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WIJARN THUNTHITHUM : TURBIDITY REMOVAL BY SOLIDS RECIRCULATION

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Turbidity removal by solids recirculation clarifier was studied by using a pilot scale reactor with diameter of 15 cm. The synthesized turbid-water was prepared from kaolinite clay and tap-water having a turbidity of 50 NTU. Alum was used as a coagulant and anionic polymer was used as a coagulant aids with a concentration of 0.3 mg/l throughout the study. The studied parameters were alum dosage range from 10 to 30 mg/l , paddle speeds range from 5 to 20 rpm. and overflow rates ranged from 30 to 60 cm./min.

It was found that the turbidity of treated water depended upon both overflow rate and alum concentration. For the overflow rate range from 30 to 45 cm./min. , the turbidity of treated water was decreased as alum concentration was increased. But for the overflow rate range from 45 to 60 cm./min. , the turbidity of treated water was increased as alum concentration was increased. The increment of overflow rate and/or paddle speed resulted in not only increasing turbidity of treated water but also decreasing the volumetric and suspended solids concentration in the clarifier.