Title: CERAMIC COMPONENTS FOR HIGH PRESSURE OIL WELLS

Abstract: A pressure reducing assembly for high pressure oil wells is disclosed. The assembly includes a metallic body having inlet and outlet channels that are lined with ceramic inserts. The assembly may also include a removable pressure reducing device that is preferably formed of a ceramic material. Pipe spool pieces associated with the pressure reducing assembly transition the narrow interior flow diameter of the assembly to the larger interior flow diameter of downstream oil process piping. The spool pieces have metallic bodies, with flow channels that are lined with ceramic inserts. The ceramic inserts are disposed within the metallic spool, and are preferably designed with a flow channel taper that gradually increase the interior flow diameter from that of the outlet channel of the pressure reducing assembly to that of the process piping. The use of the ceramic inserts and liners in the pressure reducing assembly provides a method for increasing the operating life of the flow control components of high pressure oil wells.

(88) Date of publication of the international search report: 31 January 2002

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:
— with international search report
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E21B17/10 E21B34/02 F16K25/00

According to International Patent Classification (IPC) or to both national classification and IPC.

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 E21B F16K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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<th>Relevant to claim No.</th>
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Further documents are listed in the continuation of box C.

Date of the actual completion of the international search

23 July 2001

Date of mailing of the international search report

30/07/2001

Authorized officer

Weiand, T

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