Downhole energy storage device

What is claimed is: 1. A downhole energy harvesting system, comprising: a housing subjected to periodic oscillations; an energy harvesting device connected to the housing positioned to generate electricity based on the periodic oscillations; and an energy storage device connected to the energy harvesting device. 2. The downhole energy harvesting system of claim 1, the energy ...

Downhole electrical energy harvesting and communication in systems for well installations having metallic structure carrying electric current, for example CP current. In some instances there is a harvesting module (4) electrically connected to the metallic structure (2) at a first location and to a second location spaced from the first location, the first and second ...

Energy may be stored, converted, and generated during a drilling operation. An example method includes receiving fluid energy from a flow of drilling fluid (115) in a borehole (105). The received fluid energy may be stored as mechanical energy in an energy storage device (205) in the borehole (105). Additionally, electrical energy may be generated from the mechanical ...

An energy storage device for powering a downhole tool may be heated to an effective temperature to improve the operability of the energy storage device. The energy storage device may comprise, for example, a primary battery, a secondary battery, a fuel cell, a capacitor, or combinations thereof.

The US Department of Energy (DOE) announced the commercialization of a rechargeable energy storage device capable of operating in the extreme temperatures necessary for geothermal energy production. Industry partner FastCAP Systems has successfully completed third-party validation testing by Sandia National Laboratory of an ultracapacitor that is fully ...

Rechargeable energy storage device in a downhole operation . United States Patent Application 20060191681 . Kind Code: A1 . Abstract: In some embodiments, an apparatus includes a tool for a downhole operation. The tool includes an electrical component. The tool includes a rechargeable energy storage device to supply power to the electrical ...

The thermoelectric device that is installed downhole converts the conducted thermal flux to electric power directly based on the Seebeck effect. ... The storage of thermal energy in hydrocarbon fields is large in quantity, but the quality of thermal energy is not always high due to relatively low temperatures compared with geothermal fields. ...

The US Department of Energy (DOE) announced the commercialization of a rechargeable energy storage device capable of operating in the extreme temperatures necessary for geothermal energy production. Industry partner FastCAP Systems has successfully completed third-party validation testing by Sandia National

Laboratory of an ultracapacitor that is fully operational in ...

Thermal Energy Storage for Low and Medium Temperature Applications Using Phase Change Materials - a Review. Appl. Energ. (2016) ... thermal performance and applicable restrictions of active and passive thermal management strategies used for downhole devices are detailly discussed. The merits and demerits of various TMS are also summarized ...

In some embodiments, an apparatus includes a tool for a downhole operation. The tool includes an electrical component. The tool includes a rechargeable energy storage device to supply power to the electrical component. The tool also includes ...

The storage-type downhole visual tool is a crucial device for monitoring the technical condition of the downhole tubing string. However, prolonged exposure to the high-temperature downhole environment leads to an increase in the internal temperature of the tool, causing instability in the operation of electronic devices.

energy storage downhole energy downhole storage Prior art date 2013-05-03 Legal status (The legal status is an assumption and is not a legal conclusion. Google has not performed a legal analysis and makes no representation as to the accuracy of the status listed.) Expired - Fee Related Application number GB1516094.8A Other versions ...

Energy may be stored, converted, and generated during a drilling operation. An example method includes receiving fluid energy from a flow of drilling fluid (115) in a borehole (105). The received fluid energy may be stored as mechanical energy in an energy storage device (205) in the borehole (105). Additionally, electrical energy may be generated from the ...

Amazon : NEW Patent CD for Methods of heating energy storage devices that power downhole tools : Everything Else. Skip to main content . Delivering to Lebanon 66952 Update location All. Select the department you want to ...

A downhole energy harvesting system configured for use in a downhole tool. The system utilizes at least one harvesting antenna supported within the downhole tool. During operation, the harvesting antenna harvests energy from a beacon signal emanating from a beacon included in the downhole tool. The harvested energy is used to power electronics ...

Downhole energy-storage devices, such as supercapacitors, are also being investigated to be integrated to produce autonomous sensing capabilities. 4 Cements can be made intrinsically sensing capable of external load through the addition of Fe 2 O 3, carbon fibers, carbon black, carbon nanotubes, and carbon nanofibers to the cement prior to ...

An energy storage device for powering a downhole tool may be heated to an effective temperature to improve the operability of the energy storage device. The energy storage device may comprise, for example, a primary

battery, a secondary battery, a fuel cell, a capacitor, or combinations thereof. The effective temperature to which the energy storage device is heated ...

Downloadable! Electronic devices are commonly used for exploiting and extracting shale oil in deep downhole environments. However, high-temperature-and-pressure downhole environments jeopardize the safe operation of electronic components due to their severe thermal conditions. In the present study, an active thermal-insulation system is proposed, which ...

A downhole energy harvesting system includes a housing subjected to periodic oscillations. An energy harvesting device is on, in, or otherwise connected to the housing and positioned to generate electricity based on the periodic oscillations. The energy harvesting device is coupled to at least one of a powered component or an energy storage device in order to use or store the ...

A downhole energy harvesting system includes a housing subjected to periodic oscillations. An energy harvesting device is on, in, or otherwise connected to the housing and positioned to generate electricity based on the periodic oscillations. The energy harvesting device is coupled to at least one of a powered component or an energy storage device in order to use ...

An energy storage device for powering a downhole tool may be heated to an effective temperature to improve the operability of the energy storage device. The energy storage device may comprise, for example, a primary battery, a secondary battery, a fuel cell, a capacitor, or combinations thereof. The effective temperature to which the energy ...

1 · Over the last decade, there has been significant effort dedicated to both fundamental research and practical applications of biomass-derived materials, including electrocatalytic energy conversion and various functional energy storage devices. Beyond their sustainability, eco ...

Energy may be stored, converted, and generated during a drilling operation. An example method includes receiving fluid energy from a flow of drilling fluid (115) in a borehole (105). The received fluid energy may be stored as mechanical energy in an energy storage device (205) in the borehole (105). Additionally, electrical energy may be generated from the mechanical energy ...

Oil and gas industries may be the earliest users for electronics with high-temperature resistance. Many precise sensors installed in downhole instruments are tremendously sensitive to temperature variation [8] ually, the downhole temperature routinely reaches 150-175 °C for high-mature shale oil while as high as 200 °C could be even reached ...

Web: https://www.wholesalesolar.co.za