

IR15

## Petroleum Geochemistry Of Oil Samples From Shallow Boreholes At Sakran Site, Western Iraq

F. R. Al-Rawi\* (University of Baghdad), T.K. Al-Ameri (University of Baghdad) & Salih M. Awadh (University of Baghdad)

### SUMMARY

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Admixture of oil with water was shown in two shallow boreholes drilled for ground water purposes to a depth of 117 and 230 meters at Sakran village, western Iraq. The sites of these boreholes are located within an area represents the eastern extension of east-west trending Anah graben.

Petroleum geochemistry analyses are carried out for samples of the admixture collected from these boreholes. Terpene and sterane biomarker distributions, as well as stable isotope values, are determined for the oil to determine valid oil – to – source correlations. The results show that the oil from this area is of Upper Jurassic age with C<sub>28</sub>/C<sub>29</sub> is 0.75 and with high sulfur content (2.75%). Tricyclic terpanes values as well as hopanes have indicated source rock affinity of carbonates while pristane to phytane ratio have indicated marine algal source of kerogen type II.

Oilfield water also are analyzed for cations (Ca, Mg, Na, K) and anions (SO<sub>4</sub>, Cl, NO<sub>3</sub>, HCO<sub>3</sub>) as well as the physical properties (TDS, EC, pH and T). The hydrochemical characterization demonstrated that the origin of these oilfield waters is marine origin.

All these information could confirm source rock affinity to the Upper Jurassic Sargelu and Najma Formations in which their ages equivalent to the source in east Baghdad Oil Field and Tikrit Oil Field and with different oil family from the nearby Akkas field, located to the west of this area.

