## ABSTRACT

## FILTRATION OF WHEY USING ROCK PHOSPHATE AS FILTER MEDIA

## By

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Industrial wastewater of tofu industry (whey) has many nutrient contents, especially nitrogen and phosphorus. Disposal of whey directly into the river can cause environmental pollution, so it should be processed prior to discharging it into the environment. The main purpose of this research was to observe the effect of the filtration duration to the quality of waste and rock phosphate as the filter media. Biofilter with rock phosphate as the filter media was used to filter the whey, which was circulated continously by a pump for specific duration (3, 6, 12, 24, 36, and 48 hours). Parameters should be observed in this research included quality (pH, N-amonium, total solid, total P, dissolved P) of the whey and the rock phosphate as well. Results showed that during the 48 hours filtration process, the pH of whey increased from initially value of 4.10 (acid) to 8.55 (alkaline). The biofilter processing using rock phosphate as filter media was also able to reduce total solid by 45%, ammonium by 70%, and total P by 90% in the whey. The value of dissolved P in the filter media increased by 30% of the initial value.

Keywords: phosphate, biofilter, whey, pH, ammonium, total solid, total P.