

A Geologie Synopsis and Status of oil Exportation in Thrace

Translated from Turkish

Thrace is essentially a comparatively flat basin country bounded on the north and south by mountains. Northern range composed of Granite and other old rocks begin from Midye on the Black Sea and follow the Bulgarian boundary. The southern mountains begin south of Tekirdağ on Marmara and extend to the mouth of Meriç River. The central plain area mostly covered by Continental Pliocene Deposits.

The section that has received the most attention is between this southerly range and the Marmara Sea concentrating about the towns of Mürefte and Hoşköy (formerly Hora) where interest in its geology and petroleum possibilities has been active since 1897. It is not necessary to repeat its history which has been treated extensively in July 1937 number of M. T. A. In another M. T. A. Publication (July 1936) the occurrence of wet gas in Mürefte No. 1 was discussed in detail.

Though Kirk mentioned the possibility of some of the metamorphosed rocks in the Koru Dağ being Jurassic it is more probable that the schists and phillites on which the lower Eocene unconformably rests are Paleozoic if not older. Hence, we may presume subsidence started at the end

of the Cretaceous period depositing the uppermost Cretaceous mentioned southeast of Gelibolu by Gutzwiller and the conglomerates and the sandstones of the Early Eocene. This is succeeded by a limestone with nummulites overlain by marls and shales, and some andesitic tuff beds. Near the upper contact of the limestone in Mt. Elie Chapmania, Miliolidae and Rotalia are observed. Miocene lies discordantly on the Oligocene whereas no discordance is observed between the Eocene and the Oligocene. In the northern part of Thrace no Oligocene is seen. The subsidence during the Miocene was more general, but slight as shallow seas and lacustrine and continental conditions prevailed giving rise to deposits of sandstones, lignites and varicolored shales. The Pliocene deposits in Thrace are altogether continental and cover the central part of the Thrace Basin. The basalt is post-Pliocene.

Structurally, Thrace is a large basin bounded on the north and south by up-thrown blocks. A line of basalt hills extending roughly E N E-W S W from south of Çorlu to Kaşan appear in the south marking the southern dislocation. South of it Ganos - Kavak Dere - Seres Gulf line of disturbance separates it from the Marmara

province. The drilling activity so far has been restricted to this province.

In the central part of Thrace, several Structures running E N E - W S W indicate movement since the deposition of the Pliocene. The movements effecting the Pliocene deposits have no doubt continued. The basalt as shown on the map came to the Surface along one of the more recent dislocations. These movements continue to this day.

The exploration for oil was concentrated on the littoral block as extensive fracturing in it permitted evidences of oil to come to the Surface. But the much faulted condition of the strata did not permit commercial accumulation of oil or gas and distributed the oil present vertically and laterally into minor folds. Hence, almost every well in the region met with evidences of oil and gas, and none with commercial accumulation.

With the view that for commercial development we needed to go into the basin itself and test for Structures, if any, geologie and geophysical work was concentrated in the basin part during 1936 and 1937, These have resulted in the finding of certain Structures some of which may be tested in coming years.

Besides the five wells drilled before 1914 Mürefte - Hoşkøy area was tested after the government took up the investigation by 12 other wells ranging in depth from 53.7 - 331.5 meters (174-1087ft.) The findings in each of these wells as well as the lithology are shown in the accompanying tables. it will be observed that a well in Hoşkøy is credited with encountering

oil and a well in Mürefte has found wet gas. But the structural conditions outlined above made them of only local significance. The section these wells passed through were all in the Miocene. Wells were generally terminated on entering the micaceous shales of the Oligocene. The correlation of the well logs proved very difficult and in some instances impossible. This was due partly to the lenticularity of the beds but largely to faulting. Water sands did not carry from one hole to another, neither did the zones containing gas and oil. The analysis of the salt water met in the wells gave sodium chloride content different than the waters of Marmara Sea.

The analysis of the oil from Hoşkøy follows:

Density	0.854
Flash point	42.5
Viscosity at 20°	2.59
Frantional Distillation	
100° C-200°	13.9 %
200° C-350° C	63 %

The analysis of the gas from Mürefte No. 1 follows:

Methane and Ethane	80.5 % (by volume)
Propane, Bultane, Pentane	11.8 % (by volume)
Hexane	0.6 % (bv volume)

This gas may be classified as moderately wet. The initial flow of 80,000 cu. meters (3 million cu. f t.) settled to a third of this figure after allowing it to blow several days. At present after two years the gauge still indicates a pressure of 5 atmospheres whenever the valve is opened.

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