

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference A150629WO	<b>FOR FURTHER ACTION</b>	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT / IB 2018/059389	International filing date (day/month/year) 28 November 2018 (28.11.2018)	(Earliest) Priority date( <i>day/month/year</i> )

Applicant  
ABU DHABI NATIONAL OIL COMPANY

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-type search was carried out on the basis of:
- the 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 the 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.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT / IB 2018/059389

<p><b>A. CLASSIFICATION OF SUBJECT MATTER</b>  <b>IPC: E21B 33/06 E21B 47/00</b>          According to International Patent Classification (IPC) or to both national classification and IPC</p>		
<p><b>B. FIELDS SEARCHED</b>          Minimum documentation searched (classification system followed by classification symbols)          E21B, G01M</p>		
<p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p>		
<p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)          EPODOC, WPI, TXT</p>		
<p><b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b></p>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4018276 A (BODE) 19 April 1977 (19.04.1977) figures	1-13
A	US 4090395 A (DIXON et al.) 23 May 1978 (23.05.1978) figures	1-13
A	US 2005269079 A1 (FRANKLIN) 08 December 2005 (08.12.2005) figures	1-13
A	US 2008251251 A1 (DALLAS et al.) 16 October 2008 (16.10.2008) figures	1-13
<p><input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.</p>		
<p>* Special categories of cited documents:</p> <p>“A” document defining the general state of the art which is not considered to be of particular relevance</p> <p>“E” earlier application or patent but published on or after the international filing date</p> <p>“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)</p> <p>“O” document referring to an oral disclosure, use, exhibition or other means</p> <p>“P” document published prior to the international filing date but later than the priority date claimed</p> <p>“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</p> <p>“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</p> <p>“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</p> <p>“&amp;” document member of the same patent family</p>		
<p>Date of the actual completion of the international search          23 January 2019 (23.01.2019)</p>		<p>Date of mailing of the international search report          01 February 2019 (01.02.2019)</p>
<p>Name and mailing address of the ISA/AT          Austrian Patent Office          Dresdner Straße 87, A-1200 Vienna          Facsimile No. +43 / 1 / 534 24-535</p>		<p>Authorized officer          WANKMÜLLER A.          Telephone No. +43 / 1 / 534 24-415</p>

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.

PCT / IB 2018/059389

Patent document cited in search report			Patent family member(s)			Publication date
US	A	4018276	GB	A	1559494	1980-01-23
			US	A	4018276	1977-04-19
US	A	4090395	US	A	4090395	1978-05-23
US	A1	2005269079	US	A1	2005269079	2005-12-08
US	A1	2008251251	US	A1	2008251251	2008-10-16
			US	A1	2007125531	2007-06-07
			US	A1	2005199389	2005-09-15