

PERBEDAAN VARIASI KETEBALAN SARINGAN PASIR KWARSA AKTIF DALAM
MENURUNKAN KADAR Fe AIR SUMUR GALI DI DESA SUNGAI RAYA
KABUPATEN KUBU RAYA KALIMANTAN BARAT

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Air merupakan kebutuhan pokok bagi kehidupan manusia, maka persediaan air bersih bagi masyarakat harus memperhatikan segi kuantitas dan segi kualitas. Kandungan Fe sering kali di atas standar, sehingga dapat mengakibatkan berbagai macam gangguan. Kadar Fe dari hasil uji pendahuluan tahun 2007 di Desa Sungai Raya Kabupaten Kubu Raya mencapai 4,88 mg/l, maka perlu pengolahan sebelum digunakan. Tujuan penelitian adalah untuk mengetahui perbedaan variasi ketebalan (60 cm dan 120 cm) saringan pasir kwarsa aktif dalam penurunan kadar Fe air sumur gali. Jenis penelitian yang digunakan adalah eksperimental semu. Populasinya adalah air sumur gali yang mengandung Fe di atas standar, berdasarkan hasil uji pendahuluan sebesar 4,88 mg/l di RT 09 RW VIII Desa Sungai Raya Kabupaten Kubu Raya. Bahan dan cara pemeriksaan menggunakan spektrofotometer merk Hack DR/2800 dengan lima kali replikasi. Dari hasil penelitian didapatkan kadar Fe sebelum disaring 4,27 mg/l dan sesudah disaring pada ketebalan 60 cm rata-ratanya sebesar 0,82 mg/l, ketebalan 80 cm rata-ratanya 0,59 mg/l, ketebalan 100 cm rata-ratanya 0,39 mg/l, ketebalan 120 cm rata-ratanya 0,12 mg/l. Maka ada perbedaan penurunan kadar Fe pada berbagai ketebalan lapisan pasir kwarsa aktif. Semakin besar ketebalan saringan pasir aktif semakin besar penurunan kadar Fe air sumur gali. Dengan hasil penelitian tersebut peneliti menyarankan kepada pemilik sumur gali di Desa Sungai Raya menggunakan ketebalan 60 paling efektif namun untuk lebih efektif dapat menggunakan ketebalan 120 cm sehingga mampu menurunkan kandungan Fe lebih besar.

Kata Kunci: saringan pasir aktif, pasir kwarsa, kadar Fe, sumur gali

*THE DIFFERENT THICKNESS VARIATION OF ACTIVE QUARTZ SAND FILTER
IN INCREASING Fe CONCENTRATION IN DIGGING WELL WATER OF SUNGAI
RAYA VILLAGE KUBU RAYA REGENCY WEST KALIMANTAN*

Water is a primary need for all human beings so that the clean water availability for people should consider its quantity and quality. The concentration of Fe is usually over the limit, as a result can cause some damages. Fe reached 4,88mg/l resulted from the previous experiment in 2007 which carried on in Sungai Raya village Kubu Raya regency and need more processes before using. The aim of this research was to figure out the different thickness variation of active quartz sand filter (60 cm, 80 cm, 100 cm dan 120 cm) in decreasing of Fe level in digging well water. The type of this research was a quasy experimental. The populatin was the digging well water containing Fe which is over the standard limit level. It based on foreword test result as big as 4,88 mg/l. The experiment was conducted in RT 09 RW VIII Sungai Raya Village, Kubu Raya Regency. The examination method use was spektrofometer merck Hack DR/2800 with five replication.

The result of the experimnet showed that Fe before filtering was 4,27 mg/l and after filter with 60 cm thickness was 0,82 mg/l, 80 cm thickness was 0,59 mg/l, 100 cm thickness is 0,39 mg/l and 120 cm thickness is 0,12 mg/l. There were some different decreasing levels of Fe in many various types of layer thickness of active quarz sand. The thicker its filter, the bigger the decresing level of its Fe in digging well water. With such finding, the researcher is suggesting the owners of the digging wells in Sungai Raya Village to use 60 cm thickness which is the most effective measurement, however they may use 120 cm thickness to reduce the higher level of Fe.

Keyword : sand filter, quartz sand, degree Fe, well digs