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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/212,378	08/05/2002	Philip D. Nguyen	2002-IP-006852	8510

7590

09/21/2005

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- EXAMINER

TUCKER, PHILIP C

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/212,378

Applicant(s)

NGUYEN ET AL.

Examiner

Philip C. Tucker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 63,65-75,77-86 and 99-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 63,65-75,77-86 and 99-120 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 63, 65-75, 77-86, 99-120 are rejected under 35 U.S.C. 103(a) as being unpatentable over Needham (4231428) in view of Todd (6155348), and further in view of Blake (3197307), Lee (6432451), Heimann (6455100), Cordaro (6405979), Mills (6168859), Hu (5718967), Butler (3477869) and Buzbee (3877787).

Needham teaches coating particles with the same organo-silicon compounds, and same method of the present invention (see column 2, lines 25-68). The proppant would form a gravel pack in the fractures. Needham differs from the present invention in that the specific use of the polymers and crosslinking agents are not disclosed. Todd teaches that typical fracturing fluids comprise the polymers and crosslinking agents disclosed herein (column 5, line 16- column 6, line 11). It would be obvious to one of ordinary skill to utilize the polymers and crosslinking agents of Todd in the fluid of Needham, in view of the teaching of Todd that such are typically used in fracturing. Needham teaches that various siloxanes, silanes and silicates may be used to coat the particles. Although Needham does not teach the specific organo-silicon compounds of the current claims, such compounds as the tetraorthosilicate and silanes claimed by

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applicant are well known coating agents, and their use would be obvious to one of ordinary skill in the art, particularly in view of Needham teaching that such silicates, siloxanes and silanes may be used to coat the particles (column 2, lines 25-41).

Furthermore, the prior art of Blake (see example 2 and column 3, lines 40-42), Lee (see column 4, lines 19-24 and example 6), Heimann (see example 3), Cordaro (see column 10, line 47 – column 11, line 33), Mills (see column 5, lines 3-8 and example 1), Butler (see example 4), Buzbee (see column 20, lines 5-11), and Hu (column 3, lines 43-56) all teach the use of the organo-silicon compounds of the present invention for coating particles or in general for coating. The use of such coatings for the particles of Needham would be obvious to one of ordinary skill in the art in view of the teaching of Needham that various siloxanes, silanes and silicates may be used to coat the particles.

3. Applicants arguments have been considered but are not persuasive. Contrary to applicants statement the office action did not state that there is no suggestion or motivation for the materials used in the present invention. Needham is concerned with using a propping material in a fracturing fluid. Needham is properly combined with Todd, which teaches a fracturing fluid which contains proppant. Although a different type of proppant is used therein, Todd teaches that typical fracturing fluids comprise the polymers and crosslinking agents disclosed herein (column 5, line 16- column 6, line 11). This is knowledge generally available to one of ordinary skill in the art, and one of ordinary skill in the art would routinely utilize the polymers and crosslinking agents taught in Todd, and also in the current claims, in fracturing fluids. The cannot be seen

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any inventive step by applicant in utilizing such extremely known additives. Indeed as is well known in the art a proppant cannot be usually sufficiently supported by the fracturing fluid without the use of such polymers and crosslinking agents. The other aspect of Needham involves the coating of the proppant material. Needham teaches the use of various siloxanes, silanes and silicates as a coating agent for the proppant. Needham specifies the use of alkoxysilanes, aroxysilanes and chloromethylsilanes such as chloromethyltrimethylsilane, which would clearly at least render the use of tetraethoxysilane, dimethoxydiphenylsilane and dichlorodimethylsilane obvious to one of ordinary skill in the art. Tetraethoxysilane and tetramethoxysilane are the most well known alkoxysilanes, and would clearly be rendered obvious to one of ordinary skill in the art, by the teaching of alkoxysilanes by Needham. Furthermore, one of ordinary skill in the art would look to the art of coating compositions in order to find suitable coatings for the proppant of Needham. Thus the use of the secondary references is proper in this case.

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

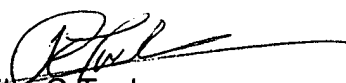
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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C. Tucker whose telephone number is 571-272-1095. The examiner can normally be reached on Monday - Friday, Flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Philip C Tucker
Primary Examiner
Art Unit 1712

PCT-3852