

Wasowski, J., Kowalski, D., Kowalska, B., Kwietniewski, M., Zawilska, M. Water Quality Variations in Cement-lined Water-pipe Networks. *Ochrona Srodowiska* 2012, Vol. 34, No. 1, pp. 53–58.

Abstract: Experiments performed in a model pipe system fed with underground water demonstrated that tap water exposed to cement-lining gradually lost its corrosive properties and continued to develop its potential for calcium carbonate precipitation. This was an indication that cement components were released from the lining into the water residing in the pipes. Apart from its main components (calcium, magnesium and aluminum), the water contained small quantities of trace elements (zinc, barium, chromium, lead, nickel and cobalt). The study produced the following findings: leaching of elements from the cement lining was enhanced upon exposure to chlorinated water, and the final concentration values of all the elements detected in the water after contact with the cement lining were much lower than those permissible for drinking water.

Keywords: Tap water, water-pipe network, cement lining, chemical stability, water contamination.