

Title (en)  
DOWNHOLE USES OF PIEZOELECTRIC MOTORS

Title (de)  
VERWENDUNGEN PIEZOELEKTRISCHER MOTOREN IN BOHRLÖCHERN

Title (fr)  
UTILISATIONS DE MOTEURS PIEZOELECTRIQUES DANS DES CONDITIONS DE FOND

Publication  
**EP 1856412 A2 20071121 (EN)**

Application  
**EP 06736700 A 20060302**

Priority  
• US 2006007425 W 20060302  
• US 7412405 A 20050307

Abstract (en)  
[origin: US2006198742A1] A sampling system used in collecting samples of connate fluid from within hydrocarbon bearing formations. The sampling system comprises a sonde disposed within a wellbore formed proximate to the formation of interest. The sonde includes a sample probe insertable into the formation and a drawdown pump in fluid communication with the sample probe. The drawdown pump is motivated by an associated electrically responsive material, where the electrically responsive material can be comprised of a piezoelectric material, a electroactive polymer, or some other electrically responsive material.

IPC 8 full level  
**F04B 17/03** (2006.01); **E21B 49/08** (2006.01); **F04B 49/06** (2006.01)

CPC (source: EP US)  
**E21B 49/087** (2013.01 - EP US); **E21B 49/10** (2013.01 - EP US)

Citation (search report)  
See references of WO 2006096452A2

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DOCDB simple family (publication)  
**US 2006198742 A1 20060907**; CA 2600032 A1 20060914; CN 100572801 C 20091223; CN 101137844 A 20080305; EA 011817 B1 20090630; EA 200701812 A1 20080228; EP 1856412 A2 20071121; JP 2008537577 A 20080918; WO 2006096452 A2 20060914; WO 2006096452 A3 20070726

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**US 7412405 A 20050307**; CA 2600032 A 20060302; CN 200680007546 A 20060302; EA 200701812 A 20060302; EP 06736700 A 20060302; JP 2008500765 A 20060302; US 2006007425 W 20060302