

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 March 2004 (04.03.2004)

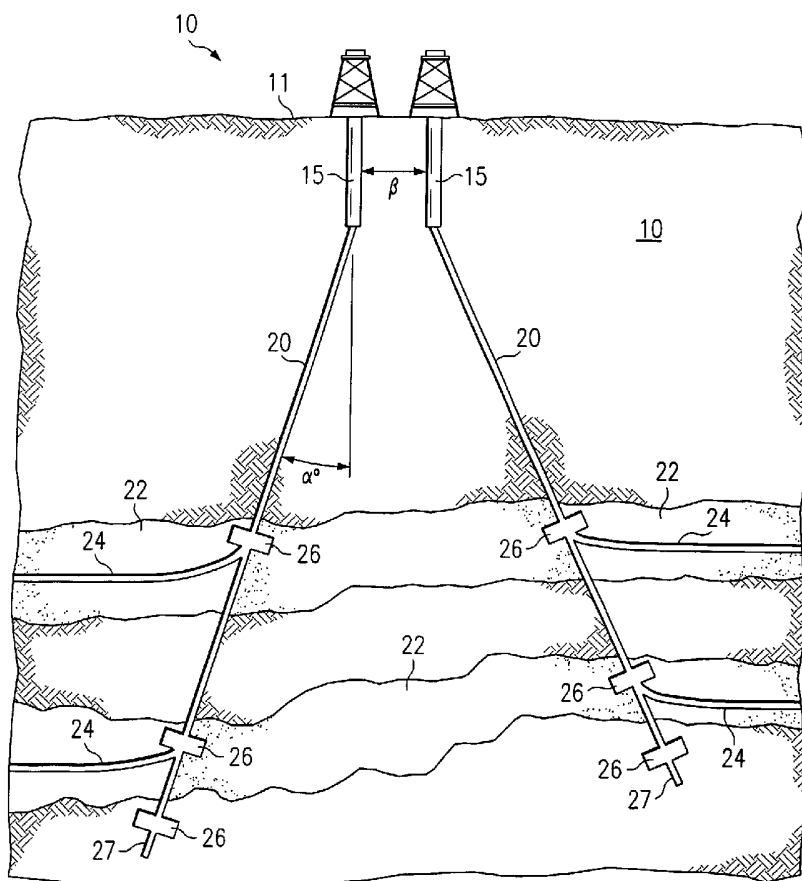
PCT

(10) International Publication Number
WO 2004/018835 A3

- (51) International Patent Classification: **E21B 43/00**, 43/14, 43/30
- (21) International Application Number: PCT/US2003/026124
- (22) International Filing Date: 21 August 2003 (21.08.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 10/227,057 22 August 2002 (22.08.2002) US
- (71) Applicant: **CDX GAS, L.L.C.** [US/US]; Suite 190, 5485 Beltline Road, Dallas, TX 75254-7687 (US).
- (72) Inventor: **ZUPANICK, Joseph, A.**; Post Office Box 1797, Pineville, WV 24874 (US).
- (74) Agent: **STALFORD, Terry, J.**; Baker Botts L.L.P., 2001 Ross Avenue, Suite 600, Dallas, TX 75201-2980 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT (utility model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility model), DE, DK (utility model), DK, DM, DZ, EC, EE, ES, FI (utility model), FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR SUBTERRANEAN ACCESS



(57) Abstract: A system for accessing a subterranean zone from the surface includes a first, second and third entry well bore extending from the surface, the first, second and third entry well bores (15) located on the same drilling pad (92) at the surface. A slanted well bore (20) extends from each of the entry well bores to the subterranean zone (22). A substantially horizontal drainage pattern extends from the slanted well bores into the subterranean zone.

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for all designations*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

(88) Date of publication of the international search report:

25 March 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

Internal Application No
PCT/US 03/26124

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E21B43/00 E21B43/14 E21B43/30

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)
IPC 7 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 practical, search terms used)

EP0-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02 061238 A (CDX GAS L L C) 8 August 2002 (2002-08-08)	1-10, 12-20
Y	page 24, line 15 -page 25, line 7; figure 13	11,21
Y	US 2002/108746 A1 (ZUPANICK JOSEPH A ET AL) 15 August 2002 (2002-08-15) paragraph '0083!; figure 11	11,21
Y	PASICZYNK A: "EVOLUTION SIMPLIFIES MULTILATERAL WELLS" PETROLEUM ENGINEER INTERNATIONAL, HART PUBLICATIONS, US, vol. 73, no. 6, June 2000 (2000-06), pages 53-55, XP000969304 ISSN: 0164-8322 the whole document	11,21



Further documents are listed in the continuation of box C.



Patent family members are listed in 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 document 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

28 January 2004

Date of mailing of the international search report

04/02/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Tompouloglou, C

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/26124

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BREANT P: "DES PUITES >CHEZ TOTAL: LES PUITES MULTI-DRAINS. UNE NOUVELLE TECHNOLOGIE DE FORAGE AU SERVICE D'UN DEVELOPPEMENT OPTIMISE DES RESERVES D'HYDROCARBURES" PETROLE ET TECHNIQUES, ASSOCIATION FRANCAISE DES TECHNICIENS DU PETROLE. PARIS, FR, no. 418, January 1999 (1999-01), pages 42-46, XP000846928 ISSN: 0152-5425 the whole document	11,21
Y	"MULTILATERAL SYSTEM WITH FULL RE-ENTRY ACCESS INSTALLED" WORLD OIL, GULF PUBLISHING CO. HOUSTON, US, vol. 217, no. 6, 1 June 1996 (1996-06-01), page 29 XP000596577 ISSN: 0043-8790 the whole document	11,21
A	WO 02 059455 A (CDX GAS L L C) 1 August 2002 (2002-08-01) abstract; figure 5	1,12

INTERNATIONAL SEARCH REPORT

Information on patent family members

Intel International Application No

PCT/US 03/26124

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02061238	A	08-08-2002	US 6662870 B1	16-12-2003
			CA 2436085 A1	08-08-2002
			WO 02061238 A1	08-08-2002
			US 2002189801 A1	19-12-2002
			US 2003217842 A1	27-11-2003
US 2002108746	A1	15-08-2002	US 2002100616 A1	01-08-2002
			US 2002134546 A1	26-09-2002
			US 6357523 B1	19-03-2002
			US 6280000 B1	28-08-2001
			CA 2436059 A1	08-08-2002
			WO 02061233 A1	08-08-2002
			US 2002117297 A1	29-08-2002
			US 6679322 B1	20-01-2004
			US 2002096336 A1	25-07-2002
			US 2002148613 A1	17-10-2002
			US 2002148605 A1	17-10-2002
			US 6454000 B1	24-09-2002
			US 6598686 B1	29-07-2003
			US 2002148647 A1	17-10-2002
			US 2001015574 A1	23-08-2001
			US 2001010432 A1	02-08-2001
			AU 760896 B2	22-05-2003
			AU 3101800 A	13-06-2000
			CA 2350504 A1	02-06-2000
			CA 2441667 A1	02-06-2000
			CA 2441671 A1	02-06-2000
			CA 2441672 A1	02-06-2000
			CA 2447254 A1	02-06-2000
			CN 1333858 T	30-01-2002
			CZ 20011757 A3	12-02-2003
			EP 1316673 A2	04-06-2003
			EP 1131535 A2	12-09-2001
			ID 30391 A	29-11-2001
			NZ 512303 A	29-08-2003
			NZ 527146 A	28-11-2003
			NZ 528538 A	28-11-2003
			PL 348705 A1	03-06-2002
			WO 0031376 A2	02-06-2000
			ZA 200103917 A	14-01-2002
WO 02059455	A	01-08-2002	US 6598686 B1	29-07-2003
			CA 2435221 A1	01-08-2002
			EP 1354124 A1	22-10-2003
			WO 02059455 A1	01-08-2002