PERFORMANCE OVERVIEW OF A MULTIMEDIA FILTER IN REDUCING IRON (FE) CONTENT AND TURBIDITY IN WELL WATER AT SRI BENDARI FARM

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ABSTRACT

Background *: One of the main problems at Sri Bendari Farm is the high levels of iron (Fe) and turbidity in the well water. Although filtering efforts have been made, such as by using conventional filters, the results are still not optimal. Therefore, a more appropriate and efficient water treatment solution is still needed. An alternative solution is a multi-media filter that combines various media such as activated charcoal, zeolite, resin, and ferrolite, in reducing iron levels and turbidity levels of well water at Sri Bendari Farm.*

Objective *: Knowing the performance of multi-media filters in reducing Fe and turbidity levels in well water at Sri Bendari Farm.*

Methods *: This research is a quasi-experiment with a pre-test -post test design that will be analyzed descriptively to determine the performance of multi-media filters.*

Results *: It is known that the results of the pre-test examination of Fe levels are 1.79 mg/L while the turbidity level is 18.0 NTU with an initial discharge of 20,689 L/min. There was a constant and fluctuating decrease with the final result of the Fe level parameter of 0.85 mg/L and turbidity of 13.5 NTU with a final discharge of 4,120 L/min.*

Conclusion *: There was a decrease in Fe levels and turbidity using a multi-media filter, but the results still did not meet standard quality standards.*
Keywords : *Multi media filter performance, filtration, Fe, turbidity.*

GAMBARAN KINERJA MULTI MEDIA FILTER DALAM MENURUNKAN KADAR BESI (Fe) DAN KEKERUHAN PADA AIIR SUMUR DI SRI BENDARI FARM

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ABSTRAK

Latar Belakang : Salah satu masalah utama di Sri Bendari Farm adalah kadar zat besi (Fe) yang tinggi dan kekeruhan dalam air sumur. Meskipun upaya penyaringan telah dilakukan, seperti dengan menggunakan filter konvensional, hasilnya masih belum optimal. Oleh karena itu, solusi pengolahan air yang lebih tepat guna dan efisien masih diperlukan. Alternatif solusi tersebut adalah dengan multi media filter yang menggabungkan berbagai media seperti arang aktif, zeolit, resin, dan ferrolite, dalam mengurangi kadar besi dan tingkat kekeruhan air sumur di Sri Bendari Farm.

Tujuan : Mengetahui kinerja multi media filter dalam menurnkan kadar Fe dan kekeruhan dalam air sumur di Sri Bendari Farm.

Metode : Penelitian ini quasi eksperiment dengan desain Pre test - *Post test* yang akan dianalissis secara deskriptif untuk mengetahui kinerja multi media filter.

Hasil : Diketahui hasil pemeriksaan *Pre* test kadar Fe yaitu sebesar 1.79 mg/L sedangkan kadar kekeruhan sebesar 18.0 NTU dengan debit awal yaitu 20,689 L/menit. Terjadi penurunan secara konstan dan fluktuatif dengan hasil akhir parameter kadar Fe yaitu 0.85 mg/L dan kekeruhan yaitu 13.5 NTU dengan debit akhir 4,120 L/menit.

Kesimpulan : Terjadi penurunan kadar Fe dan kekeruhan menggunkan multi media filter tetapi hasilnya masih belum memenuhi baku mutu standar.

Kata Kunci : Kinerja multi media filter, filtrasi, Fe, kekeruhan.