



Groundwater Hydrochemistry of Alluvial Gravels of Tiranë-Ishëm Quaternary Basin

Entela Vako*

Geosciences, Energy, Water and Environmental Institute, Rruga Don Bosko, Nr 60, Tirana, Albania

Received July 19, 2011; Accepted February 21, 2012

Abstract. Tiranë-Ishëm depression is a valley with southeast-northwest extent. Above this valley is set waterbearing basin. It is filled with quaternary deposits mainly gravel and fewer grit in the north part. The gravel layer constitutes the richest waterbearing horizon. It contains great reserves of fresh groundwater of 1600 l/sec which are used for water supplying of Tirana, Durrësi and Fushë-Kruja cities. Chemical content of groundwater is result of gravels mineralogy and water-rock interactions. There are distinguished six hydrochemical types in Tiranë-Ishëm basin. The direction of chemical evolution follows the direction of Total Mineralization (TM) change. TM varies from 500mg/l in southeast to greater than 1000mg/l in northwest direction. Total Hardness (TH) is decreased from 30 German degrees to less than 10 German degrees toward the northwest because of natural softening of groundwater.

Keywords: *Groundwater, waterbearing horizon, hydrochemistry, hydrochemical types, chemical evolution, Total Mineralization, Total Hardness, natural softening of groundwater*

*Corresponding: E-Mail: vakoentela@yahoo.com Tel: 00355 67 2907196; Fax: 00355 42 259540