



(51) International Patent Classification:
E21B 41/00 (2006.01)

(21) International Application Number:
PCT/US2012/033885

(22) International Filing Date:
17 April 2012 (17.04.2012)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
13/089,436 19 April 2011 (19.04.2011) US

(71) Applicant (for all designated States except US): **SAUDI ARABIAN OIL COMPANY** [SA/SA]; 1 Eastern Avenue, Dhahran, 31311 (SA).

(71) Applicant (for AG only): **ARAMCO SERVICES COMPANY** [US/US]; 9009 West Loop South, Houston, TX 77210-4535 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ALAJMI, Fahad** [SA/SA]; 331 A Doha, Dhahran, 31311 (SA). **AL-HUTHALI, Ahmed** [SA/SA]; Sfind 522, Safaniya Drive, Dhahran, 31311 (SA).

(74) Agent: **RHEBERGEN, Constance, Gall**; Bracewell & Giralaini LLP, P.o. Box 61389, Houston, TX 77208-1389 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:
1 August 2013

(54) Title: WELL SYSTEM WITH LATERAL MAIN BORE AND STRATEGICALLY DISPOSED LATERAL BORES AND METHOD OF FORMING

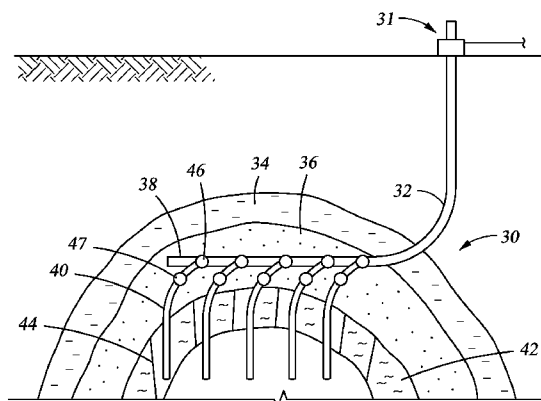


Fig. 2

(57) Abstract: A wellbore system 30 and a method of forming the wellbore system 30, where the wellbore system 30 is made up of a primary wellbore 32 that is disposed entirely above a producing zone 42 and lateral wellbore 40 that extend from the primary wellbore 32 into the producing zone 42. By penetrating the producing, or target, zone with the lateral wellbore 40, fractures 44 in the target zone 42 can be better avoided thereby increasing the potential amount of recoverable hydrocarbon. Optionally, wellbore systems are included that have more than a single primary wellbore 32. Further disclosed is a method of maximizing wellbore production by selectively blocking designated lateral wellbore 40 in which water or other non-hydrocarbon fluid is detected.

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2012/033885

A. CLASSIFICATION OF SUBJECT MATTER
INV. E21B41/00
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B04B E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EP0-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 762 149 A (DONOVAN JOSEPH F [US] ET AL) 9 June 1998 (1998-06-09) abstract figures 3,4 figures 4,6,9 column 8, paragraph 2; figure 14a -----	1-18
X	US 2011/042083 A1 (SIERRA LEOPOLDO [US] ET AL) 24 February 2011 (2011-02-24) abstract figures 2,3,4,8,9 paragraphs [0013], [0057], [0059], [0066] -----	1-18
X	US 2006/157242 A1 (GRAHAM STEPHEN A [US] ET AL) 20 July 2006 (2006-07-20) abstract paragraphs [0049] - [0052] claim 21 -----	1-18

☐

Further documents are listed in the continuation of Box C.

☒

See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

23 April 2013

Date of mailing of the international search report

28/05/2013

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Wehland, Florian

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2012/033885

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5762149	A	09-06-1998	AU 5526496 A 16-10-1996
			EP 0815349 A1 07-01-1998
			GB 2314572 A 07-01-1998
			NO 974471 A 26-11-1997
			US 5762149 A 09-06-1998
			WO 9630625 A1 03-10-1996

US 2011042083	A1	24-02-2011	AR 077885 A1 28-09-2011
			CA 2770177 A1 24-02-2011
			EP 2467573 A2 27-06-2012
			US 2011042083 A1 24-02-2011
			US 2012160484 A1 28-06-2012
			WO 2011020998 A2 24-02-2011

US 2006157242	A1	20-07-2006	BR PI0605923 A2 02-06-2009
			CA 2595018 A1 20-07-2006
			CN 101395338 A 25-03-2009
			MY 143983 A 29-07-2011
			US 2006157242 A1 20-07-2006
			US 2009038792 A1 12-02-2009
			WO 2006076547 A2 20-07-2006
