

# **Delineating and Analysis of the Sabkha and Subsurface Structural Lineament Patterns in the Eastern Parts of Saudi Arabia**

A. M. Al-Sari<sup>®</sup> and A. Kh. Al-Saafin<sup>®</sup> ① King Abdul Aziz City for Science & Technology, P.O.Box 6086, Riyadh - 11442, Saudi Arabia ② Earth Sciences Department / KFUPM # 1805, Dhahran - 31261, Saudi Arabia

The present work is an integration of remote sensing, geological, geophysical study supported with field investigation which deals essentially with the delineation of sabkha lineament patterns to understand the interrelationship between sabkha formation and tectonic events in the eastern parts of Saudi Arabia. This study is based mainly on the utilization of the sabkha lineaments map of the eastern parts of Saudi Arabia interpreted after analyzing images, geologic and tectonic maps of the of Arabian Gulf quadrangle. Subsurface structural features have been delineated from the previously available geophysical information describing the oil-traps in the study area.

Results of this study concluded that the inland and some coastal sabkhas distributed in the eastern parts of Saudi Arabia are parallel or sub parallel with the major deep fold axes (N-S). In addition, some other sabkhas are parallel to the long axis of the Arabian Gulf (NW-SE). It means that sabkha formation and evolution at the study area are strongly influenced by the surrounding materials and tectonic events shaped the lithological quantum at the eastern parts of Saudi Arabia.