Title (en)

MACHINE, PROGRAM PRODUCT, AND COMPUTER-IMPLEMENTED METHOD TO SIMULATE RESERVOIRS AS 2.5D UNSTRUCTURED GRIDS

Title (de)

MASCHINE, PROGRAMMPRODUKT UND COMPUTERIMPLEMENTIERTES VERFAHREN ZUR SIMULIERUNG VON RESERVOIRS ALS UNSTRUKTIERTE 2,5D-GITTER

Title (fr)

MACHINE, PRODUIT-PROGRAMME ET PROCÉDÉ MIS EN OELIGUVRE PAR ORDINATEUR POUR SIMULER DES RÉSERVOIRS EN TANT QUE GRILLES NON STRUCTURÉES 2.5D

Publication

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Application

EP 11741334 A 20110621

Priority

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Abstract (en)

[origin: CA2803144A1] Example embodiments utilize machines to model reservoir geometry having geological layers as 2.5D unstructured grids. Example embodiments include program products to simulate a reservoir by generating a reservoir data system, performing a numerical fluid flow simulation, and visualizing the simulation. Data system embodiments include data structures to model a reservoir geometry as laterally unstructured two- dimensional (2D) grids and associated layer depths defining z-lines to thereby define a 2.5D unstructured grid, including datasets for: vertices of the grid cells for the future grid top and bottom surfaces, a number and listing of vertices for each grid cell, cell center coordinates, and vertex adjacency information using a compressed sparse row format. Computer- implemented methods include projecting external and internal boundaries onto a future grid surface; generating 2D unstructured, e.g., Voronoi, grids, for the top and bottom surfaces; and generating z-lines of depths corresponding to reservoir layers to thereby generate 2.5D unstructured grids.

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

See references of WO 2011163166A2

Citation (examination)

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