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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 11066.5-2008

Replacing GB/T 11066.5-1989

Methods for chemical analysis of gold - Determination of silver,copper,iron,lead,antimony and bismuth contents - Atomic emission spectrometry

金化学分析方法 银、铜、铁、铅、锑和铋量的测定 原子发射光谱法

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Foreword

GB/T 11066 "Methods for chemical analysis of gold" is divided into 10 sections as follows:

--- GB/T 11066.1 gold chemical analysis method of determining the amount of gold fire assay;

--- GB/T 11066.2 gold chemical analysis of silver content - Flame atomic absorption spectrometry;

--- GB/T 11066.3 gold chemical analysis of iron content by flame atomic absorption spectrometry;

--- Flame atomic GB/T 11066.4 gold chemical analysis of copper, lead and bismuth contents absorption spectrometry;

--- GB/T 11066.5 gold chemical analysis method for determination of atomic silver, copper, iron, lead, antimony and bismuth amount of emission spectrometry;

--- GB/T 11066.6 gold chemical analysis of magnesium, nickel, manganese, and palladium contents - Flame atomic absorption spectrometry;

--- GB/T 11066.7 gold chemical analysis of silver, copper, iron, lead, antimony, bismuth, palladium, magnesium, tin, nickel, manganese and chromium contents - fire Flower atomic emission spectrometry;

--- GB/T 11066.8 gold chemical analysis of silver, copper, iron, lead, bismuth, antimony, palladium, magnesium, nickel, manganese and chromium contents - ethyl acetate Ester extraction -ICP-AES method;

--- GB/T 11066.9 gold chemical analysis method for determination of arsenic and tin hydride - atomic fluorescence spectrometry;

--- GB/T 11066.10 Determination of gold chemical analysis of silicon content - Molybdenum blue spectrophotometric method. This is Part 5. This Part replaces GB/T 11066.5-1989 "gold chemical analysis method for transmitting method for the determination of silver, copper, iron, lead, antimony and bismuth amount of spectrum." This section compared with

the GB/T 11066.5-1989, the main changes are as follows:

--- Deleted the reference standard, and the method has been modified feed content;

--- Will "lgR-lgC" drawing working curve to modify "lgR-lg" drawing working curve;

--- Remove the analysis results, "gold content determination";

1 Scope

GB/T 11066.5-2008 is the Chinese national standard on methods for chemical analysis of gold - determination of silver,copper,iron,lead,antimony and bismuth contents - atomic emission spectrometry, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 9 June 2008 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 December 2008. Classification: ICS 77.150.99, CCS H68. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This section provides the gold in silver, copper, iron, lead, antimony and bismuth determination. This section applies to gold (mass fraction of 99.95% to 99.99%) in silver, copper, iron, lead, antimony and bismuth simultaneously. Determination Fan Wai in Table 1. Table

1 Element measurement range/measuring range of elements% /% Ag 0.0005 ~ 0.0200 Pb 0.0005 ~ 0.0100 Cu 0.0005 ~ 0.0200 Sb 0.0010 ~ 0.0100 Fe 0.0010 ~ 0.0100 Bi 0.0005 ~ 0.0100

2 Method summary

Using the working curve method using a gold rod electrodes, AC arc excitation, gold silver, copper, iron, lead, antimony and bismuth spectral Determination.

3 Reagents and materials

Unless otherwise indicated in the analysis using only recognized as analytical grade reagents and distilled or deionized water or equivalent purity.

3.2 developer A. 2g rhodol sulfate (metol), 52g of anhydrous sodium sulfite, 10g hydroquinone, dissolved in 700mL sequentially Water (35 °C ~ 45 °C) after it has cooled and diluted to 1000mL mix.

3.3 developer B. 40g anhydrous sodium carbonate, 12g potassium bromide, successively dissolved in 700mL water (35 °C ~ 45 °C) after it has cooled and diluted to 1000mL and mix.

3.4 fixing solution. 240g of sodium thiosulfate, 15g of anhydrous sodium sulfite, 15mL of glacial acetic acid (98%), 7.5g boric acid, alum 15g, successively Dissolved in 700mL water (35 °C ~ 45 °C) after it has cooled and diluted to 1000mL mix.

3.5 cotton. 3.6-plate. UV-II type.

3.7 Sample. certified standard sample spectrum, the impurity elements in the scope shall cover the method for the determination of the scope.

4 Instruments and equipment

4.1 Spectrograph. Medium raster (or prism) spectrograph. Reciprocal linear dispersion of not less than 0.8nm/mm.

4.2 source. AC arc generator.

4.3 micrometer photometer.

4.4 electrode lathe.

4.5 Files. chrome flat file fine lines.