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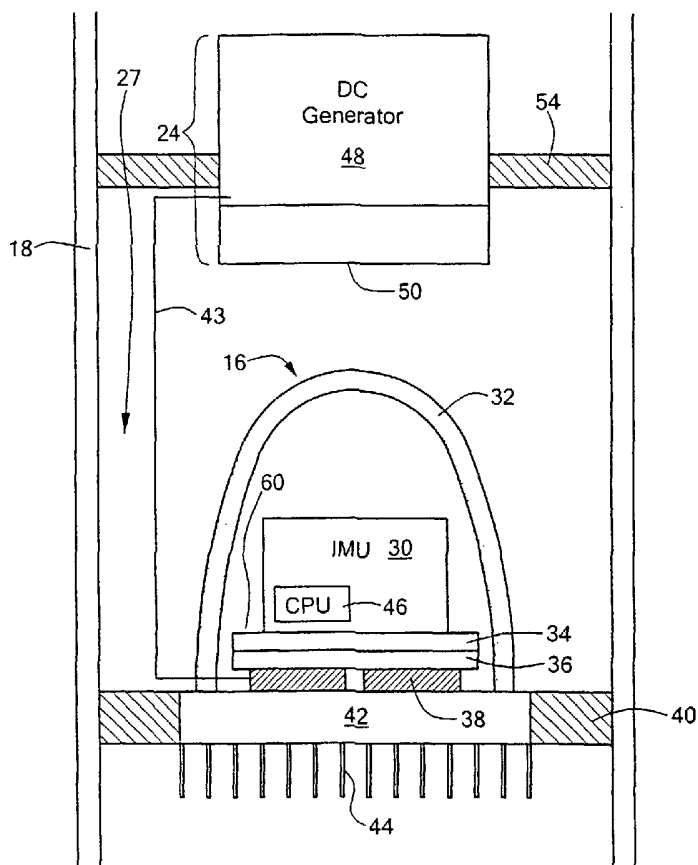
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[Continued on next page]

(54) Title: ENVIRONMENTALLY MITIGATED NAVIGATION SYSTEM



(57) Abstract: An environmentally mitigated navigation borehole system 16 mounted inside a thermal isolating temperature oven chamber 32 with the internal measurement unit including gyroscopes and accelerometers and a temperature control system including a thermoelectric cooling system 50 when in a powered mode maintains the internal measurement unit at a predetermined temperature with a temperature phase change device for maintaining the measurement unit and internal sensors 46 at a predetermined temperature in an non powered mode with the temperature phase change device maintaining the predetermined stable temperature by changing temperature phase to define a stable temperature window for the internal measure unit and individual sensors during both the powered mode and non powered mode.



**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

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# INTERNATIONAL SEARCH REPORT

International application No.

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(7) : E21B 47/00 US CL : 702/009; 73/151 According to International Patent Classification (IPC) or to both national classification and IPC												
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) U.S. : 702/009; 73/151  Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Please See Continuation Sheet  Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PLUS and EAST for measurement and borehole temperature electronic control ovens..												
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>												
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.										
A	US 4,537,067 A (Sharp et al.) 27 August 1985 (27.10.1985), see entire patent.	1-21										
A	US 4,454,756 A (Sharp et al.) 19 June 1984 (19.06.1984), see entire patent.	1-21										
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.												
* Special categories of cited documents: <table border="0"> <tr> <td>"A" document defining the general state of the art which is not considered to be of particular relevance</td> <td>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</td> </tr> <tr> <td>"E" earlier application or patent published on or after the international filing date</td> <td>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</td> </tr> <tr> <td>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</td> <td>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</td> </tr> <tr> <td>"O" document referring to an oral disclosure, use, exhibition or other means</td> <td>"&amp;" document member of the same patent family</td> </tr> <tr> <td>"P" document published prior to the international filing date but later than the priority date claimed</td> <td></td> </tr> </table>			"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family	"P" document published prior to the international filing date but later than the priority date claimed	
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# INTERNATIONAL SEARCH REPORT

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**Continuation of B. FIELDS SEARCHED Item 2:**  
PLUS for key terms and words in borehole measurements.  
EIC for pubs.