

Title (en)
THERMAL ENERGY STORAGE SYSTEM

Title (de)
WÄRMEENERGIESPEICHERSYSTEM

Title (fr)
SYSTÈME DE STOCKAGE D'ÉNERGIE THERMIQUE

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Application
EP 07784645 A 20070713

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Abstract (en)
[origin: WO2008006174A1] A thermal energy storage system is disclosed in which at least one vertically extending cavity (28) is formed within ground that is constituted by geologically stable consolidated rock (29), and at least one cylindrical steel vessel (30) having a diametral dimension smaller than its longitudinal dimension is positioned within the cavity and surrounded peripherally by a containment material. Also, conduits (21) and (26) are provided for directing pressurised water (in vapour and/or liquid phase) into the vessel (30) and for conveying steam from an upper region of the vessel. The vessel has a peripheral wall that functions as a liner for the containment material and, in operation of the system, internal pressure-induced forces are transferred from the vessel to the containment material by way of the peripheral wall. The containment material in one embodiment of the invention comprises the surrounding rock (29). In a further embodiment the containment material comprises a filler material 36 and in this case the internal pressure induced forces are transferred from the vessel to the surrounding rock by way of the filler material.

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