

**DIFFERENCE IN THE TREATMENT FOR PARTICULATES REMOVAL
FROM SURFACE AND GROUND WATERS -
THE CASES OF SIDIROKASTRO AND VELVENDO**

M. MITRAKAS, J. BOUGIOUKLIS, J. GEORGIU and R. TZIMOU-TSITOURIDOU,

Department of Chemical Engineering, Aristotle University of Thessaloniki,
54124 Thessaloniki, Greece.
E-mail: manasis@eng.auth.gr

EXTENDED ABSTRACT

Waters supplying the municipalities of Sidirokastro (prefecture of Serres) and Velvendo (Prefecture of Kozani) are collected from mountain springs at an elevation higher than 10³ m. The physico-chemical characteristics of both waters were the same with a low content of dissolved salts as concluded from their low conductivity (<100 µS/cm). However, their content of suspended matter was relatively high, exceeding 3×10³ particles/L. The enrichment of Sidirokastro water with different algal species, attributed to the confining of the water for about a month in a shallow reservoir, modified the stability of particulate. In comparison to Velvendo water, this modification resulted in an increase of the coagulant dosage from 1 mg Al/L to 2.5 mg Al/L PACl and a decrease in the effective filtration velocity from 15 m/h to 8 m/h.

Key words: Particle removal, particle counting, organic matter, coagulant dosage, filtration