

DIFERENSIASI BESI DAN MANGAN DALAM SISTEM PENYEDIAAN AIR PUBLIK KABUPATEN SLEMAN

Umami Khaltsum Ary
11/317021/PA/14138

INTISARI

Tujuan utama penelitian ini adalah untuk memetakan distribusi besi dan mangan dalam air tanah Kabupaten Sleman, mengkaji efektifitas pengolahan air yang dijalankan oleh PDAM Sleman dan mengetahui pengaruh jarak distribusi terhadap perubahan konsentrasi besi dan mangan.

Penelitian ini diawali dengan pengambilan sampel air tanah di tujuh kecamatan Kabupaten Sleman. Masing-masing kecamatan diambil 5 titik sampel yaitu air tanah, air bersih (hasil pengolahan) dan air yang didistribusikan, dalam tiga variasi jarak. Setiap sampel air dianalisis konsentrasi besi dan mangan totalnya menggunakan spektrofotometer serapan atom.

Hasil penelitian menunjukkan bahwa pengolahan yang dilakukan PDAM Sleman cukup efektif untuk menurunkan konsentrasi besi dan mangan di dalam air tanah. Hasil pengukuran terhadap sampel menunjukkan terjadi penurunan konsentrasi besi dan mangan dari sumber air sampai ke pengguna. Konsentrasi besi berkurang dari rata-rata 1,1 mg/L dalam air tanah menjadi rata-rata 0,3 mg/L dalam air bersih. Konsentrasi mangan berkurang dari rata-rata 0,3 mg/L dalam air tanah menjadi rata-rata 0,0 mg/L dalam air bersih. Konsentrasi mangan diduga terlalu kecil untuk dideteksi oleh spektrofotometer serapan atom.

Kata kunci: air tanah, air bersih, besi, mangan

DIFFERENTIATION OF IRON AND MANGANESE IN PUBLIC WATER SUPPLY SYSTEM AT SLEMAN REGENCY

Ummi Khaltsum Ary
11/317021/PA/14138

ABSTRACT

The aim of this research is to evaluate public water supply system, especially the concentration of iron and manganese. Distribution of iron and manganese in the groundwater has been indicated by the topography of the area. In addition, the presence of iron and manganese in clean water after treatment and distribution has also been examined.

Observation and measurement methods of iron and manganese content of public water supply has been carried out in this research. This study starts with water sampling in seven districts of Sleman Regency. Five points sampling are taken in each district and obtained from groundwater, water after treatment and water were distribution in three variations distance. Total content of iron and manganese are measured by atomic absorption spectrophotometer.

The results showed that the water treatment conducted by PDAM Sleman is still effective to reduce the concentration of iron and manganese in the groundwater. The result of measurement of the samples is degression of concentration of iron and manganese from the source to the consument. Concentration of iron was reduced from an average of 1.1 mg/L in groundwater to an average of 0.3 mg/L in potable water. Concentration of manganese was reduced from an average of 0.3 mg/L in groundwater to an average of 0.0 mg/L in potable water. The concentration of manganese is suspected too small to be detected by atomic absorption spectrophotometer.

Keyword: groundwater, potable water, iron, manganese