



(51) International Patent Classification:
G01V 5/04 (2006.01) **E21B 47/00** (2006.01)
G01V 13/00 (2006.01)

(74) Agents: **MOSCICKI, Matthew, R.** et al.; CONLEY ROSE, P.C., P. O. Box 3267, Houston, Texas 77253-3267 (US).

(21) International Application Number:
PCT/US2010/035672

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

(22) International Filing Date:
20 May 2010 (20.05.2010)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/180,081 20 May 2009 (20.05.2009) US

(71) Applicant (*for all designated States except US*): **HAL-LIBURTON ENERGY SERVICES, INC.** [US/US]; 10200 Bellaire Boulevard, Houston, Texas 77072 (US).

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK,

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): **ORTIZ, Ricardo** [US/US]; 1116 Smallwood, Houston, Texas 77023 (US).

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(54) Title: DOWNHOLE SENSOR TOOL FOR NUCLEAR MEASUREMENTS

(57) Abstract: A downhole measurement apparatus includes a tool body supporting a logging tool. The logging tool includes a detector outsert coupled into and exposed through an exterior pocket of the tool body to position the outer surface of the outsert adjacent or in close proximity to the outer diameter of the tool body. A stabilizer or off-center stabilizer may be provided to further deflect the outsert portion of the logging tool toward an earth formation to increase detector proximity to the formation. The axial distance between the detector and a nuclear source can be calibrated using configurations of the nuclear source holder and the outsert. Retention mechanisms for the source holder and the outsert further enhance proximity and calibration.

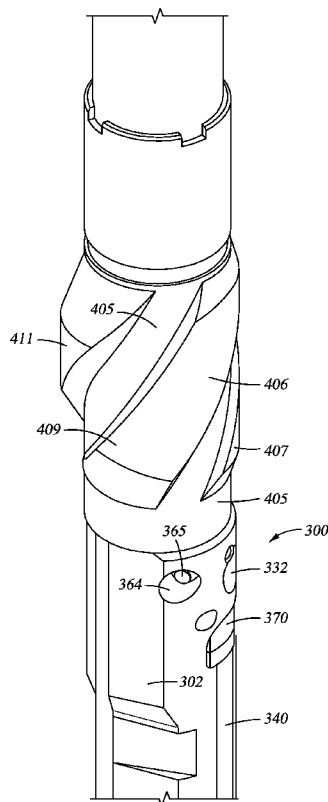


Fig. 15



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

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:

31 March 2011