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JJG

NATIONAL METROLOGY VERIFICATION REGULATION OF THE PEOPLE'S REPUBLIC OF CHINA

JJG 1173-2019

Electronic Downhole Pressure Gauges

电子式井下压力计检定规程

(English Translation)

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Introduction

JJF1002 "Rules for the preparation of national metrological verification regulations", JJF1001 "General metrological terms and definitions", JJF1008 "Terms and Definitions of Pressure Measurement Terms" and JJF1059.1 "Measurement Uncertainty Evaluation and Expression" it constitutes the basic series of specifications formulated by this regulation.

This regulation refers to the content of JJG 875-2005 "Digital Pressure Gauge", and combines Production and use situation and the actual situation of many years of verification work, the specific technical indicators and verification methods of electronic downhole pressure gauges the law is defined and explained.

This regulation is issued for the first time.

Verification Regulation of Electronic Downhole Pressure Gauge

1 Scope

This regulation is applicable to electronic downhole pressure with working temperature not exceeding.200°C and measuring upper limit not greater than 250MPa the first verification, subsequent verification and in-use inspection of force gauges (including storage and direct reading).

2 Reference documents this regulation refers to the following documents.

JJG 875 digital pressure gauge JJF1008-2008 Terms and definitions of pressure measurement terms for dated references, only the dated versions are applicable to this Regulation; for those without dates the latest version (including all amendments) is applicable to this regulation.

3 Terms and units of measurement

3.1 Terminology

3.1.1 Electronic downhole pressure gauges A special instrument for measuring downhole pressure in oil and gas fields.

3.2 Unit of measurement the legal unit of measurement used by electronic downhole pressure gauges is Pa (Pascal), or its decimal multiple unit, such as kPa, MPa, etc.

4 Overview

Electronic downhole pressure gauge (hereinafter referred to as downhole pressure gauge) consists of high temperature resistant circuit casing, pressure sensor, rotary it consists of a replacement unit, a storage unit and a pressure transmission joint. Its working principle is. the downhole pressure acts on the pressure sensor, the conversion unit converts the pressure to its corresponding digital signal, and the storage unit automatically stores the pressure of the measured position downhole Force value. Downhole pressure gauge can

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be divided into two types of storage type and direct reading type according to the structural principle.

Downhole pressure gauge is mainly used to measure oil and gas downhole flow pressure, formation pressure and shut-in well in the process of oil exploration and development After the recovery of the bottom hole pressure and the pressure distribution in the well during use, etc.

5 Measurement performance requirements

5.1 Indication error the accuracy grade and the maximum allowable error of the downhole pressure gauge should meet the requirements of Table 1; the indication value of the downhole pressure gauge is wrong the difference should not exceed the maximum allowable error specified in Table 1.

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