

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 1392-140.00	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. <b>PCT/US2016/036765</b>	International filing date ( <i>day/month/year</i> ) <b>09 June 2016 (09.06.2016)</b>	(Earliest) Priority Date ( <i>day/month/year</i> )
Applicant <b>HALLIBURTON ENERGY SERVICES, INC.</b>		

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 3 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. 1

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****C09K 8/10(2006.01)i, C09K 8/80(2006.01)i, E21B 43/267(2006.01)i**

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)

C09K 8/10; E21B 7/00; B05D 1/36; C09K 8/12; E21B 43/22; C09K 8/08; E21B 33/13; C09K 8/80; E21B 43/267

Documentation 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 models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) &amp; Keywords: diverter material, aqueous base fluid, psyllium husk particulates, diverter plug, internal breaker, bridging agent, wellbore servicing fluid

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2015-0210912 A1 (SAUDI ARABIAN OIL COMPANY) 30 July 2015 See paragraphs [0004], [0020], [0030], [0031], [0042]-[0056]; and claims 1-21.	1-32
A	US 2011-0312857 A1 (AMANULLAH, MD. et al.) 22 December 2011 See the whole document.	1-32
A	US 2012-0138299 A1 (JOSEPH, T. et al.) 07 June 2012 See the whole document.	1-32
A	US 2013-0081813 A1 (LIANG, F. et al.) 04 April 2013 See the whole document.	1-32
A	US 2015-0119301 A1 (PREFERRED TECHNOLOGY, LLC) 30 April 2015 See the whole document.	1-32

 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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

07 March 2017 (07.03.2017)

Date of mailing of the international search report

**07 March 2017 (07.03.2017)**

Name and mailing address of the ISA/KR

International Application Division

Korean Intellectual Property Office

189 Cheongsa-ro, Seo-gu, Daejeon, 35208, Republic of Korea

Facsimile No. +82-42-481-8578

Authorized officer

KIM, Dong Seok

Telephone No. +82-42-481-5405



**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2016/036765**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2015-0210912 A1	30/07/2015	US 2013-065798 A1 US 9006151 B2 WO 2013-039938 A1	14/03/2013 14/04/2015 21/03/2013
US 2011-0312857 A1	22/12/2011	US 8835363 B2 WO 2011-159744 A1	16/09/2014 22/12/2011
US 2012-0138299 A1	07/06/2012	AU 2011-340304 A1 AU 2011-340304 B2 CA 2817852 A1 CA 2817852 C EP 2649022 A1 JP 2014-507487 A JP 5826858 B2 MX 2013006309 A NZ 612407 A US 8668010 B2 WO 2012-076841 A1	11/07/2013 12/05/2016 14/06/2012 02/08/2016 16/10/2013 27/03/2014 02/12/2015 27/08/2013 27/02/2015 11/03/2014 14/06/2012
US 2013-0081813 A1	04/04/2013	AR 088207 A1 AU 2012-319068 A1 AU 2012-319068 B2 CA 2848383 A1 CA 2848383 C EP 2748275 A1 EP 2748275 B1 US 8936086 B2 WO 2013-052252 A1	14/05/2014 11/04/2013 05/03/2015 11/04/2013 26/04/2016 02/07/2014 28/09/2016 20/01/2015 11/04/2013
US 2015-0119301 A1	30/04/2015	US 2015-315459 A1	05/11/2015