PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:
Håmsø Patentbyrå ANS
P.O. Box 171
4302 Sandnes
Norway

PCT
WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) 16/02/2016

<table>
<thead>
<tr>
<th>Applicant’s or agent’s file reference</th>
<th>FOR FURTHER ACTION</th>
<th>See paragraph 2 below</th>
</tr>
</thead>
<tbody>
<tr>
<td>P27153PC00</td>
<td>International filing date (day/month/year)</td>
<td>Priority date (day/month/year)</td>
</tr>
</tbody>
</table>

International Patent Classification (IPC) or both national classification and IPC
E21B 41/08 (2006.01), E21B 33/035 (2006.01)

Applicant
NEODRILL AS

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

- [x] 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
- [x] Box No. V  Reasoned statement under Rule 43bis.1(a)(ii) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- [x] Box No. VI  Certain documents cited
- [x] Box No. VII  Certain defects in the international application
- [x] Box No. VIII  Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will 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 66.1bis(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/
Nordic Patent Institute
Helgestøj Allé 81
DK - 2630 Taastrup, Denmark
Facsimile No. + 45 43 50 80 08

Date of completion of this opinion (day/month/year) 05/02/2016

Authorized officer
Eriksson, Magnus
Telephone No. +47 22 38 74 39

Form PCT/ISA/237 (cover sheet) (January 2015)
1. With regard to the language, this opinion has been established on the basis of:
   - [x] the international application in the language in which it was filed.
   - [ ] a translation of the international application into [language] 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:
<table>
<thead>
<tr>
<th>Box No. II</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.☐</td>
<td>The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.</td>
</tr>
<tr>
<td>2.☐</td>
<td>This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.</td>
</tr>
<tr>
<td>3.</td>
<td>Additional observations, if necessary:</td>
</tr>
</tbody>
</table>
The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

- the entire international application.
- claims Nos. ______

because:

- the said international application, or the said claims Nos. ______ relate to the following subject matter which does not require an international search (specify):

- the description, claims or drawings (indicate particular elements below) or said claims Nos. ______ are so unclear that no meaningful opinion could be formed (specify):

- the claims, or said claims Nos. ______ are so inadequately supported by the description that no meaningful opinion could be formed (specify):

- no international search report has been established for said claims Nos. ______
- a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:
  - furnish a sequence listing in the form of an Annex C/ST.25 text file, and such listing was not available to the International searching authority in the form and manner acceptable to it; or the sequence listing furnished did not comply with the standard provided for in Annex C of the Administrative Instructions.
  - furnish a sequence listing on paper or in the form of an image file complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Searching authority in the form and manner acceptable to it; or the sequence listing furnished did not comply with the standard provided for in Annex C of the Administrative Instructions.
  - pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13ter.1(a) or (b).

- See Supplemental Box for further details.
1. □ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has, within the applicable time limit:
   □ paid additional fees.
   □ paid additional fees under protest and, where applicable, the protest fee.
   □ paid additional fees under protest but the applicable protest fee was not paid.
   □ not paid additional fees.

2. □ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.

3. □ This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is:
   □ complied with.
   □ not complied with for the following reasons:

4. □ Consequently, this opinion has been established in respect of the following parts of the international application:
   □ all parts.
   □ the parts relating to claims Nos.
1. Statement

Novelty (N) Claims 2 and 8 YES
Claims 1, 3-7 and 9 NO

Inventive step (IS) Claims NONE YES
Claims 1-9 NO

Industrial applicability (IA) Claims 1-9 YES
Claims NONE NO

2. Citations and explanations:

D1: US 2010/0212916 A1 (RICE, J.) 2010.08.26
D3: US 4260289 A (MOINARD, M.) 1981.04.07

NOVELTY (Article 33(2) PCT):

D1 is regarded as being the closest prior art to the subject matter of claims 1-9. D1 discloses a device for reducing the load on a wellhead casing (12) from a bending moment generated by a horizontal load component from a well element arranged over a wellhead (12). A supporting frame (10) is connected to an upper portion of the wellhead casing (12) and projects outwards from the centre axis of the wellhead casing (12) and is provided with abutments (14) which rest supportingly against a base at a radial distance from the wellhead casing (12), the supporting frame (6) being arranged to absorb a portion of said bending moment. The connection between the supporting frame and the wellhead casing is formed as a zero-clearance connection and possibly as a sleeve, which encloses a portion of the wellhead casing with a press fit, see abstract, paragraph [0005]-[0008], [0030]-[0031], [0036], claims 1, 2, 3 and figures 2, 3, 4 and 7.

The subject matter of independent claim 1 and dependent claims 6, 7 and 9 is not novel in the light of D1 and does not comply with the novelty criteria of Article 33(2) of PCT.

The subject matter of claim 2 is novel in that the supporting frame comprises a well casing extension adapted for connection to the wellhead casing.

Claims 3-5 do not comply with the novelty criteria of Article 33(2) of PCT. The subject matter of these claims would be general knowledge to a person skilled in the mechanical engineering technology.

The subject matter of claim 8 is novel in that the coupling comprises a sleeve which has been shrunk around a portion of the wellhead casing.

INVENTIVE STEP (Article 33(3) PCT):

Given the novelty objection above, the subject matter of claims 1, 3-7 and 9 does not involve an inventive step.

The objective technical problem to be solved by the present invention according to claim 2 may be regarded as to provide an alternative arrangement for protecting the wellhead from lateral forces.

The solution proposed in claim 2 of the present application cannot be considered to involve an inventive step (Article 33(3) PCT). The well casing extension adapted for connection to the wellhead casing is one of several obvious possibilities from which a skilled person would consider in view of D1, see paragraph [0031] and figure 3.

To be continued in supplemental box.
<table>
<thead>
<tr>
<th>Application No.</th>
<th>Publication date (day/month/year)</th>
<th>Filing date (day/month/year)</th>
<th>Priority date (valid claim) (day/month/year)</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>Kind of non-written disclosure</th>
<th>Date of non-written disclosure (day/month/year)</th>
<th>Date of written disclosure referring to non-written disclosure (day/month/year)</th>
</tr>
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</table>

Form PCT/ISA/237 (Box No. VI) (January 2015)
<table>
<thead>
<tr>
<th>Box No. VII</th>
<th>Certain defects in the international application</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following defects in the form or contents of the international application have been noted:</td>
<td></td>
</tr>
</tbody>
</table>

The title is ambiguous and must be changed, see Rule 4.3 of PCT. We propose changing the title to “Arrangement for supporting a wellhead”.
<table>
<thead>
<tr>
<th>Box No. VIII</th>
<th>Certain observations on the international application</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>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:</td>
</tr>
<tr>
<td></td>
<td>Claims 7 and 8 are not clear. The term “possibly” is ambiguous.</td>
</tr>
</tbody>
</table>
In case the space in any of the preceding boxes is not sufficient.
Continuation of Box No. V:

The sleeve which has been shrunk around a portion of the wellhead casing is merely one of several straightforward possibilities from which the skilled person would select, in accordance with circumstances, without the exercise of inventive skill, in order to mount a coupling formed as a sleeve around a portion of the wellhead casing. Therefore, the subject matter of claim 8 lacks an inventive step and does not comply with Article 33(3) of PCT.

INDUSTRIAL APPLICABILITY (Article 33(4) PCT):

The subject matter of claim 1 and the dependent claims 2-9 is industrially applicable, and therefore complies with PCT Article 33(4) PCT.