



BSI Standards Publication

Natural gas — Coalbed methane quality designation and the applicability of ISO/TC 193 current standards

National foreword

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Natural gas — Coalbed methane quality designation and the applicability of ISO/TC 193 current standards

*Gaz naturel — Désignation de la qualité du méthane de houille et
applicabilité des normes en vigueur ISO/TC 193*





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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 193, *Natural gas*, Subcommittee SC 1, *Analysis of natural gas*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Coalbed Methane (CBM) is an unconventional form of natural gas and refers to methane-rich gases that naturally exist in coal seams and surrounding rocks, see also Reference [31]. It is defined as a methane-rich gas naturally occurring in coal seams (and surrounding rock) typically comprising of 80 % to 95 % methane with lower proportions of ethane, propane, nitrogen and carbon dioxide (see ISO 18875).

At present, CBM is explored and developed in the United States, Canada, Australia, Russia, India, China and a few other countries.

Typical CBM contains 80 % to 95 % or more methane and a small portion of ethane, propane, nitrogen and carbon dioxide, but the composition of coalbed methane varies widely around the world. This document aims to promote communication and coordination among countries and support the smooth progress of unconventional natural gas exploration, development, production and custody transfer.

Natural gas — Coalbed methane quality designation and the applicability of ISO/TC 193 current standards

1 Scope

This document surveys the quality designation of CBM all around the world, and analyses whether ISO/TC 193 standards for sampling, test and calculation methods are applicable to CBM.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 14532, *Natural gas — Vocabulary*

ISO 18875, *Coalbed methane exploration and development — Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14532, ISO 18875 and the following apply.

NOTE Specific coalbed methane or coal gas mine terms are given in national documents, such as GB/T 31537^[30].

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

normal reference conditions

reference conditions of pressure, temperature, and humidity (state of saturation) equal to 101,325 kPa and 273,15 K for a gas in the dry state

[SOURCE: ISO 14532:2014, 2.6.1.3]

3.2

ISO standard reference conditions

reference conditions of pressure, temperature, and humidity (state of saturation) equal to 101,325 kPa and 288,15 K for a real gas in the dry state

[SOURCE: ISO 14532:2014, 2.6.1.4]

3.3

direct sampling

sampling in situations where there is a direct connection between the natural gas to be sampled and the analytical unit

[SOURCE: ISO 14532:2014, 2.3.1.1]