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(21) International Application Number: PCT/GB96/01713 (22) International Filing Date: 17 July 1996 (17.07.96) (30) Priority Data: 9514569.4 9603013.5 9607873.8 17 July 1995 (17.07.95) 14 February 1996 (14.02.96) 16 April 1996 (16.04.96) GB GB GB (71) Applicant (for all designated States except US): THE RED BARON (OIL TOOLS RENTAL) LIMITED [GB/GB]; Blackness Avenue, Altens, Aberdeen AB1 4PG (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): McGARIAN, Bruce [GB/GB]; 23 East Glebe, Stonehaven, Aberdeen AB3 2HW (GB). BRUCE, Ronald, James [GB/GB]; Morven View, Lumphanan, Aberdeen AB31 4QB (GB). (74) Agents: GOODENOUGH, Nigel et al.; A.A. Thornton & Co., Northumberland House, 303-306 High Holborn, London WC1V 7LE (GB).		(81) Designated States: AU, CA, NO, RU, <u>SG</u> , US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>
(54) Title: BRANCH BOREHOLES (57) Abstract A method of forming and lining a branch borehole comprises installing a packer in a main borehole, installing a whipstock on the packer, milling a window in the main borehole casing using the whipstock, recovering the whipstock, and then installing a deflector (20) to deflect a lining into the lateral. The external diameter (D) of the deflector is less than the internal diameter of the casing of the main borehole so as to permit subsequent milling away of cement and surplus lining material using a washover tool or thin walled mill. The preferred deflector includes a relatively steep deflector face (21) at the upper end of the deflector and a relatively shallow deflector face (22) which connects the lower end (23) of the face (21) to the full diameter (D) of the deflector. If it is desired to use the maximum possible diameter casing for the lateral, portions of the formation and/or the main borehole casing are removed by an appropriate tool after the deflector (20) has been positioned within the borehole.		