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(54) Title: DRILLINGS FLUIDS CONTAINING AN ALKALI METAL FORMATE

(57) Abstract: A drilling fluid or mud is described wherein the drilling fluid contains at least one alkali metal formate or monovalent carboxylic acid salt. The drilling fluid preferably further contains at least one emulsifier or surfactant and at least one hydrocarbon-based fluid. The drilling fluids of the present invention can contain other conventional ingredients. The present invention permits drilling fluids to be essentially solids free due to the use of the alkali metal formate.



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INTERNATIONAL SEARCH REPORT

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 IPC 7 C09K7/02 C09K7/06

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B. FIELDS SEARCHED

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IPC 7 C09K

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 127 319 A (HOUSE ROY F) 3 October 2000 (2000-10-03) column 1, line 25 - line 62 column 3, line 1 -column 4, line 59 ---	1-16
X	US 5 962 375 A (MEHTA SHREEKANT BABULAL ET AL) 5 October 1999 (1999-10-05) column 1, line 36 -column 3, line 11 example 1 claims ---	1,2,4-6, 12,13, 15,16
X	WO 99 48994 A (SJOEGREEN CARL AXEL ;PERSTORP AB (SE); SALLMEN BENGT (SE)) 30 September 1999 (1999-09-30)	1,12
A	page 1, line 15 -page 2, line 16 --- -/--	2-11, 13-16



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Patent family members are listed in 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.
X,P	US 6 239 081 B1 (KORZILIUS JOACHIM ET AL) 29 May 2001 (2001-05-29) column 1, line 11 - line 57 column 2, line 27 -column 3, line 7 ---	1,12
X,P	WO 01 59256 A (HALLIBURTON ENERGY SERV INC) 16 August 2001 (2001-08-16)	1-3,9, 12,13, 15,16
A,P	page 3, line 24 -page 5, line 2 claims 12,13,17-20 ---	4-8,10, 11,14
A	HALLMAN J H: "USE OF FORMATE-BASED FLUIDS FOR DRILLING AND COMPLETION" OFFSHORE, PETROLEUM PUBLISHING CO. TULSA, US, vol. 56, no. 8, 1 August 1996 (1996-08-01), pages 63-64,82,84, XP000633254 ISSN: 0030-0608 the whole document -----	1-16

INTERNATIONAL SEARCH REPORT
information on patent family members

International Application No
PCT/US 02/04366

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6127319	A	03-10-2000	US 5916849 A	29-06-1999
			US 5977030 A	02-11-1999
			AU 3890399 A	14-02-2000
			BR 9912417 A	17-04-2001
			EP 1114115 A1	11-07-2001
			NO 20010384 A	20-03-2001
			WO 0005322 A1	03-02-2000
US 5962375	A	05-10-1999	GB 2294485 A	01-05-1996
			AU 3606395 A	29-03-1996
			DE 69514323 D1	10-02-2000
			EP 0729497 A1	04-09-1996
			NO 961961 A	14-05-1996
			CA 2175923 A1	21-03-1996
			WO 9608543 A1	21-03-1996
WO 9948994	A	30-09-1999	SE 514022 C2	11-12-2000
			AU 2965899 A	18-10-1999
			SE 9800958 A	24-09-1999
			WO 9948994 A1	30-09-1999
US 6239081	B1	29-05-2001	DE 19840632 A1	09-03-2000
			EP 0992563 A1	12-04-2000
			NO 994291 A	07-03-2000
WO 0159256	A	16-08-2001	WO 0159256 A1	16-08-2001