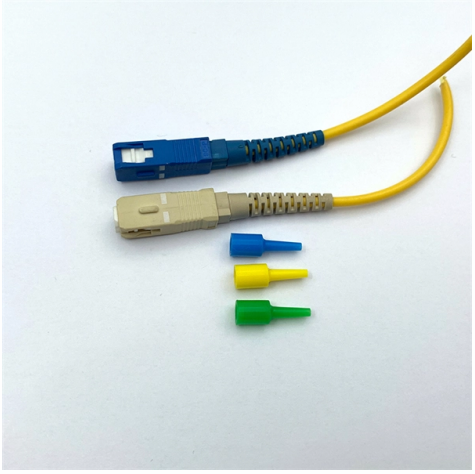
Principle of High-Temperature Well Logging Optical Cables in Indonesia



Overview

 Principle: Utilizes Raman scattering to measure the temperature along the wellbore. Reinsch 1 1 GFZ German Research Centre for Geosciences 2 BAW Federal Waterways Engineering and. Suitable for oil wells, gas wells, coal mines or under high temperature conditions. The cables marked with Dry; They are a series of cables in which the typical water blocking the intermediate tubes (gelatin, water swelling tape or powder) is replaced with a solid foamed thermoplastic elastomer. This study presents a comparative analysis between these conventional approaches and the latest distributed fiber-optic sensing (DFOS) technologies. Specifically, we highlight the diagnostic power of distributed temperature sensing (DTS) and distributed acoustic sensing (DAS) in two real-world. Permanent downhole fiber-optic cables are critical infrastructure in wellbore monitoring systems, ensuring reliable transmission of data for applications such as distributed temperature, acoustic, and strain sensing (DTS, DAS, and DSS)—all with one 1/4-in control line. These monitoring systems help.

Article Content

Dakota--Temperature Logging 1--Introduction

For the application of continuous, high-resolution temperature logging for scientific purposes, two major types of logging tools are used currently: (1) conventional "electric-line" systems with real-time

Research on the Data Interpretation Model of Optical Fiber Profile ...

Fiber optic cables have the advantages of high temperature resistance, high pressure resistance, corrosion resistance, and high accuracy in measuring temperature DTS data. They are widely used

The High-Temperature Resistant Well Logging Optical Cable

The range of cables for direct buried installation includes all our four basic designs: concentric core, grooved core tape, DryTech and tape in loose tubes.The cables are reinforced with corrugated steel

New methods in geophysical exploration and monitoring with DTS and

We show that fiber-optic sensing opens up new possibilities for geophysical measurements with a broad range of applications in well logging and seismic exploration and monitoring.

Distributed Fiber Optic Vibration Signal Logging Well

Distributed fiber optic vibration signal logging is a technology that uses fiber optics to sense the vibration signals returned from different formations or

New methods in geophysical exploration and monitoring with DTS and

Here we outline some new technologies in this context within case studies from different research projects including permanent installation of fiber-optic sensor cables behind casing, monitoring of

Application of Coiled Tubing Distributed Optical Fiber Temperature ...

Considering the temperature resistance of the downhole optical fiber, the coiled tubing does not continue to enter the well. In order to ensure the accuracy of the position of the optical fiber into the well, it is

Bazaid et al No 1

Specifically, we highlight the diagnostic power of distributed temperature sensing (DTS) and distributed acoustic sensing (DAS) in two real-world field applications. In each case, traditional tools failed to

Well Logging

Well logging is an evaluation method in which a logging crew lowers a special tool, a sonde, into the well and then pulls it back up. As the sonde passes the formations on its way up the wellbore, it senses

A High Data Rate Fiber Optic Well Logging Cable

This development has led to a new logging cable with superior mechanical properties, containing eight electrical wires and three optical fibers with a data rate of at least 10 Mbitsl second each. This fiber

Distributed optical fiber temperature sensor and its application in ...

This paper analyzes the demand of temperature measurement for high temperature wells of oilfields and demonstrates the unique advantages of the distributed optical fiber temperature

Feasibility investigation and design study of optical well logging ...

The objective of this project was exploration of a novel approach to high temperature well logging, based on a system of optical transducers and an optical transmission line both theoretically capable of

Application of Coiled Tubing Distributed Optical Fiber Temperature ...

The distributed optical fiber temperature sensing (DTS) system is used to collect the high frequency temperature through the coiled tubing downhole optical fiber.

Well Logging: Principles, Applications and Uncertainties

Well logs are usually recorded while the logging device is being winched upward through the well. The measurements from the instruments housed in the log-ging tool are recorded digitally at intervals of

Application of Fiber-Optic Temperature Logging Technology in Oil Wells

The operating principle is based on Distributed Temperature Sensing (DTS), where the optical fiber itself acts as both the sensor and the signal transmission medium.

Permanent fiber-optic cable

We pioneered accelerated aging tests for optical fibers at high temperatures; the fiber resulting from this research demonstrates an almost 50-fold increase in light transmission, exceptional resistance to

Distributed optical fiber temperature sensor and its application in ...

The simulated optical path of optical fiber composite submarine power cable in engineering field was established. The measurement experiment of temperature and strain was

Application of Electro-Optical Hybrid Cables in Horizontal Well ...

This paper mainly introduces the unique structural features and various applications of the electro-optical hybrid cables which were deployed into downhole with the help of coiled tubing technology. Fiber

Distributed Fiber Optic Vibration Signal Logging Well

However, the currently distributed fiber optic vibration signal logging also fails to fully utilize the technical advantages to form a systematic production

Geophysical Well Logging | Springer Nature Link

Logging cable and tools must be constructed in such a way that can withstand the highest temperatures and pressures encountered in the well. Interpretation of well-log data may commonly require

Pioneering Well Logging: The Role of Fiber Optics in Modern

Specifically, we highlight the diagnostic power of distributed temperature sensing (DTS) and distributed acoustic sensing (DAS) in two real-world field applications. In each case, traditional

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First, in view of the slow transmission rate of the logging cable, an advanced high-speed cable transmission module is adopted. Secondly, the ground system and the downhole instrument were

Pioneering Well Logging: The Role of Fiber Optics in Modern

Abstract. Maintaining well integrity is a critical aspect of safe, efficient, and economically viable oil and gas production. Traditional well diagnostic tools such as calipers and single-point

Well Logging: Principles, Applications and Uncertainties

Well logging is a means of recording the physical, acoustic and electrical properties of the rocks penetrated by a well. It is carried out by service companies, which

(PDF) Memory high temperature production logging technology and ...

To solve the temperature resistance problem of instruments, thermal insulation coatings, vacuum flask, and other methods are commonly used for temperature isolation. This article mainly...

HPHT Well Logging and Testing Advances

As oil and gas exploration moves to deeper reservoirs with extreme pressures and temperatures, innovative technologies are being developed to evaluate and

(PDF) Basic Well Logging By Mandeep Kumar

The paper discusses the principles and applications of well logging, dividing it into open-hole and cased-hole operations. It provides detailed

Cable Logging? Optical Fiber Logging?--JASON is

Difference between Optic-Fiber logging and traditional cable logging The electrical-based sensors used in cable logging can not work continuously in harsh

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