

Title (en)
IMPROVEMENTS IN OR RELATING TO ROTARY DRILL BITS

Publication
EP 0225082 A3 19880727 (EN)

Application
EP 86308791 A 19861112

Priority
GB 8528299 A 19851116

Abstract (en)
[origin: EP0225082A2] A rotary drill bit comprises a bit body (10) having a leading face (11) and a gauge region (12), a plurality of blades (13) extending across the leading face (11) of the bit body (10), a plurality of cutting elements (8) mounted along each blade, an exit channel (18) in the gauge region (12) of the bit body (10) between each pair of adjacent blades (13), a plurality of nozzles (19a,19b,19c,19d) in the leading face (11) of the bit, each nozzle having a central axis (20) which also forms the central axis of the jet of drilling fluid emerging from the nozzle, and a passage (6) in the bit body (10) for supplying drilling fluid to said openings (19a-19d). At least one nozzle is located between each pair of adjacent blades (13), and the nozzles are inclined at different angles, or are otherwise differently located, so that, in use, the central axes of nozzles between different pairs of adjacent blades (13) intersect the surface of the formation (21) being drilled at different distances from the axis of rotation of the bit, so that the jets of drilling fluid emerging from the nozzles, between them, sweep over the whole of the surface of the formation as the bit rotates.

IPC 1-7
E21B 10/60; **E21B 10/56**; **E21B 10/46**

IPC 8 full level
E21B 10/56 (2006.01); **E21B 10/567** (2006.01); **E21B 10/60** (2006.01)

CPC (source: EP US)
E21B 10/602 (2013.01 - EP); **E21B 10/61** (2013.01 - EP US)

Citation (search report)
• [X] US 4499958 A 19850219 - RADTKE ROBERT P [US], et al
• [Y] EP 0140676 A2 19850508 - NL PETROLEUM PROD [GB]
• [A] EP 0043609 A1 19820113 - SHELL INT RESEARCH [NL]
• [A] US 3112803 A 19631203 - ROWLEY DAVID S
• [A] EP 0146252 A2 19850626 - FLOW IND INC [US]

Cited by
EP0624707A3; EP0370717A1; EP0556648A1; CN113404439A; CN117046890A; US5794725A; US5836404A; US6079507A; WO2012051648A1; US6302223B1; BE1014241A5

Designated contracting state (EPC)
BE CH DE FR LI NL SE

DOCDB simple family (publication)
EP 0225082 A2 19870610; **EP 0225082 A3 19880727**; GB 2183693 A 19870610; GB 8528299 D0 19851218; GB 8627050 D0 19861210

DOCDB simple family (application)
EP 86308791 A 19861112; GB 8528299 A 19851116; GB 8627050 A 19861112