Principle of Indonesian Downhole Temperature Measurement Optical Cable

This work shows the benefit of continuous downhole monitoring during the lifetime of a well. Fibre optic cables were permanently installed in a doublet injector/monitor well system as part ...

An operator in Mexico used the distributed temperature sensing (DTS) run with coil tubing to record temperature profiles along the carbonate reservoir being stimulated to reduce near-wellbore...

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A DTS system sends pulses of laser light down a fiber-optic cable and analyzes the backscattered light to determine the temperature at every point along the cable"s length, providing a ...

In the presented project, three boreholes of a seasonal geothermal energy storage with a vertical depth of down to 500 meters were instrumented with distributed fiber-optic sensors.

A hybrid cable enables the combination of modern distributed fiber optic sensing well management technologies of DTS and DAS with traditional downhole electrical tools such as pressure sensors.

OverviewMeasuring principle--OTDR and OFDR technologyMeasuring principle--Raman effectConstruction of sensing cable and system integrationLaser safety and operation of systemFor temperature estimationApplicationsThere are two basic principles of measurement for distributed sensing technology, OTDR (optical time-domain reflectometry) and OFDR (optical frequency-domain reflectometry). For distributed temperature sensing often a code correlation technology is employed which carries elements from both principles. OTDR was developed more than 20 years ago and has become the industry standard for telecom loss measurements which detects the--compared to Raman signal very dominant--Rayleigh backscatterin...

Device must be deployable downhole without compromising completion. Such as enclosed within the envelope of typical cable clamp. Batteries are installed to beacon prior to dispatch from Silixa and ...

The principle for OTDR is quite simple and is very similar to the time of flight measurement used for radar. Essentially a narrow laser pulse generated either by semiconductor or solid state lasers is sent ...

The principle is that when the cable is heated with a constant power input over time, the temperature inside the cable at steady state is a function of the velocity of the surrounding water.

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Distributed Temperature Sensing (DTS) utilizes multi-mode Fiber Optic cables to measure distributed temperature data. This generates a continuous temperature profile along the ...

The study will research the possibility of direct downhole measurement of temperature and free calibration, which will result in a real time pressure and enthalpy reporting model.

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