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

GB/T 13610-2020

Replacing GB/T 13610-2014

Analysis of natural gas composition - Gas chromatography

天然气的组成分析 气相色谱法

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard replaces GB/T 13610-2014 "Gas Chromatography Method for Composition Analysis of Natural Gas". This standard and GB/T 13610- Compared with.2014, in addition to editorial changes, the main technical changes are as follows:

---Added the "carbon monoxide" component in the "range", the concentration range is "0.01%~1%" (see Chapter 1);

---The standard gas concentration requirement is revised to "For components with a mole fraction not greater than 5%, compared with the sample, the corresponding component in the standard gas The mole fraction should not be greater than 10%, nor less than 1/2 of the corresponding component concentration in the sample. For groups with mole fraction greater than 5% The concentration of the corresponding component in the standard gas should not be less than 1/2 of the concentration of the component in the sample, nor more than twice the concentration of the component. The minimum concentration of the components in the standard gas should not be less than 0.1%" (see 4.2, 4.2 in the.2014 edition).

---Modified the expression of precision. The boundary point of the concentration range of the components changed from the original discontinuous to continuous without crossing. Such as Change the boundary points "0~0.09" and "0.1~0.9" to " $x < 0.1$ " and " $0.1 \leq x < 1.0$ " (see Chapter 8, Chapter 8 of the.2014 edition chapter). This standard was proposed and managed by the National Natural Gas Standardization Technical Committee (SAC/TC244). Drafting organizations of this standard. China National Petroleum Corporation Southwest Oil and Gas Field Branch Natural Gas Research Institute, China National Petroleum Corporation Co., Ltd. Southwest Oil and Gas Field Branch Gas Transmission Management

Office, China National Petroleum Corporation Tarim Oil Field Branch, Daqing Oil Tian Co., Ltd., China Institute of Testing Technology, Institute of Chemistry, Jincheng Quality and Technology Inspection and Testing Institute (National Coal Bed Methane Product Quality Supervision and Inspection Center), China National Petroleum Corporation Xinjiang Oilfield Branch Experimental Inspection Research Institute, China Institute of Metrology, PetroChina International Pipeline Co., Ltd., Guangdong Dapeng LNG Co., Ltd., CNOOC Gas and Power Group Co., Ltd., China National Petroleum Corporation Natural gas quality control and energy metering focus of Southwest Oil and Gas Field Branch of Natural Gas Co., Ltd. and China National Petroleum Corporation laboratory. The main drafters of this standard. Zeng Wenping, Tang Meng, Chang Honggang, Chi Yongjie, Wang Weijie, Wang Xiaoqin, Zhou Li, Luo Min, Tumengele, Liu Hong, Tan Weiqun, Wang Weikang, Wang Qiang, Ni Fengping, Wu Hai, Wang Huaqing, Yang Jianming, Cai Li, Ma Xifei, Liu Bing, Luo Qin, Ni Rui. The previous versions of the standard replaced by this standard are as follows:

---GB/T 13610-1992, GB/T 13610-2003, GB/T 13610-2014. Natural gas composition analysis gas chromatography Warning

---This standard does not involve all safety issues related to its application. Before using this standard, the user is responsible for Safety and health operating procedures, and clearly defined the scope of application.

1 Scope

GB/T 13610-2020 is the Chinese national standard on analysis of natural gas composition - gas chromatography, in the field of petroleum and related technologies. 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 29 September 2020 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 April 2021. Classification: ICS 75.060, CCS E24. 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 standard specifies the analytical method for determining the chemical composition of natural gas and similar gas mixtures by gas chromatography. This standard applies to the analysis of the range of natural gas components as shown in Table 1, and it also applies to the determination of one or several components. Table

1 Composition and concentration range of natural gas Component Concentration range Mole fraction y/% Helium 0.01~

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

10 Oxygen 0.01~

20 Nitrogen 0.01~100 Carbon dioxide 0.01~100 Methane 0.01~100 Ethane 0.01~100
Propane 0.01~100 Isobutane 0.01~10 N-butane 0.01~