ICS 73.080
CCS D53

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14506.29-2010

Methods for chemical analysis of silicate rocks - Part 29: Determination of 22 elements including rare earth elements

硅酸盐岩石化学分析方法 第29部分：稀土等22个元素量测定

Issued on: November 10, 2010 **Implemented on: February 1, 2011**

Issued by: General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China;
Standardization Administration of China

Table of Contents

Foreword

GB/T 14506 "Methods for chemical analysis of silicate rocks" 30 consists of the following components.

--- Part 1. Determination of water absorption;

--- Part 2. Determination of combined water;

--- Part 3. Determination of the amount of silica;

--- Part 4. Determination of the amount of aluminum oxide;

--- Part 5. Determination of total iron content;

--- Part 6. Determination of calcium oxide content;

--- Part 7. Determination of the amount of magnesium oxide;

--- Part 8. Determination of the amount of titanium dioxide;

--- Part 9. Determination of the amount of phosphorus pentoxide;

--- Part 10. Determination of the amount of manganese oxide;

--- Part 11. Determination of the amount of sodium hydroxide and oxide;

--- Part 12. Determination of the amount of fluorine;

--- Part 13. Determination of sulfur content;

1 Scope

GB/T 14506.29-2010 is the Chinese national standard on methods for chemical analysis of silicate rocks - part 29: determination of 22 elements including rare earth elements, in the field of mining and minerals. 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 10 November 2010 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 2011. Classification: ICS 73.080, CCS D53. 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 GB/T 14506 specifies the silicate rocks 22 rare earth elements in an amount of sodium peroxide Sample - Inductively Coupled Plasma Mass spectrometry (ICP-MS) spectrometry. This section applies to silicate rocks manganese, cobalt, yttrium, zirconium, niobium, barium, lanthanum, cerium, praseodymium, neodymium, samarium, europium, gadolinium, terbium, dysprosium, holmium, erbium, thulium, ytterbium, lutetium,

22 Determination of amounts of elements hafnium and tantalum, are also applicable to soil, sediment samples measured amounts of elements above. Measuring range. See Appendix A.

2 Normative references

The following documents contain provisions which, through reference

GB/T 14506 in this section constitute provisions of this section. For dated reference documents Member, all subsequent amendments (not including errata content) or revisions do not apply to this section, however, encouraged to reach under this section Parties to research agreement to use the latest versions of these documents. For undated reference documents, the latest versions apply to this section.

GB/T 14506.1 Silicate rocks - Part 1. Determination of water adsorption Principle

3 Sodium peroxide fusion method using sample decomposition, precipitation measured elements in an alkaline medium together with the matrix elements, separated by filtration out a lot Flux, then the precipitate was dissolved with acid, directly determined by ICP-MS.

4 Reagents and solutions

4.1 water, distilled water, ion exchange purification system.

4.2 sodium peroxide, analytical or pure class distinctions.

4.3 sodium hydroxide, pure class distinctions or high purity. Water (4.1) to prepare a 20mg/mLNaOH solution aside.

4.4 nitrate (rho1.42g/mL), superior grade pure or high purity, after sub-boiling distillation purification.

4.5 nitric acid (11).

4.6 hydrofluoric acid (rho1.16g/mL), superior grade pure or high purity, after sub-boiling

distillation purification. Warning

--- toxic hydrofluoric acid, and corrosion Resistance, wear gloves when operating, to prevent skin contact.

4.7 single element standard stock solution. specific preparation see Appendix B. More than

4.8 element mixed standard stock solution Direct dispensing single element standard stock solution (4.7) formulated the following multi-element mixed standard stock solution, and mixing a commercially available multi-element standard Quasi stock solution was diluted to give (see Table 1).

Note. When a multi-element standard stock solution was prepared attention compatibility and stability elements. Original standard stock solution elements to be checked in order to avoid impurities Movies Sound standard accuracy. Good standard solution was transferred to a new distribution of pickling, virgin polypropylene bottles stored and periodically check its stability.