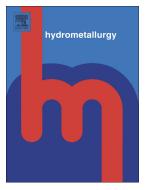
Accepted Manuscript

Recent progress in biohydrometallurgy and microbial characterisation



Anna H. Kaksonen, Naomi J. Boxall, Yosephine Gumulya, Himel Nahreen Khaleque, Christina Morris, Tsing Bohu, Ka Yu Cheng, Kayley Usher, Aino-Maija Lakaniemi

PII:	S0304-386X(18)30180-4
DOI:	doi:10.1016/j.hydromet.2018.06.018
Reference:	HYDROM 4853
To appear in:	Hydrometallurgy
Received date:	26 February 2018
Revised date:	14 June 2018
Accepted date:	24 June 2018

Please cite this article as: Anna H. Kaksonen, Naomi J. Boxall, Yosephine Gumulya, Himel Nahreen Khaleque, Christina Morris, Tsing Bohu, Ka Yu Cheng, Kayley Usher, Aino-Maija Lakaniemi , Recent progress in biohydrometallurgy and microbial characterisation. Hydrom (2018), doi:10.1016/j.hydromet.2018.06.018

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Recent progress in biohydrometallurgy and microbial characterisation

Anna H Kaksonen^{1,2*}, Naomi J Boxall¹, Yosephine Gumulya¹, Himel Nahreen Khaleque¹, Christina Morris¹, Tsing Bohu³, Ka Yu Cheng^{1,4}, Kayley Usher¹, and Aino-Maija Lakaniemi^{1,5}

¹CSIRO Land and Water, 147 Underwood Avenue, Floreat WA 6014, Australia

²School of Pathology and Laboratory Medicine, and Oceans Institute, University of Western

Australia, Nedlands, Western Australia 6009, Australia

³CSIRO Mineral Resources, Kensington WA 6151, Australia

⁴School of Engineering and Information Technology, Murdoch University, Murdoch, Western Australia 6150, Australia

⁵Tampere University of Technology, Faculty of Natural Sciences, Laboratory of Chemistry and Bioengineering, P.O. Box 541, FI-33101 Tampere, Finland

*Corresponding author: anna.kaksonen@csiro.au

Abstract. Since the discovery of microbiological metal dissolution, numerous biohydrometallurgical approaches have been developed to use microbially assisted aqueous extractive metallurgy for the recovery of metals from ores, concentrates, and recycled or residual materials. Biohydrometallurgy has helped to alleviate the challenges related to continually declining ore grades by transforming uneconomic ore resources to reserves. Engineering techniques used for biohydrometallurgy span from above ground reactor, vat, pond, heap and dump leaching to underground *in situ* leaching. Traditionally biohydrometallurgy has been applied to the bioleaching of base metals and uranium from sulfides and biooxidation of sulfidic refractory gold ores and concentrates before cyanidation.

Download English Version:

https://daneshyari.com/en/article/6658792

Download Persian Version:

https://daneshyari.com/article/6658792

Daneshyari.com