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Authors: Yanyan Zhang, Jinkai Xue, Yang Liu, Mohamed Gamal El-Din



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The Role of Ozone Pretreatment on Optimization of Membrane Bioreactor for Treatment of Oil Sands Process-Affected Water

Yanyan Zhang^{1,2}, Jinkai Xue¹, Yang Liu^{1*}, Mohamed Gamal El-Din^{1*}

¹ Department of Civil and Environmental Engineering, University of Alberta, Edmonton, Alberta, T6G 1H9, Canada; ² Department of Civil Engineering, New Mexico State University, Las Cruces, New Mexico 88003, United States

*Corresponding authors: Tel: 780-492-5115; e-mail: yang.liu@ualberta.ca (Y. Liu), Tel: 780-492-5124; e-mail: mgamalel-din@ualberta.ca (M. Gamal El-Din)

Highlights

- The role of ozone pretreatment on MBR optimization was explored.
- MBR performance benefited more from HRT adjustment after ozone pretreatment.
- Microorganisms in MBR for ozonated OSPW were more responsive to HRT adjustment.
- The dominating *Rhodocyclaceae* was positively correlated to NA removal.

Abstract

Previously, anoxic-aerobic membrane bioreactor (MBR) coupled with mild ozonation pretreatment has been applied to remove toxic naphthenic acids (NAs) in oil sands process-affected water (OSPW). To further improve MBR performance, the optimal operation conditions

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