

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau9202119-9
1995 COPY

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : E21B 17/10, 17/046		A1	(11) International Publication Number: WO 97/08423
			(43) International Publication Date: 6 March 1997 (06.03.97)
(21) International Application Number: PCT/GB96/02123		(81) Designated States: AL, AM, AT, AU, AZ, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, 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).	
(22) International Filing Date: 30 August 1996 (30.08.96)			
(30) Priority Data: 9517649.1 30 August 1995 (30.08.95) GB 9520549.8 7 October 1995 (07.10.95) GB			
(71) Applicant (for all designated States except US): DRILLTECH SERVICES (NORTH SEA) LIMITED [GB/GB]; Drilltech House, South Middleton Base, Greenwell Road, East Tullis, Aberdeen AB12 3AX (GB).		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.	
(72) Inventors; and (75) Inventors/Applicants (for US only): APPLETON, Robert, Patrick [NZ/GB]; Tornaveen, Banchory, Aberdeenshire AB31 4NY (GB). BASTEGAR, Gholam, Hossein [AU/GB]; 2 Culter Den, Peterculter, Aberdeenshire AB14 0WA (GB).			
(74) Agents: McCALLUM, William, Potter et al.; Cruickshank & Fairweather, 19 Royal Exchange Square, Glasgow G1 3AE (GB).			

(54) Title: FRICTION-REDUCING DRILL PIPE COMPONENT

(57) Abstract

The friction-reducing drill pipe component in the form of a sub (10) is adapted to form part of a drill string. The sub (10) comprises a tubular mandrel (12) having first and second ends for connection to adjacent components of the drill string. A sleeve (18) is mounted on the mandrel (12), and first and second stops on the mandrel (16, 20) restrain the sleeve (18) against axial movement relative to the mandrel (12). One of the stops (20) is removable or retractable to permit the sleeve (18) to be removed over the first end of the mandrel.

