

Recycling of Filters Backwash Water

(Example : Water Treatment Plant on Roum Dam by Asswayda)*

Eng. Reaan AL-Homsi**

Dr.Mohammed Bashar Al Mufti***

Abstract

Resulting backwash water from existing filters, in the water purification plants, is actually thrown in most cases in water bodies, valleys or discharged into other system without making any benefit from it.

The amount of backwash water is well estimated to be in average (3-4%) of purified water amount. Even if this amount is generally not relevant, it can however be considered to be useful in some circumstances, where the source water is rare or there is no water resource in the region at all.

Treatment of backwash water depends on the reuse need of it, either for drinking or irrigation purposes, so that the treated water must be in accordance with the water quality standard stated in related specifications.

In this research, the resulting backwash water purification plant at Roum Dam near Swaida town has been scientifically analyzed and treated in a plant designed and built for this purpose.

In this paper, the results of experiments are discussed; important facts have been concluded and economic feasibility for water reuse was determined.

Keywords: purification of drinking water, filtration, sand filters, re-use of waste water, backwash water.

* For the Paper in Arabic see pages (419-435)

* This research work has been prepared in regard to the doctoral research of Eng. Reaan AL-Homsi, under supervision of Prof . Dr.

** BSc in Civil Engineering, Environment Section- Damascus University

*** Civil Engineering, Environment Section- Damascus University

References:

1. www.cbssyr.org/yearbook.htm
2. <http://teaching.alexeng.edu.eg/SanitarySite/Courses/HSeif/WaterWorks/Lec1.ppt>
3. <http://cfpdz.com/vb/index.php>
4. <http://www.arab-eng.org/vb/showthread.php?t=47571#ixzz1gFZ2IAXw>
5. NPicholas P. Cheremisinoff, Ph.d. n&p limited. 2004 handbook of water and wastewater treatment technologies boston oxford auckland johannesburg melbourne new delhi
6. Shami, Shibli. Wahba, India. Damascus University Publications Environmental Engineering. 1992
7. Organization for Standardization and Metrology Syrian Arab 2007, Mbah specifications drinking \ 45 \, the second return, the Ministry of Industry.
8. D. Zeno, Amjad. D. Work, Wael. D. Merhi, Joseph. D. Palm, Sam 2010, Applied Hydraulic, Damascus University Press.
9. D. Mufti. Mohammed Bashar al. (Sedimentation basins), master lectures, Faculty of Civil Engineering, University of Damascus
10. D. Mufti. Mohammed Bashar al. (Indicators of water quality), master lectures, Faculty of Civil Engineering, University of Damascus
11. Translation D. Dora. Haddad, Ghassan. D. Blossom. George. Brief in sanitation in cities, 2001, the Arab Center for Arabization, Translation and Publishing in Damascus.
Karl und Klaus R. Imhoff authored
12. Studies Directorate of drinking water in the Ministry of Housing and Construction 2011