in the feed water quality and protecting downstream treatment steps. UF has demonstrated its advantages as seawater reverse osmosis pretreatment for desalination application improving reverse osmosis membranes performances while extending their service life. Product quality and, equally important, knowledge of the membrane operation under challenging conditions is key success criteria. Indepth knowledge of polymeric chemistry is mandatory for developing and manufacturing new membranes. On-site evaluation of membrane performances on real water is also essential. Seawater properties can vary significantly depending on its location. This makes it very important to pilot in order to understand the challenges and how to address them. This paper presents results obtained at different sites operating on seawater in particularly difficult conditions using inge® Multibore® membranes. The study describes membrane behavior when operated during algae blooms and during a monsoon period. It presents process adjustments realized to optimize the overall performance. The study shows that system optimization yields stable and long term operation on challenging seawater without pre-treatment upstream of the UF membranes.

Keywords: Algae bloom, Membrane, Ultrafiltration, Seawater, System Optimization

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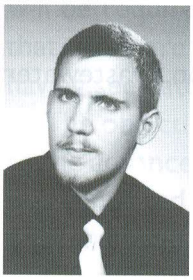
Treatment of model oily produced water by combined preozonation- microfiltration process



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Oily wastewaters are one of the major pollutants of the aquatic environment. This is due to the emission of a variety of industrial oily wastewaters from sources such as crude oil mining (production), refineries, petrochemical plants and transportation. The aims of this work was to investigate the treatment of oil emulsion waste waters with preozonation combined microfiltration system and the effect of preozonation for the microfiltration parameters. The results demonstrated that ozone changed the chemical nature of oil in water emulsion especially the pH and the conductivity changed, therefore the polyethersulfone membrane surface wettability increased. In salt containing model emulsions ozone treatment found to be more effective for membrane resistance reduction and in the chemical oxygen demand retention than in pure oil emulsions.

Keywords: Oilfield produced water, Microfiltration, Ozone treatment

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