

Pilot plant for wastewater treatment involving septic pit and biological filtration on sand of dunes of the Algerian Sahara

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ABSTRACT

A pilot plant involving a septic pit followed by sand filtration was used to treat urban wastewater in the south of Algeria. Experiments carried out in triplicates simultaneously in three identical pilot plants showed the feasibility of the process, since BOD₅, COD and SS removals remained above 70% over 2.5 months of the experiment. The permeability of Sahara sand of dune allows therefore its use for water biofiltration; however an additional drainage should be considered to avoid salt problems. The next objective is the process validation on an industrial scale.

Keywords: Pilot plant; Sand biofiltration; Wastewater treatment

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