



## **1. Bore**

Aqwest sinks a bore into the Yarragadee Aquifer. Screens are placed at the bottom of the bore hole at varying depths to find the best water quality.

The pump at the bottom of the bore, pumps the water up the cased hole and the water is sprayed into a tank known as an aerator.

## **2. Aeration**

Aeration is the process of introducing air into water to oxidise impurities (such as iron and manganese) so they can be removed later in the treatment process. Aeration is achieved by spraying water into the open air to allow it to mix with oxygen.

## **3. Disinfection**

Aqwest uses multiple treatment processes to ensure a high quality water supply. At the first stage chlorine is used to help oxidise impurities after aeration has occurred and then to destroy any bacteria or other micro-organisms. Chlorine is used in water systems across the world as a water disinfectant and its use is considered one of the great improvements in the history of public health.

After this has taken place the water goes into the mixing detention tank.

## **4. Mixing Detention Tank**

The water is thoroughly mixed in this tank to ensure it is completely disinfected and then it travels into the Continuous Up Flow Filter known as a Dyna Sand Filter.

## **5. Continuous Up Flow Filtration**

Filtration via the Dyna Sand Filter involves water entering through the bottom of the filter, which flows upwards through a sand bed. This further removes any remaining impurities and micro-organisms. This stage is similar to the natural filtration of water as it moves through the ground.

The impurities are drained through a wash-water outlet at the same time as the moving sand is being washed, cleaned and placed back into the filter bed, allowing the filter to operate continuously.

## **6. Holding Tank**

The water from the holding tank is pumped into the water mains/distribution network to be delivered to residential and commercial properties via more than 350 kilometres of underground piping.