Geophysical Research Abstracts
Vol. 17, EGU2015-2726, 2015
EGU General Assembly 2015

Contribution of Conventional Well-Logs Data For The Identification of Shale Gas Intervals (Illizi Basin, South Of Algeria)

Said Eladj (1), Sid-Ali Ouadfeul (2), Leila Aliouane (1), and Houcine Mordjane (1)

(1) Université de Boumerdès, Laboratoire de Pysique de la Terre (LABOPHYT), Algeria, (2) Algerian Petroleum institute, IAP, Algeria.

In our work a petrophysical evaluation was conducted for the Franien source rock located in the depth interval (2700m-2900m) in the Illizi basin which is one of the largest unconventional reservoirs in the Algerian Palaeozoic basins. This assessment is made by exploiting some conventional logs of well A which they can be divided into three categories: (1) Natural gamma ray, (2) deep resistivity (3) porosity such as the neutron porosity, the sonic porosity and the density porosity. The gas in the source rock can be found in three locations: (1) in the pores, (2) in the fractures, (3) adsorbed by the mature organic matter. We can observe that the shale gas reservoir has a gamma ray greater than 150API, a deep resistivity greater than 1500 ohm.m , a low porosity of 4% to 6% and 4% content of total organic carbon (TOC).Through our study, we have shown that our tight shale gas reservoir is characterized by low matrix characteristics, riche of organic carbon that has a good maturity
Keywords: Unconventional Reservoir, conventional logging, Adsorption,
Shale gas, Total Organic Carbon, Kerogen.