

Title (en)

Positioning techniques in multi-well environments

Title (de)

Positionierungstechniken in Umgebungen mit mehreren Bohrlöcher

Title (fr)

Techniques de positionnement dans des environnements à puits multiples

Publication

**EP 2818632 A3 20160615 (EN)**

Application

**EP 14173737 A 20140624**

Priority

- US 201361839311 P 20130625
- US 201414301123 A 20140610

Abstract (en)

[origin: EP2818632A2] A method is provided to determine a distance, a direction, or both between an existing first wellbore and at least one sensor module of a drill string within a second wellbore being drilled. The method includes using the at least one sensor module to measure a magnetic field and to generate at least one first signal indicative of the measured magnetic field. The method further includes using the at least one sensor module to gyroscopically measure an azimuth, an inclination, or both of the at least one sensor module and to generate at least one second signal indicative of the measured azimuth, inclination, or both. The method further includes using the at least one first signal and the at least one second signal to calculate a distance between the existing first wellbore and the at least one sensor module, a direction between the existing first wellbore and the at least one sensor module, or both a distance and a direction between the existing first wellbore and the at least one sensor module.

IPC 8 full level

**E21B 47/022** (2012.01); **E21B 7/04** (2006.01); **E21B 43/30** (2006.01); **E21B 44/00** (2006.01); **E21B 47/00** (2012.01); **E21B 47/024** (2006.01); **E21B 47/09** (2012.01)

CPC (source: EP US)

**E21B 7/04** (2013.01 - EP US); **E21B 43/305** (2013.01 - EP US); **E21B 44/00** (2013.01 - US); **E21B 44/005** (2013.01 - EP US); **E21B 47/00** (2013.01 - EP US); **E21B 47/0228** (2020.05 - EP US); **E21B 47/024** (2013.01 - EP US); **E21B 47/092** (2020.05 - EP US)

Citation (search report)

- [I] EP 2180349 A2 20100428 - GYRODATA INC [US]
- [I] US 6985814 B2 20060110 - MCELHINNEY GRAHAM [GB]
- [I] US 5676212 A 19971014 - KUCKES ARTHUR F [US]

Cited by

CN107201894A

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 2818632 A2 20141231**; **EP 2818632 A3 20160615**; **EP 2818632 B1 20190501**; CA 2854746 A1 20141225; CA 2854746 C 20181002; MX 2014007597 A 20150427; US 2014374159 A1 20141225

DOCDB simple family (application)

**EP 14173737 A 20140624**; CA 2854746 A 20140618; MX 2014007597 A 20140620; US 201414301123 A 20140610