9612129-8

PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : E21B 47/12 — A1

(11) International Publication Number: WO 96/00836

(43) International Publication Date: 11 January 1996 (11.01.96)

(21) International Application Number: PCT/GB95/01174

(22) International Filing Date: 23 May 1995 (23.05.95)

(30) Priority Data: 9413141.4 — 30 June 1994 (30.06.94) — GB

(71) Applicant *(for all designated States except US)*: EXPRO NORTH SEA LIMITED [GB/GB]; Kirkhill Place, Kirkhill Industrial Estate, Dyce, Aberdeen AB2 0ES (GB).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: EDWARDS, Jeffrey, Charles [GB/GB]; East Woodlands, Kinaldie, Dyce, Aberdeen AB2 0HD (GB).

(74) Agents: McCALLUM, William, Potter et al.; Cruikshank & Fairweather, 19 Royal Exchange Square, Glasgow G1 3AE (GB).

(81) Designated States: AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TT, UA, UG, US, UZ, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC; NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG), ARIPO patent (KE, MW, SD, SZ, UG).

Published

With international search report.

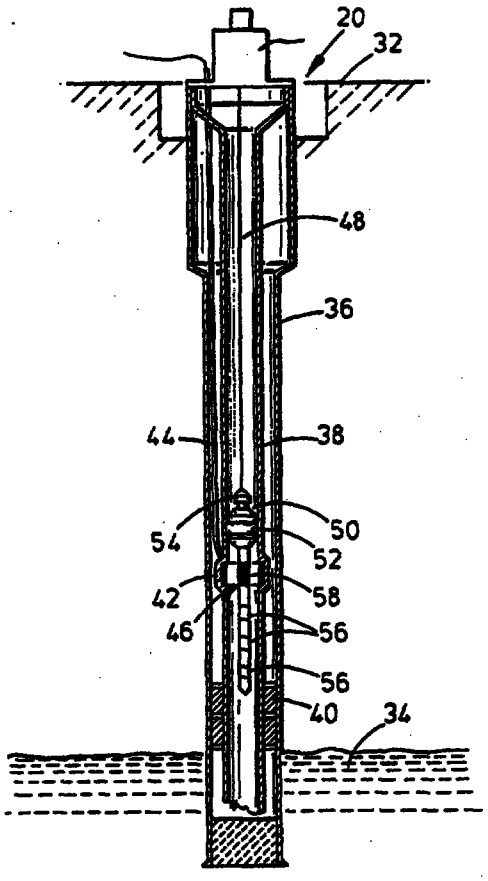
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

RTMP COPY

(54) Title: DOWNHOLE DATA TRANSMISSION

(57) Abstract

Apparatus for enabling electric signals to be transmitted between a device such as a sonde (46) positioned inside the tubing (38) of a well (30) and a region outside the tubing. In a preferred embodiment the apparatus comprises a transmitter coil (58) in the sonde (46) and a receiver coil (42) coupled to the tubing (38). The sonde (46) is coupled via wireline (48) to the surface and the receiver coil (42) is also coupled to the surface via a permanently installed cable (44). At least one measurement instrument (56) is located in the sonde such that measurement signals passed to said transmitter (58) are coupled to said receiver coil (42) and to the surface. The transmitter and receiver permit bidirectional communication and electrical power can be transmitted from the surface via said permanently installed cable such that single-phase or multi-phase power can be transmitted to drive downhole equipment, which may be coupled to the sonde.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	**GB**	United Kingdom	**MR**	Mauritania
AU	Australia	**GE**	Georgia	**MW**	Malawi
BB	Barbados	**GN**	Guinea	**NE**	Niger
BE	Belgium	**GR**	Greece	**NL**	Netherlands
BF	Burkina Faso	**HU**	Hungary	**NO**	Norway
BG	Bulgaria	**IE**	Ireland	**NZ**	New Zealand
BJ	Benin	**IT**	Italy	**PL**	Poland
BR	Brazil	**JP**	Japan	**PT**	Portugal
BY	Belarus	**KE**	Kenya	**RO**	Romania
CA	Canada	**KG**	Kyrgystan	**RU**	Russian Federation
CF	Central African Republic	**KP**	Democratic People's Republic of Korea	**SD**	Sudan
CG	Congo			**SE**	Sweden
CH	Switzerland	**KR**	Republic of Korea	**SI**	Slovenia
CI	Côte d'Ivoire	**KZ**	Kazakhstan	**SK**	Slovakia
CM	Cameroon	**LI**	Liechtenstein	**SN**	Senegal
CN	China	**LK**	Sri Lanka	**TD**	Chad
CS	Czechoslovakia	**LU**	Luxembourg	**TG**	Togo
CZ	Czech Republic	**LV**	Latvia	**TJ**	Tajikistan
DE	Germany	**MC**	Monaco	**TT**	Trinidad and Tobago
DK	Denmark	**MD**	Republic of Moldova	**UA**	Ukraine
ES	Spain	**MG**	Madagascar	**US**	United States of America
FI	Finland	**ML**	Mali	**UZ**	Uzbekistan
FR	France	**MN**	Mongolia	**VN**	Viet Nam
GA	Gabon				

96 12 129 - 8