



PILOT PLANT TREATMENT OF WATER FOR DRINKING PURPOSE BY PAC

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Abstract

Experiments in a Pilot Plant (PP) are extremely important and relevant for the substantiation of research. This is the way to set up the most suitable coagulation-flocculation reagents, optimum operating conditions (injection point, reaction times, etc.), compatibility with the processes at the actual Water Works and real possibilities for further improvement.

The present work aimed at verifying the previously obtained results in laboratory under PP working conditions for optimizing the coagulation-flocculation process of suspended matter from the Bega River. An aqueous solution of polyaluminium chlorides (PAC), with the general formula $Al_n(OH)_mCl_{3n-m}$, was used as an alternative coagulant in treating water for drinking purpose.

The results were compared to those obtained at the Water Works, where aluminium sulphate was currently used as a coagulant. The working conditions (water flow, raw water quality) were similar to those in the Water Works.

This study produced a mathematical model, which was necessary to implement PAC at the Water Works.

Keywords: surface water, Pilot Plant, coagulation-flocculation, pre-hydrolyzed coagulant, mathematical models

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