

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference SLG4-62497WO	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2018/039469	International filing date (<i>day/month/year</i>) 26 June 2018 (26.06.2018)	(Earliest) Priority Date (<i>day/month/year</i>) 30 June 2017 (30.06.2017)
Applicant BAKER HUGHES, A GE COMPANY, LLC		

This International search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 5 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

the international application in the language in which it was filed

a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6bis(a)).

c. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box No. II)

3. **Unity of invention is lacking** (See Box No. III)

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the drawings,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

b. none of the figures is to be published with the abstract.

A. CLASSIFICATION OF SUBJECT MATTER**E21B 49/00(2006.01)i, E21B 47/12(2006.01)i**

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHEDMinimum documentation searched (classification system followed by classification symbols)
E21B 49/00; E21B 43/25; E21B 43/26; E21B 44/00; E21B 47/06; G06F 17/50; E21B 47/12Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility modelsElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & Keywords:
intervention program, mud-logging data, drilling operation, targeted zone, treatment characterization**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2016-025672 A1 (SCHLUMBERGER CANADA LIMITED et al.) 18 February 2016 See paragraphs [0002]-[0003], [0019]-[0038]; claims 1-14; and figures 1-3.	1-3,9-12
A	WO 2012-087864 A2 (SCHLUMBERGER TECHNOLOGY COPORATION et al.) 28 June 2012 See paragraphs [0029]-[0037]; and figures 1, 2A-2B, 3.	1-3,9-12
A	US 2014-0251601 A1 (WANG et al.) 11 September 2014 See paragraphs [0018]-[0076]; and figures 1-4, 6.	1-3,9-12
A	US 2014-0222392 A1 (JOHNSON et al.) 07 August 2014 See paragraphs [0022]-[0075]; and figures 1A-1B, 2-4, 6.	1-3,9-12
A	US 2013-0140031 A1 (SCHLUMBERGER TECHNOLOGY CORPORATION) 06 June 2013 See paragraphs [0122]-[0123], [0145]-[0149]; claims 13-22; and figures 14, 16.	1-3,9-12

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

29 October 2018 (29.10.2018)

Date of mailing of the international search report

29 October 2018 (29.10.2018)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2018/039469

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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Information on patent family members

International application No.

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