Title (en)
METHOD AND APPARATUS FOR SEISMIC STIMULATION OF FLUID-BEARING FORMATIONS

Title (de)
VERFAHREN UND VORRICHTUNG ZUR SEISMISCHEN SIMULATION EINER FLEISCH-ENTHALTENDEN FORMATION

Title (fr)
PROCEDE ET DISPOSITIF DE SIMULATION SISMIQUE DE FORMATIONS CONTENANT DES LIQUIDES

Publication
EP 1232330 B1 20070606 (EN)

Application
EP 99962880 A 19991123

Priority
US 9928060 W 19991123

Abstract (en)
[origin: WO0140623A1] An apparatus and seismic method for producing a shock wave in a oil well borehole (Fig. 1), with a pumping unit arranged at the wellhead, a tubing string (35), extending downward into the production casing of the well, a hollow cylinder assembly (27), connected with the bottom of the tube string, a pair of plungers arranged within the cylinder assembly and connected with the pumping unit with sucker robs and a polish rod for compressing liquid contained within the cylinder assembly and discharging the compressed liquid into the production casing, thereby generating a shock wave. The cylinder assembly includes an upper cylinder (24), a lower cylinder below the upper cylinder, a crossover cylinder below the upper and lower cylinders, and a compression chamber cylinder containing arranged between the crossover cylinder and the upper cylinder (fig 1). The lower cylinder is adapted to receive the lower plunger and the upper cylinder is adapted to receive the upper plunger. The lower plunger has a larger diameter than the upper plunger, and the plunger movement effects the volume of the compression chamber by reduction, the liquid contained therein becomes compressed and is discharged on the down stroke into the well. In addition remote seismic data is collected and processed (Fig 8), from remote well locations.

IPC 8 full level
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WO 0140623 A1 20010607; AT E364127 T1 20070615; AU 1923100 A 20010612; AU 779953 B2 20050224; BR 9917564 A 20021126; BR 9917564 B1 20090113; CA 2390277 A1 20010607; CA 2390277 C 20080923; CN 1314880 C 20070509; CN 1378615 A 20021106; DE 69936269 D1 20070719; DE 69936269 T2 20080207; DK 1232330 T3 20071001; EP 1232330 A1 20020821; EP 1232330 A4 20050601; EP 1232330 B1 20070606; ES 2286904 T3 20071201; MX PA02005157 A 20030925

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