

AlMalack, MH; Gomez, LA; Anderson, GK. 1996. Treatment of anaerobic expanded-bed reactor effluent using cross-flow microfiltration. *JOURNAL OF ENVIRONMENTAL SCIENCE AND HEALTH PART A-ENVIRONMENTAL SCIENCE AND ENGINEERING & TOXIC AND HAZARDOUS SUBSTANCE CONTROL* 31 (10):2635-2649.

Abstract: The feasibility of treating turbid effluent from anaerobic expanded reactor was investigated using crossflow microfiltration in conjunction with dynamic membranes. The primary membrane used throughout the study was made of woven polyester, while the dynamic membrane was formed from manganese dioxide (MnO₂) precipitate. Effluent from the anaerobic expanded-bed reactor was treated with and without the addition of a slug dose of a coagulant. Removal efficiency of solids was found to be affected by the hydraulic retention time (HRT) at which the expanded-bed reactor was operating. Bacterial removal was also found to be a function of the HRT. Dosing a slug dose of a coagulant was seen to have a significant effect on the permeate flux and quality which was attributed to agglomeration of particles in the feed.