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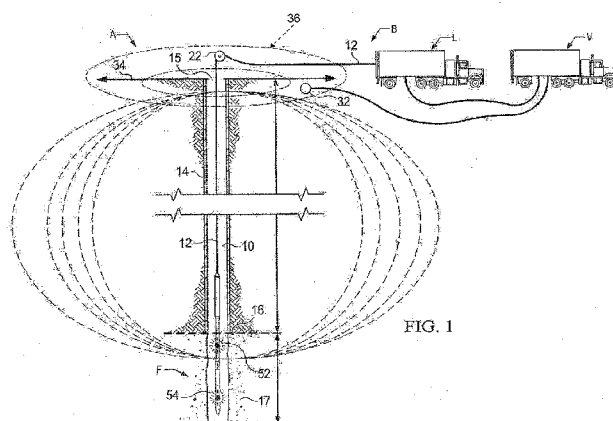
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(54) Title: BOREHOLE TO SURFACE ELECTROMAGNETIC TRANSMITTER



(57) Abstract: An electromagnetic energy transmitter is provided for borehole to surface electromagnetic (BSEM) surveying. The transmitter is lowered into a well borehole to a desired location in a well borehole to emit electromagnetic energy for the surveys. The transmitter affords more accurate measurements of its position in the well borehole by means of a casing collar locator mounted in the sonde body which forms a measure of the number of casing collars past which the source and sonde body travel. The transmitter also senses pressure and temperature conditions at its borehole location to provide indications of detected potential problems in the well from the survey or other sources, and to reduce risks and enhance safety and quality of the operations.



— *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))*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
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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)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2009/158189 A2 (SCHLUMBERGER CA LTD [CA]; SCHLUMBERGER TECHNOLOGY BV [NL]; PRAD RES &) 30 December 2009 (2009-12-30) figures 1,2 paragraphs [0002], [0003] paragraphs [0005], [0006] paragraphs [0015], [0016] paragraph [0019] paragraphs [0027], [0028] paragraphs [0033] - [0035] -----	1-11
A	US 4 739 325 A (MACLEOD NORMAN C [US]) 19 April 1988 (1988-04-19) figures 1,2 column 2, line 59 - column 3, line 9 column 9, lines 35-43 ----- -/--	1-11



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.
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A	US 5 869 968 A (BROOKS ANDREW G [US] ET AL) 9 February 1999 (1999-02-09) the whole document -----	1-11
A	US 4 431 963 A (WALKOW ARNOLD M [US]) 14 February 1984 (1984-02-14) the whole document -----	1-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

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