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(54) Title: METHOD AND ACIDIZING TOOL FOR DEEP ACID STIMULATION USING ULTRASOUND

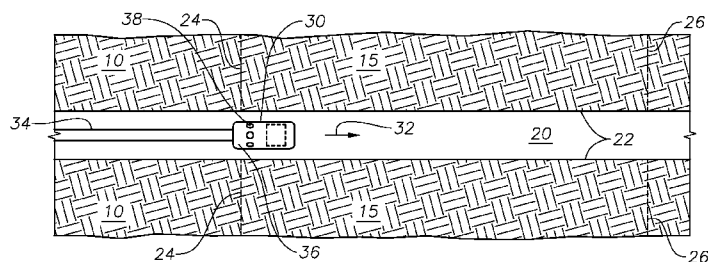


FIG. 1A

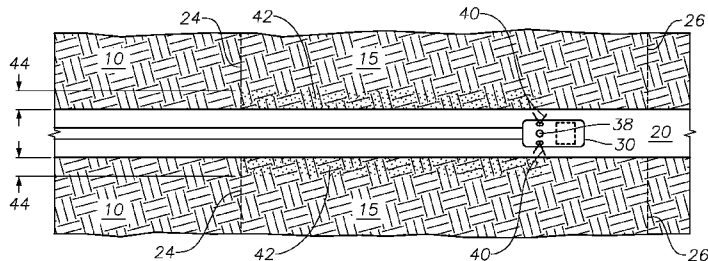


FIG. 1B

(57) Abstract: A method of deep acid stimulation for a zone to be treated in an underground formation (10) using an acidizing tool (30), the method including the steps of introducing the acidizing tool into the well bore, introducing the acid formulation onto the well bore wall at the treatment zone and introducing ultrasound energy into the underground formation at the treatment zone. The subsequent acid penetration depth is deeper than the initial acid penetration depth. A method of stress fracturing a portion of an underground formation includes the steps of introducing the acidizing tool into a well bore and introducing the acid formulation and the ultrasound energy at the focused treatment point. The weakened acidized spots in combination with the stress on the underground formation causes oriented stress-induced fractures to form that are fluidly coupled with the well bore. An acidizing tool includes an acid delivery system and an ultrasonic transmitter.

INTERNATIONAL SEARCH REPORT

International application No
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A. CLASSIFICATION OF SUBJECT MATTER

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ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2006/231253 A1 (VILELA ALVARO J [BR] ET AL VILELA ALVARO JOSE [BR] ET AL) 19 October 2006 (2006-10-19) paragraph [0100] -----	1-22
A	US 2009/095469 A1 (DOZIER GEORGE C [US]) 16 April 2009 (2009-04-16) paragraph [0017] -----	1-22
A	US 5 824 214 A (PAUL JAMES M [US] ET AL) 20 October 1998 (1998-10-20) column 2, lines 7-9 -----	1-22

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Further documents are listed in the continuation of Box C.

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See patent family annex.

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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