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Methods for chemical analysis of laterite nickel ores - Part 24: Determination hygroscopic moisture content - Gravimetric method

红土镍矿化学分析方法 第 24 部分:湿存水量的测定 重量法

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Foreword

This part was drafted in accordance with the rules given in GB/T 1.1-2009.

YS/T 820-2012 *Methods for chemical analysis of laterite nickel ores* is divided into 26 parts:

-- Part 1: Determination of nickel content - Flame atomic absorption spectrometry;

-- Part 2: Determination of nickel content - Dimetylglyoxime spectrophotometry;

-- Part 3: Determination of total iron content - Potassium dichromate titration;

-- Part 4: Determination of phosphorus content - Phosphorus molybdenum blue spectrophotometry;

-- Part 5: Determination of cobalt content - Flame atomic absorption spectrometry;

-- Part 6: Determination of copper content - Flame atomic absorption spectrometry;

-- Part 7: Determination of calcium and magnesium content - Flame atomic absorption spectrometry;

-- Part 8: Determination of silica content - Potassium silicafluoride titrimetric method;

-- Part 9: Determination of scandium and cadmium contents - Inductively coupled plasma mass spectrometry;

-- Part 10: Determination of calcium, cobalt, copper, magnesium, manganese, nickel, phosphate and zinc content - Inductively coupled plasma atomic emission spectrometry;

-- Part 11: Determination of fluorine and chlorine contents - Ion chromatography;

-- Part 12: Determination of manganese content - Flame atomic absorption spectrometry;

-- Part 13: Determination of lead content - Flame atomic absorption spectrometry;

-- Part 14: Determination of zinc content - Flame atomic absorption spectrometry;

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-- Part 16: Determination of carbon and sulfur content - High frequency combustion with infrared absorption spectrometry;

-- Part 17: Determination of arsenic, antimony and bismuth contents - Hydride generation-atomic fluorescence spectrometry;

-- Part 18: Determination of mercury content - Cold atomic absorption spectrometry;

-- Part 19: Determination of aluminum, chromium, iron, magnesium, manganese, nickel and silicon contents - Energy-dispersive X-ray fluorescence spectrometry;

-- Part 20: Determination of aluminum content - EDTA titration;

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-- Part 22: Determination of magnesium content - EDTA titration;

-- Part 23: Determination of cobalt, iron, nickel, phosphorus, aluminum oxide, calcium oxide, chromium oxide, magnesium oxide, manganese oxide, silicon dioxide and titanium dioxide content - Wavelength dispersive X-ray fluorescence spectrometry;

-- Part 24: Determination hygroscopic moisture content - Gravimetric method;

-- Part 25: Determination of combined water content - Gravimetric method;

-- Part 26: Determination of loss on ignition - Gravimetric method.

This part is Part 24 of YS/T 820-2012.

This document shall be under the jurisdiction of the National Technical Committee on Nonferrous Metals of Standardization Administration of China (SAC/TC243).

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Methods for chemical analysis of laterite nickel ores - Part 24: Determination hygroscopic moisture content - Gravimetric method

1 Scope

This part of YS/T 820 specifies the method for the determination of hygroscopic moisture content in the analysis of laterite nickel ores.

This part applies to the determination of the hygroscopic moisture content in the analysis of laterite nickel ores, the determination range is 0.10%~7.00%.

2 Method summary

The sample is dried at 105 °C~110 °C, and the hygroscopic moisture content is calculated by the decrement method.

3 Apparatus

3.1 Weighing bottle: The diameter is not less than 5 cm, and it is equipped with a tight ground cap.

3.2 Drying oven: It can keep the temperature at 105 ℃±5 ℃.

4 Samples

The particle size of the sample shall be less than 160 μm, and the sample shall have been balanced in the air.

5 Analysis steps

5.1 Samples

Pre-dry the weighing bottle (3.1) in a drying oven (3.2) at 105 °C. After drying for 1 hour, take it out, cool it in a desiccator for 20-30 minutes, and weigh it. Weigh 1.0 g of the air-balanced sample into the weighing bottle, accurate to 0.0002 g, and spread it evenly in the weighing bottle.

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