

# Accepted Manuscript

Physicochemical and Mineralogical Characterization of Musina Mine Copper and New Union Gold Mine Tailings: Implications for Fabrication of Beneficial Geopolymeric Construction Materials.



Gitari M. W, Akinyemi SA, Thobakgale R, Ngoejana PC, Ramugondo L, Matidza M, Mhlongo SE, Dacosta FA, Nemapate N

PII: S1464-343X(17)30401-6

DOI: 10.1016/j.jafrearsci.2017.10.016

Reference: AES 3031

To appear in: *Journal of African Earth Sciences*

Received Date: 22 February 2017

Revised Date: 06 October 2017

Accepted Date: 16 October 2017

Please cite this article as: Gitari M. W, Akinyemi SA, Thobakgale R, Ngoejana PC, Ramugondo L, Matidza M, Mhlongo SE, Dacosta FA, Nemapate N, Physicochemical and Mineralogical Characterization of Musina Mine Copper and New Union Gold Mine Tailings: Implications for Fabrication of Beneficial Geopolymeric Construction Materials., *Journal of African Earth Sciences* (2017), doi: 10.1016/j.jafrearsci.2017.10.016

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.

### Highlights

- Copper tailings leachates had alkaline pH (7.34-8.49) while the gold tailings had acidic pH.
- Geochemical fractionation indicates that majority of the major and trace species are present in residual fraction.
- A significant amounts of Ca, Cu and K was available in the mobile fraction and is expected to be released on tailings contacting aqueous solutions.
- The  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratios indicates the tailings would require blending with  $\text{Al}_2\text{O}_3$  rich feedstock for them to develop maximum strength.
- Moreover, the tailings have particle size in the range of fine sand which indicates potential application as aggregates in conventional brick manufacture.

Download English Version:

<https://daneshyari.com/en/article/8913735>

Download Persian Version:

<https://daneshyari.com/article/8913735>

[Daneshyari.com](https://daneshyari.com)