

Title (en)

Method for enhancing recovery of heavy crude oil by in-situ combustion in the presence of strong aquifers

Title (de)

Verfahren zur erhöhten Rückgewinnung schweren Rohöls durch Verbrennung an Ort und Stelle in Gegenwart starker Aquifer

Title (fr)

Procédé pour l'amélioration de la récupération de pétrole brut lourd par la combustion in situ en présence d'aquifères forts

Publication

EP 2025862 A1 20090218 (EN)

Application

EP 07114511 A 20070817

Priority

EP 07114511 A 20070817

Abstract (en)

A method for enhancing recovery of crude oil from a crude oil containing formation (1), which is located adjacent to a strong aquifer (2) comprises: - producing crude oil through at least one crude oil production well (5) having an inflow zone which traverses the crude oil containing formation (1) and in which zone a fluid pressure (or bottomhole pressure or BHP) is lower than a fluid pressure in the aquifer (2); - injecting an oxidant into the crude oil containing formation through one or more oxidant injection wells (3,4) and igniting a mixture of oxidant and crude oil to heat the hydrocarbon containing formation (1) such that the viscosity of at least a substantial fraction of unburned crude oil in the crude oil containing formation (1) is reduced to such a level, preferably to less than 50 cP, that influx of water from the aquifer (2) into the inflow zone of the crude oil production well (5) is reduced; and - allowing the aquifer (2) to sweep the oil into the inflow zone of the production well (5) after oxidant injection has ceased, the viscosity of the produced crude oil being substantially reduced by heating of the reservoir (1).

IPC 8 full level

E21B 43/243 (2006.01); **E21B 43/30** (2006.01); **E21B 43/32** (2006.01)

CPC (source: EP)

E21B 43/243 (2013.01); **E21B 43/305** (2013.01); **E21B 43/32** (2013.01)

Citation (search report)

- [X] US 5244041 A 19930914 - RENARD GERARD [FR], et al
- [X] FR 2676091 A1 19921106 - INST FRANCAIS DU PETROLE [FR]
- [X] US 3517744 A 19700630 - HORTON WILLIAM D
- [A] US 5860475 A 19990119 - EJIOGU GODWIN [CA], et al
- [A] US 5273111 A 19931228 - BRANNAN GERYL O [CA], et al
- [A] WO 9712119 A1 19970403 - AMOCO CORP [US], et al

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA HR MK RS

DOCDB simple family (publication)

EP 2025862 A1 20090218

DOCDB simple family (application)

EP 07114511 A 20070817