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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 11066.7-2009

**Methods for chemical analysis of gold - Determination of silver, copper, iron,
lead, antimony, bismuth, palladium, magnesium, tin, nickel, manganese and
chromium contents - Spark atomic emission spectrometry**

金化学分析方法 银、铜、铁、铅、锑、铋、钼、镁、锡、镍、锰和铬量的测定
火花原子发射光谱法

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Foreword

GB/T 11066 "Methods for chemical analysis of gold" is divided into the following 10 sections.

- 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, antimony, bismuth, palladium, magnesium, nickel, manganese and chromium contents - ethyl acetate Ester extraction - inductively coupled plasma atomic emission spectrometry;
- GB/T 11066.9 gold chemical analysis method for determination of arsenic and tin hydride generation - atomic fluorescence spectrometry;
- GB/T 11066.10 Determination of gold chemical analysis of silicon content - Molybdenum blue spectrophotometric method. This section GB/T Part of 711,066. Appendix A of this

section is an informative annex. This part is proposed by the China Nonferrous Metals Industry Association. The non-ferrous metal part by the National Standardization Technical Committee. This section is responsible for drafting unit. Chengdu Banknote Printing Company, China Nonferrous Metals Industry Standards and Metrology Institute for Quality. Participated in the drafting of this section. Shenyang Mint, Zijin Mining Group Co., Ltd., Shanghai Mint, Daye Nonferrous Design and Research Institute Limited, Jiangxi Copper Company Limited Guixi Smelter. The main drafters of this section. Chen Jie, Wang Zisen, Wang Yu, Lai Maoming, Zhang Bo, Chang Kai Jin, Mu Hua, Zhang Bo, summer pearl, blue Mei E, Chen Li, Hu Xiangyang, Liu Zhendong, Li Xiaoyu Liang subsets, Zhuxiu Fen, Huang Minhua. Methods for chemical analysis of gold Silver, copper, iron, lead, antimony, bismuth, palladium, magnesium, tin, Determination of nickel, manganese and chromium content Spark atomic emission spectrometry

1 Scope

GB/T 11066.7-2009 is the Chinese national standard on methods for chemical analysis of gold - determination of silver, copper, iron, lead, antimony, bismuth, palladium, magnesium, tin, nickel, manganese and chromium contents - spark 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 15 April 2009 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 February 2010. Classification: ICS 77.040.30, CCS H15. 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.

GB/T 11066 provisions of this part of the gold in silver, copper, iron, lead, antimony, bismuth, palladium, magnesium, tin, nickel, manganese and determination of chromium content. This section applies to gold (99.95% to 99.99%) in silver, copper, iron, lead, antimony, bismuth, palladium, magnesium, tin, nickel, manganese and chromium content measured simultaneously set. Determination of the range in Table 1. Table

1 Element measurement range/measuring range of elements% /% Ag 0.0003 ~ 0.0410 Pd 0.0004 ~ 0.0210 Cu 0.0002 ~ 0.0400 Mg 0.0003 ~ 0.0120 Fe 0.0004 ~ 0.0150 Sn 0.0002 ~ 0.0100 Pb 0.0004 ~ 0.0350 Ni 0.0002 ~ 0.0100 Sb 0.0002 ~ 0.0150 Mn 0.0002 ~ 0.0100 Bi 0.0003 ~ 0.0170 Cr 0.0002 ~ 0.0100

2 Method summary

The sample was pressed into a sheet processing, atomic emission spectrometer with spark

strength analysis of impurity elements in the gold line with background lines of direct measurement Ratio, calculated according to the working curve drawing gold in silver, copper, iron, lead, antimony, bismuth, palladium, magnesium, tin, nickel, manganese, chromium and other 12 kinds of impurity elements.

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.

3.3 Standard sample. certified gold standard sample spectrum, which shall cover the range of impurity elements or partially encompassed by the present method of measurement range.

3.4 purity argon gas. the mass fraction of not less than 99.995%.

4 Instruments and auxiliary equipment

4.1 spark atomic emission spectrometer.

4.2 hydraulic machine. safety pressure $\geq 50t$. Step

5 Analysis

5.1 Sample and Sample Preparation Sample and standard samples (3.3) Surface After ethanol (3.1) Cleaning, a hydraulic press (4.2) pressed into a sheet (pressure. 50t; pressure Time. 8s). After pressing light cleansing diameter of the sample should be larger than 20mm, the minimum thickness should be greater than 0.2mm.