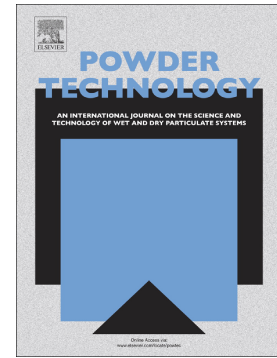


# Accepted Manuscript

Flotation characteristics of oxidized coal slimes within low-rank metamorphic

Yuchu Cai, Meili Du, Shuili Wang, Lei Liu



PII: S0032-5910(18)30733-2  
DOI: [doi:10.1016/j.powtec.2018.09.006](https://doi.org/10.1016/j.powtec.2018.09.006)  
Reference: PTEC 13680  
To appear in: *Powder Technology*  
Received date: 16 May 2018  
Revised date: 28 August 2018  
Accepted date: 5 September 2018

Please cite this article as: Yuchu Cai, Meili Du, Shuili Wang, Lei Liu , Flotation characteristics of oxidized coal slimes within low-rank metamorphic. Ptec (2018), doi:[10.1016/j.powtec.2018.09.006](https://doi.org/10.1016/j.powtec.2018.09.006)

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.

Corresponding author: Yuchu Cai, Phone number: +8615091521773,

## **Flotation characteristics of oxidized coal slimes within low-rank metamorphic**

Yuchu Cai, Meili Du, Shuili Wang, Lei Liu

School of Chemistry and Chemical Engineering, Xi'an University of Science and Technology,  
Xi'an 710054, Shaanxi, China

**Abstract:** To explore the flotation mechanism of oxidized coal slimes within low-rank metamorphic, coal slimes from Shuilian coal mine were chosen and their characteristics were analyzed by proximate analysis and grain size composition analysis. Results showed these coal slimes were of high ash content, fine particle size, and serious sliming. To understand the effects of oxidation on flotation, BET adsorption and Fourier transform infrared spectroscopy (FTIR) were used to analyze the pores, specific surface area, and surface functional groups of coal slimes before and after oxidation. The results indicated increase in the number of pores on the surface of coal slimes after oxidization. Furthermore, the specific surface area increased by 79% and the number of oxygen-containing functional groups also increased on the surface. Coal slimes of different oxidation degree were chosen for the flotation experiments. With the increase of oxidation days, clean coal yield and combustible matter recovery reduced to a great extent; however, by contrast, the ash content of clean coal improved. Our results are helpful to understand the flotation mechanism of oxidized coal slimes within low-rank metamorphic.

**Key words:** Oxidized coal slimes, Low-rank metamorphic, Flotation, FTIR, Pores

Download English Version:

<https://daneshyari.com/en/article/10150663>

Download Persian Version:

<https://daneshyari.com/article/10150663>

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