

Event Report

“Water is the driving force of all nature.”- Leonardo da Vinci

BY VIVIAN BEETLE



Centrepoint members visiting the Lange Erlen facility; Brigitta Hänggi

Our Basel drinking water is cheap, safe and practically unlimited. Have you ever wondered why or how? A group of curious Centrepoint members recently took an eye-opening tour to better understand this phenomenon.

On a beautiful autumn day in late September, fourteen of us visited the drinking water facility located in Lange Erlen which is owned and operated by IWB, (Industrielle Werke Basel). It is where both ideal conditions (geography, water, shade, microbes and stones) and non-synthetic techniques (sand, gravity, carbon and light) are brilliantly combined. The genius of mixing water from the Rhein with groundwater produces a natural regional water supply unlike any other.

I should pause here with an apology to Sunanta Rickenbacher for not quite believing her when she arrived at Lange Erlen full of intrigue that the tour would explain more about how water from the Rhein was brought here to become our local drinking water. Frankly I could not fathom that to be the case. How unimaginative and rather self-assured of me! Of course, Sunanta was totally correct as we would all soon observe in detail.

Our superb guide for the visit, Franziska Siegrist, spent the next two and a half hours walking us (literally and figuratively) through the sophisticated yet nearly natural system by which our drinking water is sourced, filtered and distributed for our ultimate use. Siegrist explained

that today drinking water supplied to Basel is used by fire brigades, hospitals, schools, commercial properties, government facilities, the roughly 200 public fountains throughout Basel and all residential homes (yes, drinking water even fills our toilets!). She taught us this and much more.

Over time, the original spring water supply and the natural groundwater formation in our area could not meet Basel's drinking water needs. Once residents had access to water, they wanted more and more for expanding uses - for example, starting in the 1970's homes soon had two baths, two toilets, etc.

To supplement the supply, IWB now takes water from the Rhein via two raw water pumping stations near the Birsfelden power plant and in Pratteln upstream of the industrial zone Schweizerhalle to enhance drinking water production in the Lange Erlen and the Hardwald respectively. As you might imagine, the entire process involves a series of very carefully designed and monitored steps.

Physical items such as wood, plastics, and rubbish are initially captured by large grills before the water gets pumped out of the river. After early testing and traveling to Lange Erlen, the Rhein water begins its transformation in the Quick Filter Building.

The raw water is cleared from suspended matter simply by dropping through 80 cm layers of sand in twenty large basins

known as quick filters. The sixty year-old sand is constantly soaked as the water filters down and exits through 4000 drain tubes per basin. Up to 100 million liters of water can be cleaned this way every day. The pools of Rhein water atop the sand are murky but without any foul odor. The sand itself gets cleaned one to three times per week.

The filtered water is then pumped to a series of thirty water fields throughout Lange Erlen where it can mix with the groundwater, although only ten of the fields are used at any one time. The addition of the new water raises the natural groundwater level. As prescribed by law, the water has to percolate through the soil for at least 20 days (from intake to pump out).

Thanks to the forest shade, the water does not evaporate but instead remains at an ideal 16°C as it gradually leaches into the soil where it mixes with the natural groundwater and is cleaned by loose stones and a plethora of natural microbes such as fungi and bacteria which feed on organic matter. In short, the forest and the laws of physics do the cleansing and mixing work for us.

The water blend (Rhein and groundwater) are no longer distinguishable) is pumped via one of several groundwater wells on site from a depth of eight to fifteen meters up to the surface. The water is already potable, but as an ultimate safeguard a further filtration takes place.

Nearby in Lange Erlen stands a facility which performs a secondary physical filtration. Still no additives are involved; only activated carbon filtering occurs in order to eliminate any potential chemical or hormonal matter. Unlike the sand in the first step, the carbon cannot be cleaned and must be replaced every 2 to 3 years.

Moved on to an adjacent main pump station (just renovated and re-dedicated in March 2020), the water is finally disinfected with ultraviolet light before it can be fed into the city's drinking water supply. It will ultimately be transferred to one of several reservoirs where it stands for less than 24 hours while a steady water pressure is maintained. Depending on their current water needs, consumers use some water directly from the pump station in Lange Erlen. The other part fills the reservoirs - especially at night. As an added advantage, the water we drink from our city taps consumes 1000 times less energy than bottled water.

Throughout the system, testing processes are extremely accurate and sensitive as they check such metrics as temperature, salt content, clarity and pH levels. In addition, laboratory analyses are regularly performed by cantonal testing facilities.

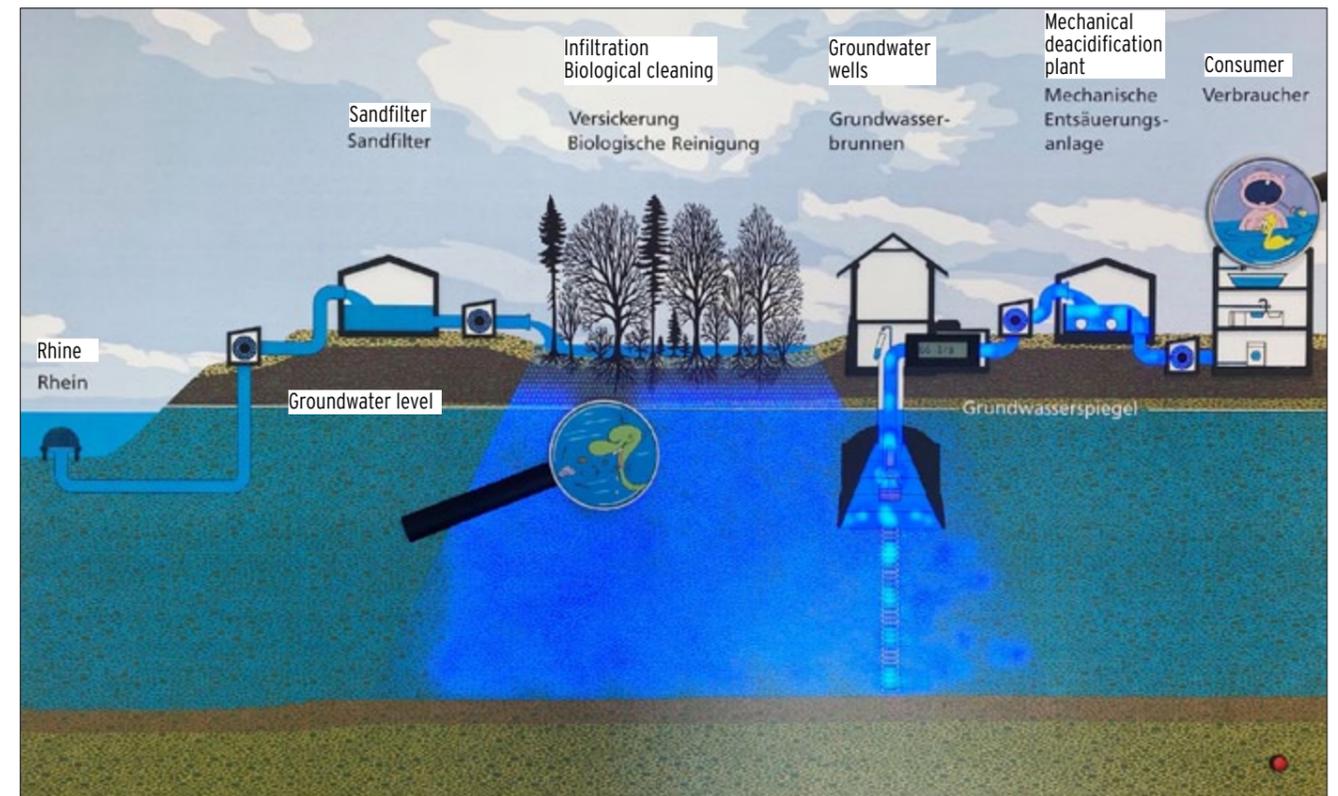


The introductory talk before the guided tour; Brigitta Hänggi

Most of us already treasure the presence of the Rhein in Basel, but who of us knew it was the key to our essential drinking water supply? Besides the inspiration, beauty, transportation and leisure the Rhein offers, it is also critical to the quality and safety of our standard of living.

Be ever grateful the next time you turn on the tap.

Special thanks to Susanne Fröbe for coordinating the Tour.



Overview of the water purification process; IWB