

Title (en)

Process of hydraulic fracturing to create a layered proppant pack structure alongside the faces of the fracture to prevent formation fines to damage fracture conductivity

Title (de)

Verfahren zur hydraulischen Bruchstellenbildung zur Erzeugung einer geschichteten Stützmittelpackstruktur entlang der Oberflächen der Bruchstelle zur Verhinderung der Spanbildung zur Zerstörung der Bruchstellenleitfähigkeit

Title (fr)

Procédé de fracturation hydraulique afin de créer une structure de pack d'agent de soutènement en couche le long des bords de la fracture afin d'empêcher la formation de fins pouvant endommager la conductivité de la fracture

Publication

**EP 2469020 A1 20120627 (EN)**

Application

**EP 10016022 A 20101223**

Priority

EP 10016022 A 20101223

Abstract (en)

Method of hydraulic fracturing oil and or gas wells to create a layered proppant pack structure alongside the faces of the fracture to prevent formation fines (10) to damage the fracture conductivity over time characterized in that it comprises several distinct steps: i) Creating a hydraulic fracture (11) and transporting into the so opened fracture a "fine grained proppant" (5) (equally called "fine proppant" or "fine grained proppant" or "support proppant") ii) Shutting-in the well to let the fracture close and the confinement stress of the reservoir to be re-established so as to compress the fine proppant against the walls of the fracture and resulting in a strong adhesion of the fine grained proppant against the walls of the fracture via mechanical and/or chemical mechanisms. iii) Re-opening the same hydraulic fracture using a conventional fracturing technique to place a "larger or much larger proppant" (30) (equally called "coarse proppant" or "conductive proppant") in the middle of the fracture width and therefore between the layers of the fine proppant remaining in place against the walls of the fracture because of the strong interactions previously established during the shut-in, and acting as a "support" for the larger proppant, the said fine "support" proppant allowing the said larger proppant to ensure and retain a high conductivity for a long period of time.

IPC 8 full level

**E21B 43/267** (2006.01)

CPC (source: EP)

**E21B 43/267** (2013.01)

Citation (applicant)

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Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**EP 2469020 A1 20120627**; WO 2012085646 A1 20120628

DOCDB simple family (application)

**EP 10016022 A 20101223**; IB 2011003115 W 20111222