PHYSICO - CHEMICAL INVESTIGATIONS FOR GEOTHERMAL WATERS FROM THE CALIMANESTI AREA

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Abstract

This paper describes a research study for indentified of the physico-chemical composition of geothermal waters from well and geothermal wastewaters from Calimanesti. The studies to identify the physico-chemical composition of geothermal waters play an important role for environmental, because the geothermal water after utilization is reinjected into the environment and is good to know if could be any negative impact on the environment.

The physico-chemical analysis for geothermal waters were done by accurate standard methods. The quality indicators analyzed were: pH, temperature, saturation, dissolved oxygen, chlorides, calcium, CCO-Cr, CBO5, total nitrogen, suspended matter, filterable residue at 105^{o}C, detergents, phenols, sulfates, sulfites, nitrates, nitrites, mercury, Cr (VI), iron, magnesium, cobalt, zinc, lead, cadmium, copper, nickel. The results of the physico-chemical characterization of geothermal waters were compared with the current legislation on groundwater and wastewater discharged into the environment. Following the analyzes made, the heavy analyzed from the geothermal water samples were within the maximum allowed by the legislation. The quality indicators like chlorine and sodium have not been within the limits allowed by the legislation. These high salt concentrations from geothermal waters studied, may have an environmental impact.

Keywords: *geothermal waters, heavy metals, physicochemical analysis*