



Application of Geophysical Methods in Evaluation of Water-Bearing Capacity of Sedimentary Formations of Ionian Zone in Albania

Altin Karriqi*, Ilir Shinko, Irakli Prifti

Polytechnic University of Tirana, Tirana, Albania.

Received December 24, 2013; Accepted January 21, 2014

Abstract: The water bearing of lithotamnic sandstone and limestone of Langhian-Serravalian age of Ionian zone is treated. In the Neogene section, some production wells, drilled in Ballsh oilfield have provided significant data and evidenced sedimentary environments of probable water-bearing targets. The Burdigalian, Langhian and Serravalian pack represents a normal continuation in its lower section. It consists chiefly of medium to thick bedded intercalation of sandstone, siltstone and silty-clay, as well as rare horizons of foraminifera's limestone, of massive marls with rare intercalations of foraminifera sandy limestone and lithothamnium sandy limestone. This pack changes vertically into thick bedded marls, whereas, in eastern part of Ballshi syncline and in many other structures, huge stratigraphic gaps are observed. Consequently, different levels of deposits of syncline structures uncomfortably overlie the Aquitanian eroded deposits or the Oligocene flysch that seal anticline carbonate structures. The Ballsh Neogene syncline overlies the limestone oilfield section where 214 wells have been drilled. About 30% of them are located in Neogenic syncline. Many of wells have interrupted the oil production, so may be use for water production. All the wells provide detailed geophysical logs. The well logs are used to outline sandstone layers and determine their porosity. Through diagraphies are chosen the most interesting wells and targets for testing. This task is very important, particularly for the overpopulated regions, industrial city and the rural areas with big demands on water supply.

Keywords: *Ballsh oilfield, rate of water, geophysical evaluations, water reserves, NANR (National Agency of Natural Resources), AGS (Albanian Geological Survey).*

* Corresponding: E-Mail: altin.karriqi@fgjm.edu.al, Tel: +355 68 48 74 424