

**General:**

- Id of document version: **35351486**
- Status of the document <ep-bulletin>: **Replacement of data for an application already published**
- Changed tag from previous publication of document <B002EP><ep-chgt-info>: **B078EP=N,20230929**
- Publication number of the document (EPO or WIPO) <B110>: **3482046**
- Kind of document <B130>: **B1**
- EPO Application number <B210>: **16918003.1**
- Application filing date <B220>: **2016.09.30**
- Date of refusal of application <B235>:
- Date of withdrawal of application <B235>:
- Date of application deemed withdrawn <B237>:
- Date of receipt of request for re-establishment of rights <B238EP>:
- Date of decision for re-establishment of rights <B238>:
- Date of making available to the public by printing or similar process of an unexamined patent document, on which no grant has taken place on or before the said date <B430>: **2019.05.15**
- Date of making available to the public by printing or similar process of a patent document on which grant has taken place on or before the said date <B450><date>: **2022.11.23**
- Number of the EPO Bulletin in which the mention of the grant is published. <B450><bnum>: **202247**
- Date of rejection of the opposition procedure <B787>:
- Date of termination of the opposition procedure <B788>:
- Due date for translation: **2023.02.23**
- Text when the inventor has agreed to waive his entitlement to designation. <B009EP><text[jj]>:
- Date of reception of document: **2023.11.03**
- Date of publication <B140>: **2023.11.01**

**Priority <B300>:**

**No priority.**

**Lapse <B472>:**

**No lapse.**

**Classification <B500>:**

<b>IPC (8) as one fixed length field of 50 positions &lt;B510EP&gt;&lt;text&gt;:</b>	<b>Edition of IPC (IPC version) &lt;B516&gt;:</b>
E21B 47/10 20120101ALI20200124BHEP	8

E21B 49/08 20060101AFI20200124BHEP	8
G01N 33/28 20060101ALI20200124BHEP	8

**Title <B540>:**

No title.

**Division <B620> or <B620EP>:**

No division.

**EPO Customer <B710>&<B720>&<B730>&<B740>:**

<b>Name &lt;snm&gt;:</b>	GAO, Li	<b>EPO number of the customer &lt;iid&gt;:</b>	
<b>Address &lt;street&gt;, &lt;city&gt;, &lt;ctry&gt;:</b>	5618 Grandwood Lane Katy, Texas 77450 US		
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<b>Name &lt;snm&gt;:</b>	Halliburton Energy Services, Inc.	<b>EPO number of the customer &lt;iid&gt;:</b>	101497633
<b>Address &lt;street&gt;, &lt;city&gt;, &lt;ctry&gt;:</b>	3000 N. Sam Houston Parkway E. Houston, TX 77032-3219 US		
<b>Customer type:</b>	Grantees	<b>Status:</b>	0

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<b>Customer type:</b>	Inventor	<b>Status:</b>	0

**Opposition <B780>:**  
No opposition.

**Designated countries <B840>:**

<b>Kind of document &lt;B130&gt;:</b>	<b>Date of publication &lt;B140&gt;:</b>	<b>Country code &lt;B840&gt;&lt;ctry&gt;:</b>
B1	2023.11.01	NO

**PCT <B860>&<B870>:**

<b>Kind of document &lt;B130&gt;:</b>	B1		
<b>PCT Application number &lt;B861&gt;&lt;anum&gt;:</b>	US2016054723	<b>Date of filing &lt;B861&gt;&lt;date&gt;:</b>	2016.09.30
<b>PCT Publication number &lt;B871&gt;&lt;pnum&gt;:</b>	WO2018063309	<b>Publication date &lt;B871&gt;&lt;date&gt;:</b>	2018.04.05

<b>Issue number of the Gazette &lt;B871&gt;&lt;bnum&gt;:</b>	201814	<b>Country code &lt;B862&gt;:</b>	en
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**Citations <B560>:**

<b>Kind of document &lt;B130&gt;:</b>	<b>Type &lt;B561&gt; or &lt;B562&gt;:</b>	<b>Text &lt;B561&gt;&lt;text&gt; or &lt;B562&gt;&lt;text&gt;:</b>
B1	PT citation	EP-B1- 1 254 352
B1	PT citation	WO-A1-2007/143474
B1	PT citation	WO-A1-2016/014053
B1	PT citation	US-A- 5 796 012
B1	PT citation	US-A1- 2008 065 050
B1	PT citation	US-A1- 2010 263 862
B1	PT citation	US-A1- 2011 303 012
B1	PT citation	US-A1- 2016 108 729
B1	Non PT citation	THOMAS P BURG ET AL: "Vacuum-Packaged Suspended Microchannel Resonant Mass Sensor for Biomolecular Detection", JOURNAL OF MICROELECTROMECHANICAL SYSTEMS, IEEE SERVICE CENTER, US, vol. 15, no. 6, 1 December 2006 (2006-12-01), pages 1466-1476, XP011151334, ISSN: 1057-7157, DOI: 10.1109/JMEMS.2006.883568