Title (en)

MINERAL SEPARATION PROCESS

Title (de)

VERFAHREN ZUR TRENNUNG VON MINERALIEN

Title (fr)

PROCÉDÉ DE SÉPARATION DE MINÉRAUX

Publication

EP 4334038 A1 20240313 (EN)

Application

EP 22724675 A 20220421

Priority

- GB 202106456 A 20210506
- EP 2022060571 W 20220421

Abstract (en)

[origin: GB2606379A] A wet magnetic separation process for beneficiating (extracting and concentrating) paramagnetic lithium-mica minerals from a milled feed stream 2A containing paramagnetic lithium-mica minerals and gangue materials. The process comprises feeding a milled feed stream containing paramagnetic lithium-mica minerals into a Wet High Gradient Magnetic Separator (WHGMS) 22 and obtaining a magnetic product stream 6 comprising concentrated paramagnetic lithium-mica mineral, and a waste stream 7 containing non-magnetic gangue materials therefrom. The WHGMS can provide a magnetic field with a magnetic field strength in the range between 0.2 and 1.5 Tesla. The WHGMS can be a Vertical Pulsating Wet High Gradient Magnetic Separator (VPWHGMS). Suitably, the milled stream is fed into a Low Intensity Magnetic Separator (LIMS) 20 having a first magnetic field strength to provide a first highly magnetic waste stream and a low magnetic first product stream 5 comprising paramagnetic lithium-mica minerals, and subsequently feeding the low magnetic first product stream into a first WHGMS having a second magnetic field strength which is greater than the first magnetic field strength of the LIMS. An apparatus for the wet magnetic separation of milled paramagnetic lithium-mica minerals is also claimed.

IPC 8 full level

B03C 1/025 (2006.01)

CPC (source: EP GB)

B03C 1/025 (2013.01 - EP GB); **B03C 1/30** (2013.01 - GB); B03C 2201/18 (2013.01 - GB)

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