

Screen versus cyclone for improved capacity and robustness for sidestream and mainstream deammonification

Tim Van Winckel^{a,b,c}, Siegfried E. Vlaeminck^{a,d}, Ahmed Al-Omari^b, Benjamin Bachmann^e, Belinda Sturm^c, Bernhard Wett^f, Imre Takács^g, Charles Bott^h, Sudhir N. Murthyⁱ and Haydée De Clippeleir^b*

^a *Center of Microbial Ecology and Technology (CMET), Faculty of Bioscience Engineering, Ghent University, Ghent, Belgium*

^b *District of Columbia Water and Sewer Authority, Blue Plains Advanced Wastewater Treatment Plant, 5000 Overlook Ave, SW Washington, DC 20032, USA*

^c *Department of Civil, Environmental and Architectural engineering, The University of Kansas, KS, USA*

^d *Research Group of Sustainable Energy, Air and Water Technology, Department of Bioscience Engineering, University of Antwerp, Antwerpen, Belgium*

^e *Department of Microbiology; University of Innsbruck, Austria*

^f *ARA consult GmbH, Austria*

^g *Dynamita SARL, France*

^h *Hampton Roads Sanitation District, VA, USA*

ⁱ *New Hub, VA, USA*

* *Corresponding author: siegfried.vlaeminck@uantwerpen.be*

Supplemental F

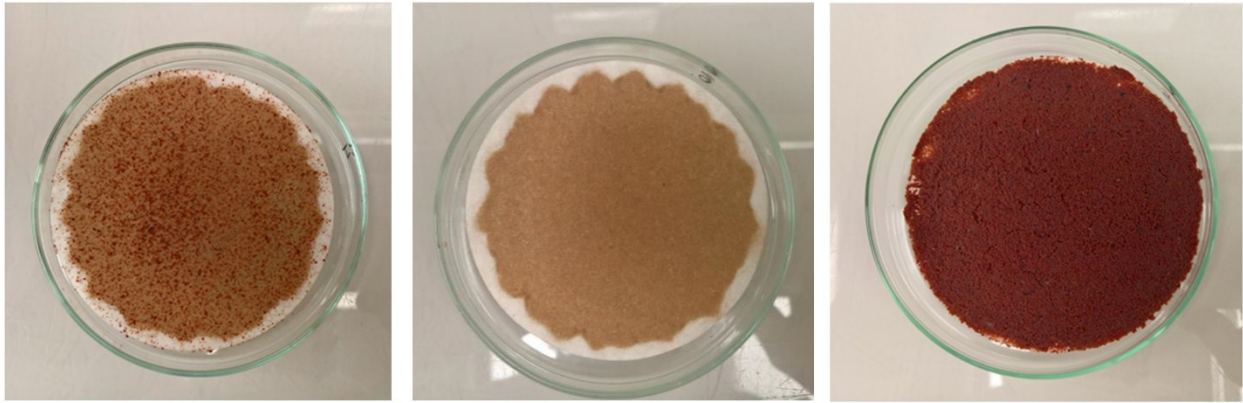


Figure F1. Sidestream deammonification sludge passed through a screen. From left to right: Mixed liquor, pass-through (reject) and retained.



Figure F2. Sidestream deammonification sludge passed through a cyclone. From left to right: Mixed liquor, overflow (reject) and underflow (retained).

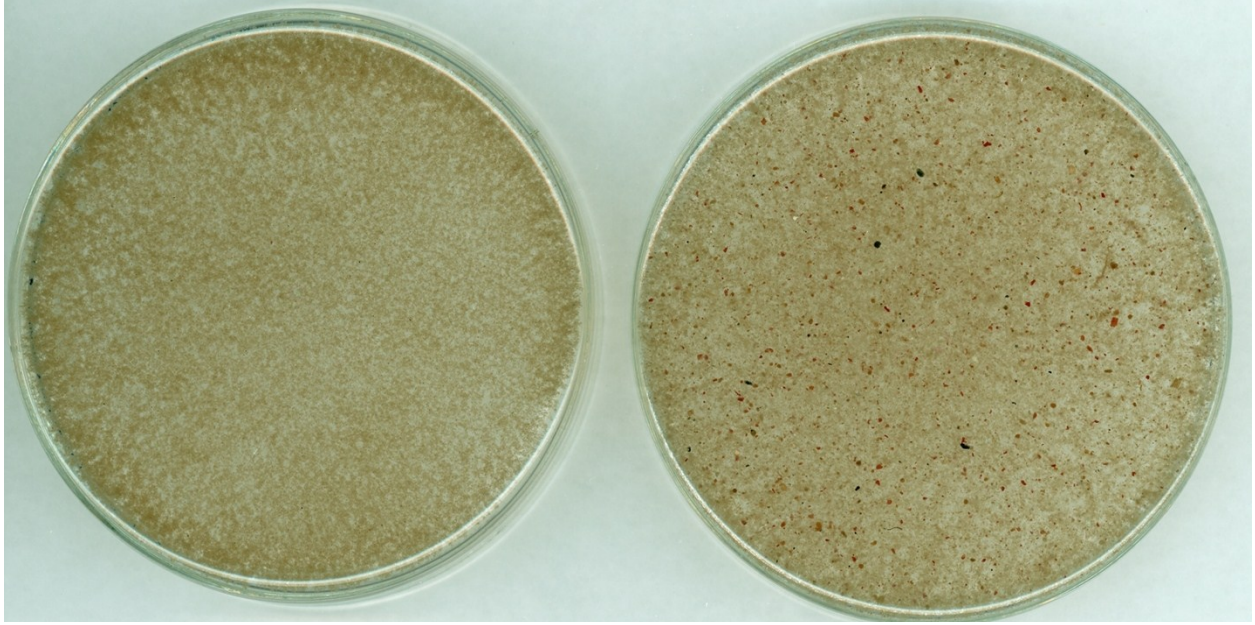


Figure F3 Mainstream deammonification sludge passed through a screen. From left to right: overflow (reject) and underflow (retained).