Title (en)
MODEL-DRIVEN SURVEILLANCE AND DIAGNOSTICS

Title (de)
MODELLGESTEUERTE ÜBERWACHUNG UND DIAGNOSTIK

Title (fr)
SURVEILLANCE ET DIAGNOSTICS PILOTÉS PAR DES MODÈLES

Publication
EP 2893378 A4 20151223 (EN)

Application
EP 13835507 A 20130904

Priority
• US 201261696580 P 20120904
• US 201314016420 A 20130903
• US 2013057901 W 20130904

Abstract (en)
[origin: WO2014039463A1] Performing diagnostic of hydrocarbon production in a field includes generating a thermal-hydraulic production system model of a wellsite and a surface facility in the field, and simulating, using the thermal-hydraulic production system model, and based on multiple root causes, a hydrocarbon production problem to generate a feature vectors corresponding to the root causes. Each of feature vectors includes parameter values corresponding to physical parameters associated with the hydrocarbon production. Performing diagnostic further includes configuring, using the feature vectors, a classifier of the hydrocarbon production problem, detecting the hydrocarbon production problem in the field, analyzing, using the classifier, and in response to detecting the hydrocarbon production problem, surveillance data from the wellsite and the surface facility to identify a root cause, and presenting the root cause to a user. The classifier is configured to classify the hydrocarbon production problem according to the root causes.

IPC 8 full level
E21B 43/00 (2006.01); **E21B 47/00** (2012.01); **G01V 9/00** (2006.01)

CPC (source: EP US)
E21B 43/00 (2013.01 - EP US); **E21B 49/00** (2013.01 - US)

Citation (search report)
• [X] US 2008202763 A1 20080828 - LAFFERTY CHAD [US], et al
• [A] US 2008270328 A1 20081030 - LAFFERTY CHAD [US], et al
• [I] GIACOMO COSENZA ET AL: "A Knowledge-Based Approach to Problem Identification in Producing Wells", EUROPEAN PETROLEUM CONFERENCE, 16 November 1992 (1992-11-16), XP055228708, DOI: 10.2118/24997-MS
• See references of WO 2014039463A1

Cited by
CN106200668A

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

DOCDB simple family (publication)
WO 2014039463 A1 20140313; CA 2883572 A1 20140313; EP 2893378 A1 20150715; EP 2893378 A4 20151223; EP 2893378 B1 20180516; US 2014180658 A1 20140626

DOCDB simple family (application)
US 2013057901 W 20130904; CA 2883572 A 20130904; EP 13835507 A 20130904; US 201314016420 A 20130903