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(54) Title: METHODS AND MEANS FOR NEUTRON IMAGING WITHIN A BOREHOLE

(57) Abstract: A borehole neutron imaging tool having a two-dimensional array of neutron detector crystals, wherein said tool includes at least a source of neutrons; at least one collimated imaging detector to record images created by incident neutrons; sonde-dependent electronics; and a plurality of tool logic electronics and power supply units. A method for borehole neutron imaging, the method including controlling the direction of incident neutrons onto the imaging array; imaging said borehole surroundings; and creating a composite image of the materials surrounding the formation.

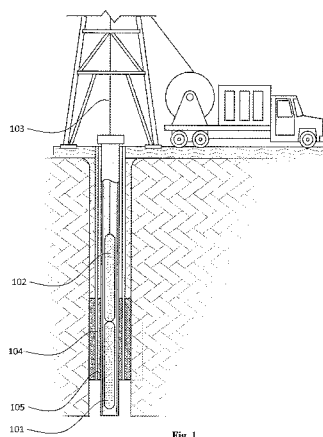


Fig. 1



INTERNATIONAL SEARCH REPORT

International application No
PCT/US2019/018056

A. CLASSIFICATION OF SUBJECT MATTER
INV. G01V5/10
ADD.

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)
G01V

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 practicable, search terms used)

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2012/068057 A2 (SCHLUMBERGER TECHNOLOGY CORP [US]; SCHLUMBERGER CA LTD [CA] ET AL.) 24 May 2012 (2012-05-24)	1-3,6,10
Y	paragraphs [0018] - [0019], [0024], [0028] - [0031]; figures 1, 4, 5, 6c-e, 8 -----	7,8,12
X	WO 2016/153524 A1 (HALLIBURTON ENERGY SERVICES INC [US]) 29 September 2016 (2016-09-29)	1,4,5, 9-11,13
	paragraphs [0021], [0024], [0058], [0060], [0068]; figure 1 -----	
Y	WO 2015/187387 A1 (QUANTICO ENERGY SOLUTIONS LLC [US]) 10 December 2015 (2015-12-10)	7,12
	paragraphs [0013], [0036] ----- -/-	



Further documents are listed in the continuation of Box C.



See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 3 862 418 A (PREISS KENNETH) 21 January 1975 (1975-01-21) column 5, lines 26-29; figure 5 -----	8

INTERNATIONAL SEARCH REPORT

Information on patent family members

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