

## **Petroleum Systems of Israel - New Discoveries Highlight Offshore and Onshore Potential**

Gardosh, Michael A.<sup>1</sup>; Tannenbaum, Eli<sup>2</sup> (1) GII, Lod, Israel. (2) Kimron Oil and Minerals, TelAviv, Israel.

Hydrocarbon occurrences are known in the area of Israel from times of antiquity. However, modern exploration activity has had rather moderate success. Drilling of about 450 wells from the early 1950's to the late 1990's resulted in production from several small fields that totaled 20 MMBBL of oil and 70 BCF of gas. In the last decade exploration activity focused on three plays: deeply-buried Early Mesozoic fault blocks in northern Israel; the Levant margin offshore; and the continental basins of the Dead Sea rift. The first play includes the Meged PS that consists of oil generated from supposedly Silurian rocks, found in Triassic reservoirs. The Meged discovery is not commercially produced but it indicates the existence of Paleozoic source and trapping potential in Early Mesozoic structures. The second play includes the offshore Tamar and Yafo PS's. The Tamar system consists of gas discovered in Miocene sands, trapped in sub-salt fold structure and the Yafo system includes biogenic gas found in Pliocene turbidite sands and sand mounds overlying the Messinian salt. Proven reserves in these Late Tertiary systems are in the range of 10 TCF. The third play includes the Dead Sea PS that consist of hydrocarbons generated from a Senonian source trapped in folds and fault blocks on the western rim of the Dead Sea basin. Recent testing indicates re-charging of oil in previously produced Mesozoic reservoirs near the Dead Sea. The new discoveries onshore and offshore Israel highlight its potential to become a significant gas and oil producer.