  of Sec. 28, 31-23.

At the peak of the war demand the pool produced at average rates as high as 40,275 barrels per day. The current maximum efficient rate is set at 25,000 barrels per day, which permits top wells a daily production of 180 barrels, subject to a gas restriction in the case where a well produces gas at rates in excess of 600 cubic feet per barrel.

The absence of a water drive will probably require some form of pressure maintenance for maximum oil recovery.

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The paper is a brief résumé of the stratigraphy and structure of that part of Chile. The presence of a Cretaceous-Tertiary basin, 20,000 feet or more deep, east of the main Cordillera, is pointed out and the suggestion made that a landmass lay on the west as well as one on the east of this basin during late Mesozoic and Tertiary time.

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A geologic traverse was made by the author in 1939 along the road from Bogotá to Villavicencio, a distance of 122 kilometers. The purpose was to attempt to correlate the rocks of the little known east side of the Cordillera Oriental with the better known formations of the Magdalena Valley on the west side of the mountains.

The rocks exposed along the traverse are sedimentary and metamorphic, and range in age from possible Cambrian to Pleistocene; only the Cretaceous rocks yielded abundant fossils. Igneous rocks reported to occur both north and south of the line of traverse were not encountered in this particular section, although the basal conglomerate of the Cretaceous contains fragments of granite.

The formations observed along the road, with their respective ages, are the following: Quetame, Cambrian (?); Vinculo, Devonian (?); Pipiral, Carboniferous (?); Colorado, Permian (?); La Argentina, Cretaceous (?); Cáqueza, Cretaceous (Lower Valanginian); Villeta, Cretaceous (Upper Valanginian, Hauterivian, Barremian, and Aptian); Guadalupe, Cretaceous (Middle Albian and Cenomanian); Buena Vista, Tertiary (?); Guaduas, Tertiary, Eocene (?); terraces, Pleistocene.

The principal structural features are the Bogotá fault, an overthrust to the west; the Cáqueza fault, an overthrust to the east; the San Martín fault, normal, with the westerly block downthrown; the Argentina fault, normal, with the easterly block downthrown; and the Cientoquince fault, an overthrust to the east. In addition, the Guada-