

# Oil Possibilities in Southern Turkey

The most important oil fields of Eurasia with production accounting for more than 95 % of petroleum produced in Russia, Rumania, Poland, Iran and Irak bear intimate structural relation to the late Tertiary system of folding. They are situated in the forefront of the Himalaya - Alpine chain of mountains where thick Tertiary and late Cretaceous deposits have accumulated and folded during Alpine period of earth movements. The folding has varied in intensity with the distance from the Carpathians, Caucasus mountains, Zagros ranges, Toros mountains, as the case may be.

In Turkey this peri-Alpine zone begins with a West of Northwest trend across from Zaho in Irak and extends from Diyarbakır in an epproximate east-west direction to Adana and the Mediterranean Sea. This is a vast zone and requires considerable geological study supported by informational drilling taking many years before the optimum Stratigraphic and structural conditions may be found combined to produce an oil field.

There is little doubt that the ancient Arabian table land enters into the present boundaries of Turkey as evidenced by the presence of a well developed Cambro-Ordivician section west of Mardin. Here we find the Upper Cretaceous resting with an angular unconformity on the Paleozoic mostly composed of sandstones, with some shale, conglomerate and metamorphosed limestone. The sand grains of the sandstones are principally quartz. Trilobites, mostly fragmentary but occasionally well preserved may be found in the more argillaceous parts.

To the east and to the west of this ancient Arabian Shield paleozoic basins have permitted the accumulation of enormous thicknesses of sediments.

The Alpine structural features have been superimposed on these Paleozoic land masses and their accompanying foredeeps. Within the eastern geosyncline are found the important fields of Bahreyn, Saudi Arabia, Iran and Irak. The prospective areas of eastern Turkey fall in this category. Looking at a map showing the oil seepages of this part of the world [1] it may be observed that the trend of these seepages continue on a northwesterly direction in spite of the east-west direction of the Alpine structural system. This is taken to suggest that the Paleozoic trough maintained its northwesterly Course.

To the west of the Arabian Plateau we have the northern extension of the Great Rift Valley terminating at Marash. In the foredeep to the west, in the region of Adana, Tertiary deposition of more than 3000 meters has been measured. In this western province we find the Upper Red Sea oil fields and prospective areas of Turkey and Cyprus.

The geosyncline to the east of the Arabian plateau contains Triassic petroliferous limestones with *Pseudomontis clarai* and Carboniferous bituminous beds with a productid fauna. The paleozoic beds in the center is represented by the sterile quartz sandstones of Cambro-Ordivician. In the western foredeep again we have a petroliferous paleozoic section with productus and spirifer. On the other hand though the eastern geosyncline contains marginal thick Miocene deposits in Iran and Irak they get thinner in entering Turkey and disappear entirely in Mardin latitude. Further north in the latitude of Van Upper Tertiary becomes evident once

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more. The western foredeep besides having marine Paleozoic mentioned contains the very thick Tertiary section referred above.

The Structures both in the eastern geosyncline around Tigris and the western foredeep around Adana are considered to have prospects of finding oil. It is in these areas that geologic work and exploratory drilling is planned to be carried. The degree of intensity of the work will be directly proportional with the funds available for the purpose.

The drilling in the Mardin area so far has produced one dry hole of 1327 meters. The Second

well which went to 940 meters encountered pockets of gas (one large enough to use in boilers) and many signs of asphalt and viscous oil. With the idea of speeding the exploratory work a Second rig was brought to the region. The third well is meeting "with even more prolific shows of oil, while the fourth hole is being drilled simultaneously on the adjoining structure of Kerbent and is progressing normally without the vexing drilling difficulties which characterized the well No. 1 at Basbirin and well No. 2 at Hermis.

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