

Grey water treatment and reclamation by filtration system, ozone and activated carbon

Narges Nozad*, Akbar Babaei

1. Research expert of water & wastewater Co. of East Azarbaijan,
narges.nozad@yahoo.com
2. Research office Manager of water & wastewater Co. of East Azarbaijan,
akbarbabaiesf@gmail.com

Abstract

Grey water treatment and reuse for non-drinking water requirements has become of great interest in arid and semi-arid zones where water resources are becoming both quantitatively and qualitatively scarce. In this paper, three methods for treatment and reclamation grey water are introduced. The first method is the MBR based reactor, containing four stages: screening, biological oxidation, filtration and a final disinfection by chlorination. The second method is based on two uPVC columns were operated in parallel and in series. These columns were filled by silica sands and lava rock and treatment grey water from bathroom, laundry and kitchen like filtration. In the third method first grey water was ozonated then passed through granular activated carbon. The influent and effluent were monitored in order to determine the treatment efficiency and assessment of the quality potential of treated grey water in all methods. The results obtained indicate that recycling of grey water allows an effluent of excellent quality with organic, surfactants and microbial parameters under the limits defined by Spanish legislation for urban water reuse.

Key words: Grey water, treatment and reclamation of waer, filtration, ozone, activated carbon