



— *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:

11 December 2014

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/021251

A. CLASSIFICATION OF SUBJECT MATTER
INV. E21B17/08 E21B17/06 F16L25/06
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)
E21B F16L

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)

EPO-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	WO 99/04131 A1 (WEATHERFORD LAMB [US]; LUCAS BRIAN RONALD [GB]) 28 January 1999 (1999-01-28) figure 1 page 4, lines 22-24	1-7
X	US 2010/164223 A1 (CURTISS III JASON POST [US] ET AL) 1 July 2010 (2010-07-01) figure 4A paragraphs [0041] - [0044]	1-3,5-7, 16-21
X	GB 2 199 103 A (POND LTD R J) 29 June 1988 (1988-06-29) figure 1 pages 5-9	1,2,5-7, 16-21
	----- -/-	



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

21 July 2014

Date of mailing of the international search report

13/10/2014

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

Brassart, P

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/021251

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 1 199 029 A (HOVIS PARK S [US]) 19 September 1916 (1916-09-19) figures 2-3 column 2, lines 102-110 -----	1,6,7
X	WO 2011/147882 A1 (MAERSK SUPPLY SERVICE AS [DK]; ELMBO NIELS [DK]; DANIELSEN THOMAS [DK]) 1 December 2011 (2011-12-01) figures 1-2 abstract -----	16,17
A	Sigbjorn Sangesland ET AL: "Riserless Casing While Drilling Using a Dual Gradient Mud System", Proceedings of the Eleventh International Offshore and Polar Engineering Conference, 17 June 2001 (2001-06-17), pages 1098-6189, XP055130376, Retrieved from the Internet: URL:https://www.onepetro.org/conference-pa per/ISOPE-I-01-157 [retrieved on 2014-07-21] figures 1,3,6 -----	1
A	WO 2009/153567 A1 (ENOVATE SYSTEMS LTD [GB]; EDWARDS JEFFREY CHARLES [GB]; RANKIN DEWI GR) 23 December 2009 (2009-12-23) figures 1, 4-6 page 8, lines 6-9 -----	1
A	US 4 479 669 A (HYNES JOSEPH H [US]) 30 October 1984 (1984-10-30) figures 1-3 abstract -----	1
A	WO 2013/014440 A2 (EXPRO NORTH SEA LTD [GB]; TENNANT ALISTAIR [GB]; DEACON PAUL [GB]) 31 January 2013 (2013-01-31) figures 1-4B pages 8-13 -----	1
A	US 5 086 843 A (MIMS MICHAEL G [US] ET AL) 11 February 1992 (1992-02-11) figures 1-2 column 1, lines 5-9 columns 2-6 -----	1
A	US 3 345 087 A (HANES JAMES W E ET AL) 3 October 1967 (1967-10-03) the whole document -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2014/021251

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-7, 16-21

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-7, 16-21

Emergency breakaway connection

2. claims: 8-15, 22-24

Intervention coupling

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2014/021251

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9904131	A1	28-01-1999	AU 8448098 A 10-02-1999
		CA 2296486 A1 28-01-1999	
		DE 69808094 D1 24-10-2002	
		DE 69808094 T2 28-05-2003	
		EP 0995007 A1 26-04-2000	
		US 6224112 B1 01-05-2001	
		WO 9904131 A1 28-01-1999	
US 2010164223	A1	01-07-2010	CN 102333933 A 25-01-2012
		EP 2379837 A2 26-10-2011	
		US 2010164223 A1 01-07-2010	
		WO 2010078366 A2 08-07-2010	
GB 2199103	A	29-06-1988	AU 8254487 A 30-06-1988
		EP 0274883 A1 20-07-1988	
		GB 2199103 A 29-06-1988	
		JP S63190994 A 08-08-1988	
		NO 875415 A 27-06-1988	
US 1199029	A	19-09-1916	NONE
WO 2011147882	A1	01-12-2011	NONE
WO 2009153567	A1	23-12-2009	AU 2009261742 A1 23-12-2009
		CA 2728417 A1 23-12-2009	
		DK 2310613 T3 26-05-2014	
		EP 2310613 A1 20-04-2011	
		ES 2456350 T3 22-04-2014	
		US 2011127041 A1 02-06-2011	
		WO 2009153567 A1 23-12-2009	
US 4479669	A	30-10-1984	NONE
WO 2013014440	A2	31-01-2013	AU 2012288618 A1 23-01-2014
		CA 2842545 A1 31-01-2013	
		EP 2737158 A2 04-06-2014	
		GB 2493172 A 30-01-2013	
		US 2014190703 A1 10-07-2014	
		WO 2013014440 A2 31-01-2013	
US 5086843	A	11-02-1992	AU 8639591 A 28-04-1992
		CN 1061069 A 13-05-1992	
		IE 913324 A1 08-04-1992	
		US 5086843 A 11-02-1992	
		WO 9206269 A1 16-04-1992	
US 3345087	A	03-10-1967	DE 1237035 B 23-03-1967
		GB 1107273 A 27-03-1968	
		GB 1120162 A 17-07-1968	
		NL 6507661 A 20-12-1965	
		US 3345087 A 03-10-1967	