Title (en)
RESERVOIR SIMULATIONS WITH FRACTURE NETWORKS

Title (de)
RESERVOIRSIMULATIONEN MIT FRAKTURNETZWERKEN

Title (fr)
SIMULATIONS DE RÉSERVOIR INCLUANT DES RÉSEAUX DE FRACTURE

Publication
EP 3338115 A4 20190424 (EN)

Application
EP 16837462 A 20160720

Priority
- US 201562206408 P 20150818
- US 2016043037 W 20160720

Abstract (en)
[origin: WO2017030725A1] Systems and methods are described for performing a reservoir simulation for a subterranean formation with a fracture network by receiving data representing the subterranean formation, obtaining a matrix grid based on the data, where the matrix grid includes matrix grid control volumes, generating a fracture network based on the data, identifying a location of a fracture-fracture intersection within the fracture network, discretizing the fracture network into fracture network control volumes, where the fracture network is discretized independently of the matrix grid, identifying a location of a matrix-fracture intersection between the matrix grid control volumes and fracture network control volumes, calculating a transmissibility for the fracture-fracture intersection and the matrix-fracture intersection, and performing the reservoir simulation based on the transmissibility for the fracture-fracture intersection and the matrix-fracture intersection.

IPC 8 full level
G01V 99/00 (2009.01); **E21B 43/00** (2006.01)

CPC (source: EP US)
E21B 43/00 (2013.01 - EP US); **G01V 20/00** (2024.01 - EP US); **G06F 30/20** (2020.01 - US); E21B 49/00 (2013.01 - US); G01V 2210/646 (2013.01 - EP US); G06F 30/20 (2020.01 - EP)

Citation (search report)
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- [XA] EP 2581767 A1 20130417 - IFP ENERGIES NOUVELLES [FR]
- [XA] WO 2008070526 A2 20080612 - CHEVRON USA INC [US], et al
- [XA] US 2012158380 A1 20120621 - HAJIBEYGI HADI [US], et al
- [XI] ALI MOINFAR ET AL: "Development of an Efficient Embedded Discrete Fracture Model for 3D Compositional Reservoir Simulation in Fractured Reservoirs", SPE JOURNAL, vol. 19, no. 02, 1 April 2014 (2014-04-01), US, pages 289 - 303, XP055571936, ISSN: 1086-055X, DOI: 10.2118/154246-PA
- [A] HUSSEIN MUSTAPHA ET AL: "Discretizing two-dimensional complex fractured fields for incompressible two-phase flow", INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS., vol. 65, no. 7, 10 March 2011 (2011-03-10), GB, pages 764 - 780, XP055571590, ISSN: 0271-2091, DOI: 10.1002/fld.2197
- See also references of WO 2017030725A1

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

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