Lange Erlen Demonstration Site, Basel

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Soil-aquifer treatment in Basel for drinking water production

The Lange Erlen site (Site 6) produces drinking water for the city of Basel from the river Rhine (surface water abstraction) for over 50 years. The treatment train encompasses screening, filtration and subsequent soil infiltration. After re-abstraction the water is treated by granular activated carbon and UV-disinfection.

In the demonstration site we focus on the impact of oxidative pre-treatment steps to SAT on bulk organics, micropollutants and micro-biological quality.

Water from the Rhine river and the Wiese river will be pre-filtered, and oxidized by H_2O_2 - UV treatment in a pilot plant provided by our partner Xylem. The treated water is then filtered through GAC columns and Soil columns in parallel. In Figure 1 the schematic procedure is depicted and in Figure 3 more details of the demonstration site are shown.

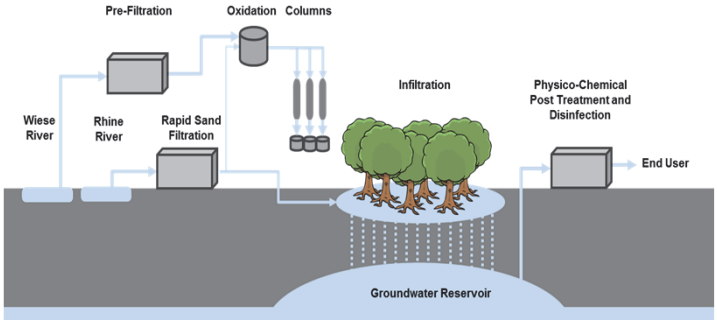

Figure 1: Schematic procedure demonstration site Lange Erlen

Analytical Parameters

Physical/Chemical Parameters
- Transmission
- UV_{254}
- Dissolved Oxygen

Microbial Parameters
- AOC
- ATP
- AMB

Bioassays
- YES YAS Test
- AMES Test

Organic parameters
- TOC (LC-OCD)
- Transformation products
- 11 target substances
  - 5-Methylbenzotriazole
  - Acesulfame
  - Amidotrizoic acid
  - Benzotriazole
  - EDTA
  - Iomeprol
  - Iopamidol
  - Iopromide
  - Ioxithalamic acid
  - Metformin
  - Guanylurea sulfate

Figure 2: Forest infiltration site Lange Erlen

Flow Chart of the Demonstration Site

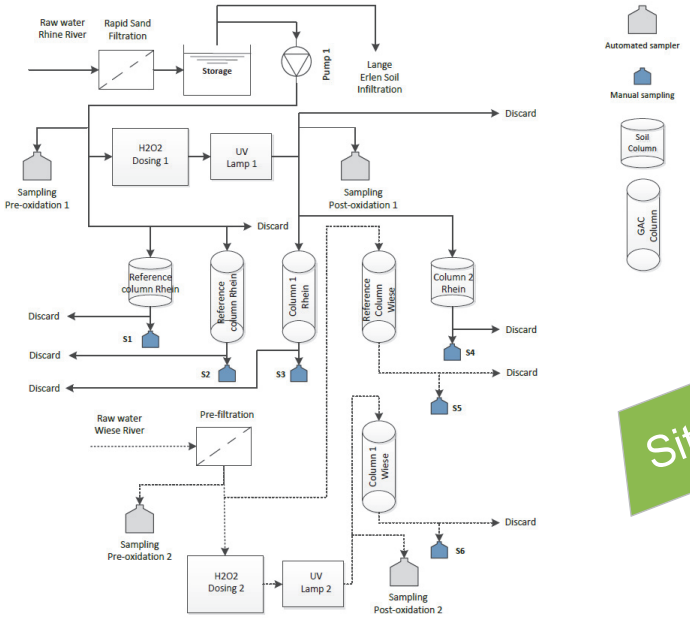

Figure 3: Detailed flow chart of the demonstration site

Site 6

Timeline for planned activities

	2016							
Month	5	6	7	8	9	10	11	12
Project month		1	2	3	4	5	6	7
Planning								
Pre-experiments FHNW								
Construction								
Test/Conditioning								
Start Pilot (running for 12 months)								

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