

Title (en)
Flow nozzle assembly

Title (de)
Düsenanordnung

Title (fr)
Dispositif de buse

Publication
EP 1609946 B1 20080220 (EN)

Application
EP 05012494 A 20050610

Priority
US 87624904 A 20040623

Abstract (en)
[origin: EP1609946A2] The present invention generally provides apparatuses and methods for an improved shunt nozzle which is part of an alternative pathway for a slurry to by-pass an obstruction such as a sand bridge during gravel packing. In one embodiment, the nozzle has a hardened insert that lines a surface of a hole in the shunt and seats on a surface of a wall proximate the hole, thereby restraining movement of the insert relative to the shunt for welding an outer jacket to the shunt.

IPC 8 full level
E21B 43/08 (2006.01); **E21B 41/00** (2006.01)

CPC (source: EP)
E21B 41/0078 (2013.01); **E21B 43/08** (2013.01)

Cited by
EP2167787A4; GB2426989B; GB2443306A; GB2443306B; US9677383B2; US9097104B2; US7597141B2

Designated contracting state (EPC)
BE DE FR GB

DOCDB simple family (publication)
EP 1609946 A2 20051228; EP 1609946 A3 20060301; EP 1609946 B1 20080220; DE 602005004836 D1 20080403;
DE 602005004836 T2 20090212; NO 20052738 D0 20050608; NO 20052738 L 20051227; NO 331548 B1 20120123

DOCDB simple family (application)
EP 05012494 A 20050610; DE 602005004836 T 20050610; NO 20052738 A 20050608