

Study of the Clogging of Localized Irrigation Pipelines at the Agricultural Region of Agadir

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Abstract : During this work on scaling phenomenon observed in the irrigation water pipes in the agricultural region of Greater Agadir, a follow-up was carried out during a year of the physico-chemical quality of these waters. Sampling was conducted from 120 sampling points, well distributed in the study area and involved 120 water samples. The parameters measured for each sample are temperature, pH, conductivity, total hardness and the concentrations of the ions HCO_3^- , Ca^{2+} , Mg^{2+} , Na^+ , K^+ , SO_4^- , NO_3^- , Cl^- and OH^- . Indeed, the monitoring of the physico-chemical quality shows that the total hardness varies between 20 and 65 °F and the complete alkalimetric title varies from 14 °F to 42 °F. For the kinetic study of the scaling power, an object of this work, 6 samples which have high hardness were selected from the 120 samples analyzed. This study was carried out using the controlled degassing method Laboratoire de Chimie et de Génie de l'Environnement (LCGE) where it was developed) and showed that the studied waters are calcifying. The germination time T_g varies between 16 and 34 minutes. The highlighting of new scale inhibitors to prevent the formation of scale in the pipelines of the agricultural sector of Greater Agadir will also be discussed.

Keywords : agadir, clogging pipes, localized irrigation, scaling power

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