

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

# PCT

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**  
(PCT Rule 43*bis*.1)

To:

see form PCT/ISA/220

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2019/058665

International filing date (day/month/year)  
05.04.2019

Priority date (day/month/year)  
25.04.2018

International Patent Classification (IPC) or both national classification and IPC  
INV. E21B34/06 E21B34/10

Applicant  
INTERWELL NORWAY AS

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:

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Date of completion of this opinion

see form  
PCT/ISA/210

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established 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)).
2.  This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3.  With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
  - a.  forming part of the international application as filed:
    - in the form of an Annex C/ST.25 text file.
    - on paper or in the form of an image file.
  - b.  furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
  - c.  furnished subsequent to the international filing date for the purposes of international search only:
    - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
    - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4.  In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	<u>1-13</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	<u>5, 7-13</u>
	No: Claims	<u>1-4, 6</u>
Industrial applicability (IA)	Yes: Claims	<u>1-13</u>
	No: Claims	

2. Citations and explanations

see separate sheet

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**Box No. VI Certain documents cited**

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1. Certain published documents (Rules 43bis.1 and 70.10)

and / or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

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**Box No. VII Certain defects in the international application**

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The following defects in the form or contents of the international application have been noted:

see separate sheet

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1 Reference is made to the following documents:

D1 WO 2012/066282 A2 cited in the application

D2 EP 2 978 926 B1 cited in the application

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

3 D1 is regarded as being the prior art closest to the subject-matter of claim 1, and insofar as this claim can be understood (see Re Item VIII below), this document shows the following features thereof :

*a well tool device(2) comprising a housing(8) having an axial through bore(9), where the well tool device(2) is comprising:*

*- a sleeve section(12) axially displaceable relative to the housing(8) [a sleeve section designed as a separate part hence must be axially displaceable within the housing see Fig. 1A and 1C], where the sleeve section(12) comprises an axial through bore[see Fig. 3C] aligned with the axial through bore of the housing;*

*- a fluid flow preventing frangible disc(14, considered frangible see rupturable element p.9,I.10-13);*

*- an axial fluid passage [p.13,I.11-13 & I.18-21 & I.25-27 combined with p. 14,I.23-28] bypassing the frangible disc when the well tool device is in an initial state, thereby allowing a fluid flow between a first location above frangible disc and a second location below the frangible disc;*

*where the axial fluid passage is closed when the well tool device is in a subsequent state;*

*where:*

*- the fluid flow preventing frangible disc(14) provided in the bore of the sleeve section(12) in sealing engagement with the sleeve section [p.13,I.8-10];*

*- the well tool device further comprises a disc supporting device(34) for supporting the frangible disc in relation to the sleeve section, where disc supporting device is releasable connected inside the sleeve section by means of a releasable connection device(38);*

3.1 The subject-matter of claim 1 therefore differs from this known well tool device in that

*- well tool device further comprises a disintegration device for disintegration of the frangible disc, where the well tool device is in a final state when the frangible disc has been disintegrated by means of the disintegration device.*

3.2 The problem to be solved by the present invention may therefore be regarded as how to sever the frangible disc to ultimately leave the bore in the well tool device opened, for instance in cases where the actuation device would have failed due to debris ingress.

3.3 The above-mentioned distinguishing feature of dependent claim 1 has already been employed for the same purpose in a similar well tool device having a frangible disc (see D2, par. 16 & 28-106 figs.1A-9). It would therefore be obvious to the person skilled in the art to apply this feature with corresponding effect to a well tool device according to D1, thus arriving at a well tool device according to claim 1 without having to exercise an inventive skill (Art 33(3) PCT).

4 Dependent claims 2-4 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step, the reasons being as follows:

4.1 The feature of claims 2 & 3 a recess on inner surface of the housing and a recess on the outer surface of the sleeve with a locking device within said recesses has already been defined in D1 [see p.14,l.6-11]. Similarly, a first actuation system according to dependent claims has been disclosed in D1 [Fig. 3A & 3B: a flow restrictor ring 52].

4.2 The features of claim 6 a first stop profile engaging a second stop profile have already been disclosed in D1 [see Fig. 1A-1C and 3 & p.15,l.14-16]

5 The features of dependent claims 5 & 6-13 seem neither to be disclosed in D1 nor D2.

## **Re Item VI**

**Certain documents cited**

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date ( <i>valid claim</i> ) (day/month/year)
WO 2019/011563 A1	17/01/2019	13/06/2018	12/07/2017

- 1 The document WO 2019/011563 A1 discloses all the features of claim 1. Said document will be considered in the prosecution during the regional phase before the EPO.

**Re Item VII**

**Certain defects in the international application**

- 1 Independent claim 1 is not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art D1 being placed in the preamble (Rule 6.3(b)(i) PCT) and the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).
- 2 According to the requirements of Rule 11.13(m) PCT the same feature shall be denoted by the same reference sign throughout the application. This requirement is not met in view of the use of 40, 41, 42 & 3C.

**Re Item VIII**

**Certain observations on the international application**

- 1 Claim 1 is not clear as it defines a location below the frangible disc and a location above the frangible disc, but defining no sense of orientation to which said locations could be referred to (Art 6 PCT).
- 1.1 Furthermore, the features "initial state", "subsequent state" and "final state" are indefinite and not clearly and sufficiently enough defined, leaving the skilled person in doubts for which scope the protection is sought (Art 6 PCT).

- 1.2 Claim 1 defines the feature "disc supporting device is releasably connected" but does not define any other part to which said disc support device shall be connected to (Art 6 PCT).