

Title (en)
METHOD FOR PROCESSING OXIDISES NICKEL-COBALT ORE (VARIANTS)

Title (de)
VERFAHREN ZUR VERARBEITUNG VON OXIDIERTEM NICKEL-COBALT-ERZ (VARIANTEN)

Title (fr)
PROCEDE DE TRANSFORMATION DE MINERAI DE NICKEL-COBALT OXYDE

Publication
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Application
EP 04748970 A 20040722

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Abstract (en)
[origin: WO2005007898A2] The group of invention relates to methods for extracting nickel and cobalt from oxidises nickel-cobalt ores and makes it possible to increase a nickel extraction ratio. In the first variant, the inventive method for processing an oxidised nickel-cobalt ore consists in treating said ore with sulphuric acid associated with the transfer thereof to a soluble sulphate solution. The ore is granulated with sulphuric acid, the thus obtained granules are sulphated at a temperature of 250-450 DEG C during 1-2 hours in one or two operations. Afterwards, the water leaching of nickel sulphates and other metals is carried out, the metals being extracted from the solution by means of known methods. The first operation is carried out at a temperature of 250-300 DEG C, the second operation at a temperature of 350-450 DEG C, and the granules are sulphated with a stechiometric sulphuric acid consumption. In the second variant, the inventive method for processing the oxidised nickel-cobalt ore also consists in treating said ore with sulphuric acid associated with the transfer thereof to soluble sulphate solution. The ore is granulated with sulphuric acid in a required stechiometric quantity, the granules are calcined at a temperature ranging from 650 to 700 DEG C during 2.5-3.0 hours, afterwards the water leaching being carried out. The granule calcination is carried out until the content of soluble iron therein is attained a range of 1.0-3.9 %, said granules being sulphated at a temperature of 200-250 DEG C during 1 hour prior to the calcination thereof. In the third variant, the inventive method for processing the oxidised nickel-cobalt ore consists in treating said ore with sulphuric acid associated with the transfer thereof to a soluble sulphate solution. The ore is granulated with sulphuric acid, the granules are calcined in the atmosphere of gases produced during the oxidation of elementary sulphur or sulphides by air oxygen. Afterwards, said gases together with sulphur oxides released during the granule calcination are sent for sulphuric acid production and the granules for water leaching.

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Citation (search report)

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