



Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report)

Jörg E. Drewes, Christopher L. Bellona, Pei Xu

Download now

[Click here](#) if your download doesn't start automatically

Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report)

Jörg E. Drewes, Christopher L. Bellona, Pei Xu

Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) Jörg E. Drewes, Christopher L. Bellona, Pei Xu

Membrane treatment of source water of impaired quality by an integrated membrane system (IMS), such as microfiltration (MF) pretreatment followed by RO, represents the industry standard for drinking water augmentation projects. An alternative IMS involving NF membranes and ULPRO membranes in place of conventional RO membranes provides an opportunity for lower pressure/higher flux operating conditions and higher selectivity (e.g., targeting trace organics over monovalent salts). The purpose of this study was to explore whether nanofiltration (NF) and ultra-low pressure reverse osmosis (ULPRO) membranes can consistently meet potable water quality requirements with respect to total organic carbon (TOC), total nitrogen, and regulated and unregulated trace organic compounds. The goals were also to determine whether or not operating characteristics of NF and ULPRO membranes (such as flux, fouling/scaling, and cleaning frequencies) are comparable to conventional thin-film composite RO membranes and operating feed pressure requirements are significantly lower than conventional RO. This work involved the development and validation of a laboratory-scale membrane testing protocol to select viable membranes for pilot- and full-scale operation. This selection protocol balanced operational characteristics with product water quality and allowed for a pre-selection of potentially viable candidate membranes. Membranes considered for selection were characterized as thin-film composite polyamide membranes and included commercially available ULPRO and NF membrane products. Three candidate membranes were selected and each tested using a 70 L/min (18 gpm) membrane pilot skid for at least 1,300 hours on microfiltered feed water at two full-scale facilities. Findings of this study were compiled into a model framework to describe and predict the rejection of organic micropollutants during NF or RO treatment.

 [Download Comparing Nanofiltration and Reverse Osmosis for T ...pdf](#)

 [Read Online Comparing Nanofiltration and Reverse Osmosis for ...pdf](#)

Download and Read Free Online Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) Jörg E. Drewes, Christopher L. Bellona, Pei Xu

From reader reviews:

Louise Hacker:

Do you have favorite book? When you have, what is your favorite's book? E-book is very important thing for us to find out everything in the world. Each guide has different aim or goal; it means that guide has different type. Some people experience enjoy to spend their time to read a book. These are reading whatever they acquire because their hobby is definitely reading a book. What about the person who don't like studying a book? Sometime, particular person feel need book when they found difficult problem as well as exercise. Well, probably you'll have this Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report).

Mary Hopkins:

The ability that you get from Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) is a more deep you digging the information that hide inside the words the more you get interested in reading it. It does not mean that this book is hard to be aware of but Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) giving you thrill feeling of reading. The article author conveys their point in specific way that can be understood by means of anyone who read this because the author of this publication is well-known enough. This specific book also makes your current vocabulary increase well. Therefore it is easy to understand then can go along with you, both in printed or e-book style are available. We suggest you for having that Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) instantly.

Dennis Jenkins:

Hey guys, do you desires to finds a new book to read? May be the book with the concept Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) suitable to you? The book was written by famous writer in this era. The particular book untitled Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) is the main one of several books that will everyone read now. This book was inspired lots of people in the world. When you read this e-book you will enter the new age that you ever know before. The author explained their strategy in the simple way, thus all of people can easily to be aware of the core of this publication. This book will give you a great deal of information about this world now. To help you see the represented of the world on this book.

Jesse Mansell:

Reading can called thoughts hangout, why? Because while you are reading a book especially book entitled Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) your thoughts will drift away trough every dimension, wandering in every single aspect that maybe

mysterious for but surely will become your mind friends. Imaging every word written in a reserve then become one contact form conclusion and explanation this maybe you never get previous to. The Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) giving you another experience more than blown away your brain but also giving you useful info for your better life in this era. So now let us teach you the relaxing pattern at this point is your body and mind are going to be pleased when you are finished reading through it, like winning an activity. Do you want to try this extraordinary investing spare time activity?

Download and Read Online Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) Jörg E. Drewes, Christopher L. Bellona, Pei Xu #5KEBH62SQIR

Read Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu for online ebook

Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu books to read online.

Online Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu ebook PDF download

Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu Doc

Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu Mobipocket

Comparing Nanofiltration and Reverse Osmosis for Treating Recycled Water (Water Research Foundation Report) by Jörg E. Drewes, Christopher L. Bellona, Pei Xu EPub