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

GB/T 43126-2023

**Specification for the geological sweet spot evaluations of shale
oil**

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Foreword

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1. Structure and Drafting Rules of Standardization Documents" Drafting. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed and coordinated by the National Petroleum and Natural Gas Standardization Technical Committee (SAC/TC355). This document was drafted by: China National Petroleum Corporation Exploration and Development Research Institute, China Petroleum & Chemical Corporation Petroleum Corporation Exploration and Development Research Institute, PetroChina Dagang Oilfield Branch, CNOOC Research Institute Co., Ltd., China Changqing Oilfield Branch of Petroleum and Natural Gas Co., Ltd., Xinjiang Oilfield Branch of PetroChina Co., Ltd., Daqing Oilfield Co., Ltd. Limited liability company, China National Petroleum Corporation Jilin Oilfield Branch, China Petroleum & Chemical Corporation Shengli Oilfield Branch Company, Sinopec Jiangnan Oilfield Branch, Sinopec Petroleum

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1 Scope

GB/T 43126-2023 specifies how the geological sweet spots of a shale oil play are evaluated. Shale oil is not produced from a reservoir in the old sense: the oil is still in the source rock, and only a small part of the formation will ever give it up economically, so the whole economics of a play turns on identifying the intervals where organic richness, maturity, mobile oil saturation and brittleness coincide. China's shale oil is in continental lacustrine basins, quite different from the American marine shales, which is why it needed its own method. The standard sets the evaluation of shale-type shale oil by the sweet spot index, the threshold index and the light hydrocarbon content methods, the evaluation of interbedded type by the sweet spot index, threshold index and movable oil saturation methods, and the evaluation of the sweet spot interval and the sweet spot area, together with the treatment of in-situ conversion. It took effect on 1 January 2024.

This document stipulates the geological sweet spot evaluation parameters and evaluation of medium and high maturity shale oil, interlayer shale oil and in-situ converted shale oil. Methods and main results presented. This document is suitable for the evaluation of geological sweet spots of medium- to high-maturity shale oil, intercalated shale oil, and in-situ transformed shale oil.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document.

GB/T 33684-2017 Technical regulations for interpretation of seismic exploration data

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Shale oil with medium-high maturity shale oil with medium-high maturity Petroleum accumulation occurs in underground organic-rich shale formations, and the organic vitrinite reflectance R_o is not less than 0.7%.

3.2 Shale type shale oil shaleoilinshale The single layer thickness of clastic rock, carbonate rock, tuff and other interlayers in non-hydrocarbon source rock sections within the shale system is not greater than 1m, and the cumulative thickness accounts for Less than 10% oil accumulation.

3.3 The single layer thickness of clastic rock, carbonate rock, tuff and other interlayers in the non-source rock section of the shale system ranges from 1m to 5m, and the cumulative thickness Oil accumulation accounting for less than 30%.

3.4 The accumulation of light oil and natural gas formed by the conversion of organic matter in organic-rich shale formations through in-situ underground heating.

4.1.1 Applicable conditions for evaluation

4.1.1.1 Suitable for evaluation of geological sweet spots of shale-type shale oil.

4.1.1.2 There should be at least 5 representative oil-producing wells in the target layer or area with similar geological conditions in the study area.