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**QUALITY OF TAP WATER IN 20 SELECTED
AREAS IN SELANGOR**

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Abstract

The quality of tap water is becoming of great concern to the public all over the world. However, this study only covers the issue of tap water in Selangor and public's reactions towards it. Many of us question whether our tap water is clear, clean and safe enough for consumption. To many of us, the water problem that we face is acid water, contains iron and minerals, bacteria and it is hard water.

Acid water is a real problem nowadays as the environment gets more and more polluted due to gas emitted from industries, for example SO_2 and CO_2 . Acid water or low pH water, shortens the life of iron and copper plumbing and causes rusty or blue/green stains on plumbing fixtures. The tap water samples were acidic in 3 areas; Section 12, Bandar Utama and Tropicana. However the copper and iron level in the water samples were still lower than the limit and should not impart any colour, turbidity and undesirable bitter taste. It is not possible at this point to determine whether iron and copper were leached or not from the plumbing as no water samples were collected at the reservoirs for comparison with the tap water samples. Colour and turbidity were also not a problem in these areas. However, colour and turbidity were a problem for other areas; USJ and Puchong.

Two-thirds of water that remains earthbound becomes ground water. As it travels through rock and soil it picks up particles of calcium, magnesium, iron, lead and other minerals. The tap water samples all complied to the guidelines for Cadmium, Chromium, Copper, Iron, Lead, Manganese and Nickel.

However, the tap water samples exceeded the guidelines for Barium and advisable concentration for Magnesium.

Calcium and Magnesium are two primary hard water culprits. Because of them, water becomes hard, reducing the ability of soap to suds and clean, and often leaving dingy grey residue on clothes and spots on dishes. Hard water is also tough on plumbing. Hard water can cause scale to build on water heaters and pipes, limiting the water flow, reducing the life of the product and increasing operating cost. Skin and hair are affected by hard water too. A greater amount of shampoo and soap are needed to clean because hard water doesn't rinse as well as soft water. That means soap residues might remain, leaving skin susceptible to blemishes and hair less shiny.

As for the tap water samples, although Magnesium maybe above the advisable concentration they were all soft water. Therefore the problems caused by hard water should not be experienced. However, soft water and low pH may cause corrosion of pipes resulting in the presence of certain heavy metals such as Cadmium, Copper, Lead and Zinc. No water samples were collected from the reservoirs therefore no comparison can be made on the concentration of Cadmium, Copper, Lead and Zinc from the reservoir and tap water to determine on the corrosion of pipes.

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Content Page

	Pages
Chapter 1 : Introduction	1 – 4
Chapter 2 : Literature Review	5 - 24
2.1 How is water treated	5 - 6
2.2 Physical Parameters which determine the aesthetic quality of our tap water	6 - 8
2.3 Inorganic constituents which determine the aesthetic quality of our tap water	8 - 16
2.4 Chemicals which are of health significance in our drinking water	17 - 24
Chapter 3 : Methodology	25 - 31
3.1 Collection	25
3.2 Storage	26
3.3 Testing Methods	26 - 31
Chapter 4 : Results and Discussion	32 - 69
4.1 Results of physical parameters and inorganic constituents	32 - 36
4.2 Discussion on physical parameters and inorganic constituents that may give rise to complains from consumers	37 - 45
4.3 Chemical Testing Results	46 - 50
4.4 Discussion on results of chemicals which are of health significance	51 - 60
4.5 The survey result	61 - 69
Chapter 5 : Conclusion and Recommendation	70 - 71

Bibliography	72 - 82
Figures : 1	83
2	84
Appendices : 1 - 4	