(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
30 March 2006 (30.03.2006)

PCT

(10) International Publication Number
WO 2006/032076 A1

(51) International Patent Classification[7]: E21B 43/01, 43/36, 49/08, 47/12

(21) International Application Number:
PCT/AU2005/001347

(22) International Filing Date:
5 September 2005 (05.09.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2004905412 21 September 2004 (21.09.2004) AU

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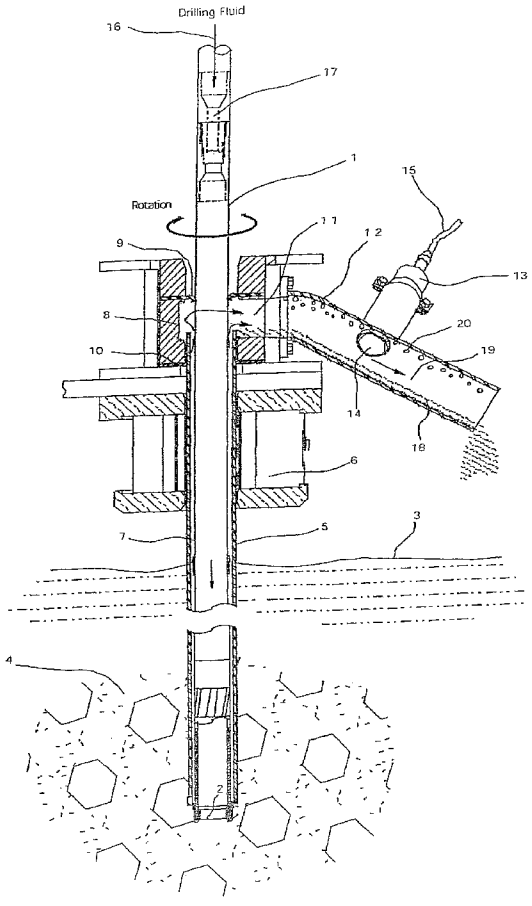
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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,

[Continued on next page]

(54) Title: REMOTE GAS MONITORING APPARATUS FOR SEABED DRILLING



(57) Abstract: Gas monitoring apparatus associated with a remotely operated seabed system, the apparatus including a detector which is adapted so as to enable detection and/or measurement in real time the interception of shallow gas in a bore hole. In one form the gas monitoring apparatus is suitable for use with a drilling rig for drilling into a sea bed, the drilling rig including a drill string. The gas monitoring apparatus includes a housing with a collecting chamber therein for receiving drilling fluid returns which result from a drilling operation. The apparatus further includes a discharge conduit for discharging the drilling fluid returns from the collecting chamber, the collecting chamber and discharge conduit being configured so that the drilling fluid is discharged in a stratified flow which includes a predominantly dissolved gas containing phase, and if present a free gaseous phase. A gas sensor is associated with the discharge conduit and positioned so as to sense any gas in the predominantly dissolved gas containing phase and transmit the measured gas concentration signal in real-time to a surface operating station. In another form the apparatus includes a gas monitoring probe assembly suitable for use with a drilling rig for drilling into a sea bed, the gas monitoring probe assembly including a housing attachable to one end of a drill string of the rig and which includes a gas sensor having a gas sensor face within the housing.

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RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report*

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