Title (en)

AUTOMATED KICK AND LOSS DETECTION

Title (de)

AUTOMATISIERTE STOSS- UND VERLUSTDETEKTION

Title (fr)

DÉTECTION AUTOMATISÉE DE SURSAUT ET DE PERTE DE PRESSION

Publication

EP 4051865 A4 20231206 (EN)

Application

EP 20883020 A 20201027

Priority

- US 201962929064 P 20191031
- US 2020070700 W 20201027

Abstract (en)

[origin: WO2021087509A1] A method for monitoring and controlling a mud flow system in a drilling rig includes measuring an active mud volume in an active mud pit and an inactive mud volume in an inactive mud pit, modeling a modeled active mud volume in the active mud pit, determining a mud volume balance by calculating a difference between the measurement of the active mud volume and the modeled active mud volume, detecting a transfer of mud from the inactive mud pit to the active mud pit based on a combination of a change in the measurement of the inactive mud volume in the inactive mud pit and a change in the mud volume balance, and detecting downhole gains and losses automatically based on the mud volume balance.

IPC 8 full level

E21B 41/00 (2006.01); **E21B 21/06** (2006.01); **E21B 21/08** (2006.01); **E21B 43/12** (2006.01); **E21B 47/008** (2012.01); **E21B 47/26** (2012.01)

CPC (source: EP US)

E21B 21/06 (2013.01 - EP US); **E21B 21/08** (2013.01 - EP US); E21B 2200/20 (2020.05 - EP)

Citation (search report)

- [XYI] US 2011220410 A1 20110915 - ALDRED WALTER [GB], et al
- [A] GB 2564507 A 20190116 - EQUINOR ENERGY AS [NO]
- [Y] MCCANN D ET AL: "COMPUTERIZED FLOW MONITORS DETECT SMALL KICKS", OIL AND GAS JOURNAL, PENNWELL, HOUSTON, TX, US, vol. 90, no. 8, 24 February 1992 (1992-02-24), pages 62 - 65, XP000249646, ISSN: 0030-1388
- See also references of WO 2021087509A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

WO 2021087509 A1 20210506; CN 114846220 A 20220802; EP 4051865 A1 20220907; EP 4051865 A4 20231206; US 2022397008 A1 20221215

DOCDB simple family (application)

US 2020070700 W 20201027; CN 202080090190 A 20201027; EP 20883020 A 20201027; US 202017755364 A 20201027