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**Guidance for utilization and classification of content of
valuable elements in coal**

煤中有价元素含量分级及应用导则

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Guidance for utilization and classification of content of valuable elements in coal

1 Scope

This Standard specifies the scheme of content classification of valuable elements (aluminum, gallium, germanium, lithium, etc.) in coal and the related nomenclature and codes. It also puts forward the guiding principles for the development and utilization of valuable elements (aluminum, gallium, germanium, lithium, etc.) in coal.

This Standard is applicable to the evaluation of the content of valuable elements (aluminum, gallium, germanium, lithium, etc.) in coal in the process of coal exploration, production, processing, sales and utilization. It guides the development and utilization of valuable element (aluminum, gallium, germanium, lithium, etc.) resources in coal.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

GB/T 474, *Method for preparation of coal sample*

GB/T 475, *Method for manual sampling of commercial coal*

GB/T 482, *Sampling of coal seams*

GB/T 1574, *Test method for analysis of coal ash*

GB/T 8207, *Determination of germanium in coal*

GB/T 8208, *Determination of gallium in coal*

GB/T 14506.15, *Methods for chemical analysis of silicate rocks - Part 15: Determination of lithium content*

GB/T 19494.1, *Mechanical sampling of coal - Part 1: Method for sampling*

GB/T 19494.2, *Mechanical sampling of coal - Part 2: Method for sample preparation*

MT/T 1034, *Method of sampling run-of-mine coal*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 valuable elements in coal

the elements that have high economic value, and a high degree of enrichment in coal, reaching or close to industrial grade, and have potential for development or comprehensive utilization as an industrial deposit

4 Content classification and utilization of valuable elements in coal

4.1 Content classification of valuable elements (aluminum, gallium, germanium, lithium, etc.) in coal

The content of aluminum in coal shall be classified according to Annex A. The content of gallium in coal shall be classified according to Annex B. The content of germanium in coal shall be classified according to Annex C. The content of lithium in coal shall be classified in accordance with Annex D.

4.2 Comprehensive utilization of coal with extra-high valuable elements (aluminum, gallium, germanium, lithium, etc.)

4.2.1 The utilization of coal with extra-high valuable elements (aluminum, gallium, germanium, lithium, etc.) shall fully consider the basic technological properties of the coal, the main uses, the occurrence form of aluminum, gallium, germanium, lithium and other elements in the coal, and the relationship with other elements. symbiotic relationship, as well as the occurrence state and distribution law of harmful elements in coal that have adverse effects on extraction of valuable elements.

4.2.2 The mining technical conditions such as the thickness, occurrence, scale and structure of the coal seam, as well as the influence of mining and processing methods on the coal quality shall be fully considered.

4.3 Collection, preparation and determination of coal samples

4.3.1 Collection of coal samples

The coal samples are taken according to GB/T 475, GB/T 482, GB/T 19494.1, MT/T 1034.

4.3.2 Preparation of coal samples

Prepare coal samples in accordance with the provisions of GB/T 474 and GB/T 19494.2.

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