

Lomotowski, J., Wiercik, P. The Use of the Aeration Process for Upgrading the Efficiency of Suspended Solids Sedimentation During Groundwater Treatment. *Ochrona Srodowiska* 2009, Vol. 31, No. 4, pp. 21–24.

Abstract: The aeration process involved compressed air and was aimed at improving the sedimentation of the suspended solids that form in the course of groundwater treatment. The experiments have revealed that the aeration of the backwash water from the filters used for iron and manganese removal from the groundwater being treated not only accelerated the precipitation of iron and manganese compounds but also increased the rate and efficiency of water clarification in the settling tanks. The use of compressed-air aeration seems to be recommendable in large and medium-sized groundwater treatment plants where the process can be applied to the pretreatment of backwash water. It also seems worthwhile to consider the possibility of recirculating (upon sludge removal) the clarified supernatant into the treatment train. Periodic aeration conducted prior to the sedimentation process will shorten the time of backwash water retention in the settling tanks and thus permit their dimensions to be reduced.

Keywords: Groundwater, backwash water, aeration, sedimentation, water treatment.