



Natural treatment systems for waste water

Soil Aquifer Treatment (SAT) Two selected cases

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Two selected cases



	Dan Region Israel	Koksijde Belgium
Effluent	WWTP Tel Aviv	WWTP Torreele (Wulpen)
Pre-treatment	Secondary (Activated sludge technology)	Secondary, plus UF, plus RO
Start (in production)	1977 (35 years)	2002 (10 years)
Flux (m3/day) (Mm3/year)	350.000 140	7.000 2
Recharge basins (ha)	111 (Soreq and Yavne)	2 (Doompanne)
Operation	Intermittent (flooding/drying cycle)	Continuous
Average infiltration rate (m/day)	0.3 to 0.6	0.3
Cleaning	Once every 3 month; 2 times per month mechanical ploughing	-
Travel time (months)	3 to 12	1
Reclaimed water is for	Unrestricted irrigation (coastal plain and northern Negev)	Drinking





Further reading and acknowledgement

- Artificial Groundwater Recharge (L. Huisman and Th. N. Olsthoorn), Faculty of Civil Engineering, University Delft, 1989
- Artificial Recharge of Groundwater, Proceedings of International Symposium Helsinki, Finland (1996)
- Artificial Recharge of Groundwater, Proceedings of Third International Symposium on Artificial Recharge of Groundwater, Amsterdam (1998)
- Australian guidelines for water recycling: managing health and environmental risks, managed aquifer recharge (National Water Quality Strategy), 2009
- Sharma, Saroj K & Gary Amy, Chapter 15. Natural Treatment Systems. In: Drinking Water Treatment: Handbook of Water Supply. AWWA, Sixth edition, Mc Graw Hill Publications, USA