(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau

AIPO OMPI



(43) International Publication Date 19 May 2011 (19.05.2011)

(10) International Publication Number WO 2011/059555 A3

(51) International Patent Classification: E21B 47/12 (2006.01) E21B 47/09 (2006.01) E21B 47/04 (2006.01)

(21) International Application Number:

PCT/US2010/048434 (75) Inver

(22) International Filing Date:

10 September 2010 (10.09.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

12/609,589

39 30 October 2009 (30.10.2009)

US

(71) Applicant (for all designated States except US): INTEL-LISERV INTERNATIONAL HOLDING, LTD.; MCCS P. O. Box 309GT Ugland House, South Church Street, Cayman Islands, George Town, Grand Cayman (KY).

(72) Inventors; and

(75) Inventors/Applicants (for US only): MEHTA, Shyam [US/US]; 4406 Captains Court, Missouri City, Texas 77459 (US). BORDAKOV, Georgiy [RU/US]; 6303 Brazos Traces Court, Richmond, Texas 77469 (US).

(74) Agents: MOSCICKI, Matthew, R. et al.; CONLEY ROSE, P.C., P. O. Box 3267, Houston, Texas 77253-3267 (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,

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR DETERMINING STRETCH OR COMPRESSION OF A DRILL STRING

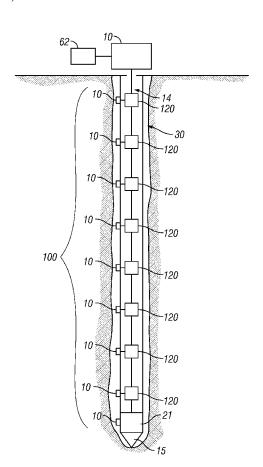


FIG. 2

(57) Abstract: A system and a method for determining stretch or compression of a drill string is disclosed. Sensors are positioned along the drill string for collecting data for determining the stretch or compression. The stretch or the compression of the drill string may be used to calculate depths at which measurements are obtained by tools associated with the drill string.

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, RO, RS, RU, 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, 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, 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:

7 July 2011

International application No.

PCT/US2010/048434

Α. CLASSIFICATION OF SUBJECT MATTER

E21B 47/12(2006.01)i, E21B 47/04(2006.01)i, E21B 47/09(2006.01)i

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

FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E21B 47/12; E21B 47/04; E21B 44/00; G01V 9/00; E21B 47/022; E21B 47/16

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean utility models and applications for utility models Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS(KIPO internal) & Keywords:drill string, stretch, compression, snesor, depth

DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 2009-0260876 A1 (GLEITMAN DANIEL D.) 22 October 2009 See abstract, paragraphs 21-37, 53-57, 65-69 and figures 1,2,10.	1,6 2-3,5,7-8,10-11 ,13-15
A		4,9,12,16-20
Y	WO 2005-033473 A1 (SCHLUMBERGER TECHNOLOGY B.V. et al.) 14 April 2005 See pages 2-4, 7-8.	2-3,5,7-8,10-11 ,13-15
A	WO 2009-064728 A1 (SCHLUMBERGER CANADA LIMITED et al.) 22 May 2009 See abstract, pages 13-14 and figure 3.	1-20
A	US 2009-0059722 A1 (PRIEST JOHN F.) 05 March 2009 See abstract, pages 2-3, 5 figure 1.	1-20

	7				
- 1	Further documents ar	e listed in	the continue	ation of Boy C	

See patent family annex.

- Special categories of cited documents:
- document defining the general state of the art which is not considered to be of particular relevance
- earlier application or patent but published on or after the international filing date
- document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
- document referring to an oral disclosure, use, exhibition or other
- document published prior to the international filing date but later than the priority date claimed
- 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
- 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
- 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 mailing of the international search report

Date of the actual completion of the international search

06 MAY 2011 (06.05.2011)

09 MAY 2011 (09.05.2011)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office Government Complex-Daejeon, 189 Cheongsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KANG, Min Sug

Telephone No. 82-42-481-5860



INTERNATIONAL SEARCH REPORT

International application No.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0260876 A1	22.10.2009	None	
WO 2005-033473 A1	14.04.2005	CA 2540648 A1 N020061563A US 2009-0038392 A1	14.04.2005 28.04.2006 12.02.2009
WO 2009-064728 A1	22.05.2009	WO 2009-064732 A1	22.05.2009
US 2009-0059722 A1	05.03.2009	WO 2009-032592 A1	12.03.2009