

IRP04

Hydrocarbon Seepage, Spring Waters and Geobotany Surveys as Tool for Detecting Fault Extension: Abu-Jir Fault Zone Case

Salih M. Awadh* (Universith of Baghdad)

SUMMARY

Abu-Jir Fault Zone is a known fault and as one structural features in Iraq which extend NW- SE for long distance on the western side of the Mesopotamian basin. The feature of this fault on surface is mysterious and not clear. Surface extension evaluation of fault requires the selection of valid parameters among numerous geological factors. The present study focuses on the evidence of the existence of the fault traces on the surface such as springs, hydrocarbon seepages and geobotany in order to employ them as tools in geochemical exploration for determining fault extension. For this purposes, direct and indirect geochemical methods (spring water survey, hydrocarbon accumulation survey as well as geobotany) were carried out along Abu-Jir Fault Zone. The hydrocarbon accumulation features are existed in many types. The first is intruded massive hydrocarbon under high pressure penetrating the gypsum of Fatha Formation and exposed on surface. The second one is that the hydrocarbon intruded gypsum bed along cleavage plane but hasn't exposed on surface. The third type is light hydrocarbon ascending from depth associating the spring water and floating on the water surface. This study invested the anomaly of hydrocarbon, total dissolved solid (TDS), H₂S gas emission, abnormality in growth of palm trees such as curvature and overturn the stem of palm trees and formation an isolated local aqueous environments around the springs along Abu-Jir Fault Zone for detecting the fault extension.

