

## **Water Quality Explanation**

Severn Trent Searches is obliged to take samples throughout the region to demonstrate compliance with the Water Supply (Water Quality) Regulations. The majority of these samples are taken from customer properties at the cold water kitchen tap. Samples are taken from a random selection of addresses within a water supply zone and the results of these samples represent the zonal performance. Water Quality zones are allowed to have a population equivalent of up to 100,000 (approx. 40,000 properties) and can cover large geographical areas. There is only a small possibility that the results of samples reported were taken from the property in question.

In 2006 there were over 520,000 analyses carried out on the water the company supplies, out of this total 99.8% of water at the customer tap complied with the associated standards.

Here are some basic facts about the parameters that may have failed:

### **Iron**

Iron occurs naturally in water and is also used at water treatment works as part of the treatment process. Iron is removed at the treatment works and the level is carefully monitored as the standard is an aesthetic standard (iron can colour the supply). Some distribution mains are made from iron and concentrations in excess of the standard can be found when sediments from corrosion within a main is flushed into the supply. This can give the water a rusty coloured look which is not a health hazard. There were 16 failures of the iron standard in 2006.

### **Manganese**

Manganese occurs naturally and is carefully removed and monitored at the treatment works. The standard is an aesthetic standard as manganese can colour the supply. Some distribution mains have deposits in the bottom from an accumulation of material over time. Mains are normally flushed to remove these deposits from the network; however, occasionally a manganese failure can occur. There was 1 manganese failure across the region in 2006, which presents no health hazard.

## **Aluminum**

Aluminum is widely present in the environment and is found naturally in all water sources. It is also used at water treatment works in the treatment process but is removed and carefully monitored. Treated water has a very low presence of Aluminum and contains less than 5% of the daily dietary intake. The standard in place is an aesthetic one as this metal can colour the supply. As with manganese, Aluminum deposits can be found within mains and these occasionally cause sample failures. There were no failures in 2006.

## **Turbidity**

Turbidity is a measure of the cloudiness of the water and is caused by fine particles suspended in the water. The standard is an aesthetic standard due to the visual appearance of turbid water. There were no failures in 2006.

## **Lead**

There is virtually no lead in water as it leaves the treatment works. Any lead detected in samples taken from customers' taps is generally from private lead service pipes and internal plumbing mainly in older properties. Phosphate can be used by the Company to help reduce lead levels, the phosphate forms a protective coating on the inside of the lead pipes and helps prevent the lead from leaching into the supply. The Company treats all supplies to reduce lead solubility; however, the only certain way to reduce lead in the water is for lead pipework to be removed.

## **E.Coli & Enterococci**

E.Coli and Enterococci are groups of bacteria which indicate possible faecal contamination of the water supply. Any occurrence of these organisms are always immediately investigated and if there was any risk to the public health we would immediately advise the public not to drink the water until the risk has been removed. Most instances of E.Coli in the water supply are caused by contaminated food being washed in kitchen sinks and the bacteria passing onto the tap from there.

## **Taste & Odour**

As well as chemical tests we also use a team of experienced testers who compare the samples taken with one which is known to be free from taste or smell. Failures are decided from a rating given by the testers which reflects how good or bad the sample Taste or Odour is.