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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 11066.1-2008

Replacing GB/T 11066.1-1989

Methods for chemical analysis of gold - Determination of gold content - Fire assaying method

金化学分析方法 金量的测定 火试金法

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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 1. This Part replaces GB/T 11066.1-1989 "Methods for chemical analysis of gold fire assay determination of gold." This portion GB/T 11066.1-1989 compared to the main changes are as follows:

--- The cupel material produced by the "pure ashes made" with "pure magnesia ashes or made";

--- Increased provision sample;

--- The sampling amount "Weigh 1.00000g sample" to "Weigh

1 Scope

GB/T 11066.1-2008 is the Chinese national standard on methods for chemical analysis of gold - determination of gold content - fire assaying method, 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 determination of gold content in gold. This section applies to the determination of gold in gold content. Measurement range. 99.50% to 99.95%.

2 Method summary

Sample adding an appropriate amount of silver, wrapped in lead foil, make the ash blowing at 920 °C, and impurities of lead oxide and gold and silver separation, gold and silver alloy particles stay In the gray dish. The gold and silver alloy particles made of an alloy by volume nitric acid points gold weighed, dried along with measured gold standard correction calculation sample The gold content.

3 Reagents and materials

Unless otherwise indicated, used in the analysis is only confirmed analytically pure reagent, such as distilled water, deionized water or equivalent purity. 3.1 .(pure lead foil lead, Pb mass fraction of not less than 99.99%), crushed 0.1mm thin, cut into squares, each weighing about 3g.

3.2 Silver. (Ag, mass fraction of not less than 99.99%).

3.3 nitric acid (1 + 1).

3.4 nitric acid (1 + 2).

3.5 gold standard (gold content of not less than 99.98%).

4 Instruments and appliances

4.1 box-type high-temperature furnace.

4.2 Balance. a sense of the amount of 0.01mg.

4.3 mill machine. can grind thickness of 0.1mm.

4.4 Golden Basket. made of 0.5mm ~ 1.0mm stainless steel sheet (or platinum mesh).

4.5 cupel. pure ashes or made of magnesia, size x h. 30mm x 20mm, the concave depth of 10mm.

4.6 long-handled pliers cupel.

5 Sample

To avoid contamination of the surface of the specimen, can be used (1 + 1) hydrochloric heat soak 15min. Washed by the water after washing with alcohol or acetone twice, Drying in the oven at 105 °C ~ 110 °C. Step

6 Analysis

6.1 Sample Weigh 0.50g or 1.00g sample to the nearest 0.00001g; Weigh (3.5) 4 parts and in a sample of similar quality gold gold standard, Accurate to 0.00001g. Each gold standard test materials plus 1.25g or 2.5g Silver (3.2), including a ball with two lead foil (3.1).

6.2 Determination of the number of Independently measured three times and averaged.

6.3 cupellation Cupel (4.5) at about 950 °C preheating 20min, which has been wrapped sample (6.1) and standard (6.1) are arranged in the order cross into good