

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION**

US SYNTHETIC CORPORATION

Plaintiff,

v.

**REEDHYCALOG UK, LTD.,
REEDHYCALOG, LP, and
GRANT PRIDECO, INC.,**

Defendants.

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CIVIL ACTION NO. 6:07-cv-269-LED

**ORIGINAL COMPLAINT FOR DECLARATORY JUDGMENT OF
PATENT NON-INFRINGEMENT, INVALIDITY,
AND UNENFORCEABILITY**

Plaintiff US Synthetic Corporation (“US Synthetic”), for its Complaint against Defendants ReedHycalog UK, Ltd., ReedHycalog, LP, and Grant Prideco, Inc. (collectively, “Defendants”), hereby demands a jury trial and alleges as follows:

NATURE OF THE ACTION

1. This is an action arising under the patent laws of the United States, 35 U.S.C. §§ 1 *et seq.*, and under the Declaratory Judgment Act, 28 U.S.C. §§ 2201 *et seq.*, for a declaratory judgment that eight patents owned by Defendants are not infringed by US Synthetic, are invalid, and are unenforceable.

PARTIES

2. Plaintiff US Synthetic is a corporation organized and existing under the laws of the state of Delaware, having its principal place of business in Utah County, Utah.

3. Defendant ReedHycalog UK, Ltd. is a corporation organized and existing under the laws of the United Kingdom, having its principal place of business in Stonehouse, Gloucestershire, England.

4. Defendant ReedHycalog, LP is a limited partnership organized and existing under the laws the state of Delaware, having its principal place of business in Houston, Texas.

5. Defendant Grant Prideco, Inc. is a corporation organized and existing under the laws of the state of Delaware, having its principal place of business at 400 N. Sam Houston Parkway East, Suite 900, Houston, Texas 77060. Grant Prideco owns, directly or indirectly, ReedHycalog UK, Ltd. and ReedHycalog, LP.

JURISDICTION

6. This Court has jurisdiction over the subject matter of this action pursuant to 28 U.S.C. §§ 1331, 1338(a), and 2201 because this action seeks a declaratory judgment regarding rights arising under the patent laws of the United States.

7. This Court has personal jurisdiction over Defendants because Defendants have established minimum contacts with the forum and because the exercise of jurisdiction over Defendants would not offend traditional notions of fair play and substantial justice. Defendants have filed lawsuits in this District alleging infringement of the patents-in-suit.

VENUE

8. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b) because Defendants are subject to personal jurisdiction in this District.

FACTUAL BACKGROUND

9. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,544,308 entitled "High Volume Density Polycrystalline Diamond with Working Surfaces

Depleted of Catalyzing Material” (“the ’308 patent”). ReedHycalog, LP is a licensee of the ’308 patent. A true and correct copy of the ’308 patent is attached hereto as Exhibit A.

10. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,562,462 entitled “High Volume Density Polycrystalline Diamond with Working Surfaces Depleted of Catalyzing Material” (“the ’462 patent”). ReedHycalog, LP is a licensee of the ’462 patent. A true and correct copy of the ’462 patent is attached hereto as Exhibit B.

11. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,585,064 entitled “Polycrystalline Diamond Partially Depleted of Catalyzing Material” (“the ’064 patent”). ReedHycalog, LP is a licensee of the ’064 patent. A true and correct copy of the ’064 patent is attached hereto as Exhibit C.

12. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,589,640 entitled “Polycrystalline Diamond Partially Depleted of Catalyzing Material” (“the ’640 patent”). ReedHycalog, LP is a licensee of the ’640 patent. A true and correct copy of the ’640 patent is attached hereto as Exhibit D.

13. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,592,985 entitled “Polycrystalline Diamond Partially Depleted of Catalyzing Material” (“the ’985 patent”). ReedHycalog, LP is a licensee of the ’985 patent. A true and correct copy of the ’985 patent is attached hereto as Exhibit E.

14. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,739,214 entitled “Polycrystalline Diamond Partially Depleted of Catalyzing Material” (“the ’214 patent”). ReedHycalog, LP is a licensee of the ’214 patent. A true and correct copy of the ’214 patent is attached hereto as Exhibit F.

15. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,749,033 entitled “Polycrystalline Diamond Partially Depleted of Catalyzing Material” (“the ’033 patent”). ReedHycalog, LP is a licensee of the ’033 patent. A true and correct copy of the ’033 patent is attached hereto as Exhibit G.

16. ReedHycalog UK, Ltd. is the assignee of record of United States Patent No. 6,797,326 entitled “Method of Making Polycrystalline Diamond with Working Surfaces Depleted of Catalyzing Material” (“the ’326 patent”). ReedHycalog, LP is a licensee of the ’326 patent. A true and correct copy of the ’326 patent is attached hereto as Exhibit H.

17. Defendants have filed suit against United Diamond Drilling Services, Inc., (“United”), a customer of US Synthetic, alleging that United has:

manufactured fixed cutter drill bits that employ partially leached polycrystalline diamond cutters having a diamond table in which at least a portion of the catalyzing material has been removed from a first region of the diamond table while the catalyzing material is present in another second region of the diamond table.

The suit alleges infringement of the ’308 patent, the ’462 patent, the ’064 patent, the ’640 patent, the ’985 patent, the ’214 patent, the ’033 patent, and the ’326 patent—all of which also comprise the “Patents in Suit.” Complaint for Patent Infringement at 6, ¶ 28, *ReedHycalog UK, Ltd. v. United Diamond Drilling Servs., Inc.*, No. 6:07-cv-00251 (E.D. Tex. June 4, 2007).

18. Defendants have filed suit against US Synthetic, alleging that US Synthetic “manufactures and sells leached polycrystalline diamond compact (‘PDC’) cutters and inserts (individually and collectively ‘PDCs’) wherein at least a portion of the catalyzing material from the polycrystalline diamond matrix is removed by a leaching process.” Complaint for Patent Infringement at 2, ¶ 8, *ReedHycalog UK, Ltd. v. Baker Hughes Oilfield Operations, Inc.*, No. 6:06-cv-00022 (E.D. Tex. May 12, 2006).

19. A valid and justiciable controversy regarding the Patents in Suit has arisen between US Synthetic and the Defendants that is properly presented for judicial relief under the Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202.

COUNT I - DECLARATION OF NON-INFRINGEMENT

20. Defendants in this action have asserted that US Synthetic is infringing the Patents in Suit by manufacturing, using, selling, or offering to sell polycrystalline diamond cutters and inserts. Defendants have further asserted that US Synthetic is contributing to and inducing the infringement of the Patents in Suit.

21. US Synthetic requests a declaratory judgment that its products do not infringe any valid claim of the Patents in Suit, either directly or indirectly.

COUNT II - DECLARATION OF PATENT INVALIDITY/UNENFORCEABILITY

22. The claims of the Patents in Suit are invalid for failure to satisfy the provisions of Title 35 of the United States Code, including, but not limited to, 35 U.S.C. §§ 101, 102, 103, 112, and 132.

23. US Synthetic seeks a declaration that the Patents in Suit are invalid and unenforceable.

COUNT III - DECLARATION OF UNENFORCEABILITY DUE TO INEQUITABLE CONDUCT

24. US Synthetic seeks a declaration that the Patents in Suit are unenforceable in view of inequitable conduct committed by ReedHycalog UK Ltd., its predecessor in interest Camco International (“Camco”), the inventors, their attorneys, or their agents (collectively, “Applicants”) in connection with the filing and prosecution of the Patents in Suit and related patent applications before the PTO.

25. The Patents in Suit are a part of a large family of patent applications filed by Applicants: the '308 patent (issued April 8, 2003); the '462 patent (issued May 13, 2003); the '985 patent (issued July 15, 2003); the '064 patent (issued July 1, 2003); the '640 patent (issued July 8, 2003); the '214 patent (issued May 25, 2004); the '033 patent (issued June 15, 2004); the '326 patent (issued September 28, 2004); U.S. Patent No. 6,601,662 ("the '662 patent") (issued August 5, 2003); U.S. Patent No. 6,861,098 ("the '098 patent") (issued March 1, 2005); U.S. Patent No. 6,861,137 ("the '137 patent") (issued March 1, 2005); and U.S. Patent No. 6,878,447 ("the '447 patent") (issued April 13, 2005). As stated above, the '308 patent, the '462 patent, the '064 patent, the '640 patent, the '985 patent, the '214 patent, the '033 patent, and the '326 patent are the Patents in Suit.

26. During the prosecution of the '308 patent, the '462 patent, and the '985 patent, the Examiner rejected pending claims of those patents in view of published Japanese Patent Application No. S58-91691, which was filed on May 24, 1983 by Sumitomo Electric Industries Co., Ltd. (the "Sumitomo Reference"). The Sumitomo Reference was published on December 10, 1984 (Publication No. S59-219500). The Sumitomo Reference was cited as prior art under 35 U.S.C. § 102(b) against the pending claims of the '308 patent, the '462 patent, and the '985 patent.

27. In order to overcome the § 102(b) rejections in view of the Sumitomo Reference, Applicants represented to the PTO that none of the prior art references cited by the Examiner, including the Sumitomo Reference, disclosed the removal of catalyzing material from the interstices of polycrystalline diamond cutting elements to a depth of at least about 0.10 mm from the surface of the cutting element.

28. On June 19, 2002, during the prosecution of the '985 patent application,

Applicants stated:

In order to clearly distinguish the claims of the present invention from the coatings shown in the prior art, new independent claims 112, 118, 122 and 126 including the limitation that the portion of the body that is free of catalyzing material extends to a depth of at least about 0.1 mm from the working surface.

None of Karner et al. (5,897,942), Mensa-Wilmot et al. (5,833,021), Keshavan et al. (5,370,195), Cho et al. (5,011,514), JP 59219500 [Sumitomo] or WO9323204 individually show or describe the specific limitations of new independent claims 112, and 122. Specifically, all the references are silent about the nature of the catalyzing remains in the regions of the body that are substantially free of the catalyzing material.

(Prosecution history of the '985 patent, June 19, 2002 Amendment at 9.)

29. On September 12, 2002, during the prosecution of the '308 patent application,

Applicants stated:

Applicants believe that the Office did not consider the limitations of dependent claim 52 when maintaining this rejection. Claim 52, as filed, limited the thickness of the diamond cutting element devoid of binder to at least 0.1 mm. This limitation was not addressed in previous actions by the Office in light of the prior art, and none of the prior art discloses this claimed thickness.

Applicants believe this limitation, if added to claim 26, would make claim 26 allowable. Accordingly, claim 26 has been amended not to indicate that the first interstitial region extends beneath the cutting surface at least about 0.1 mm.

(Prosecution history of the '308 patent, Sept. 19, 2002 Amendment After Final Rejection at 3.)

30. On October 15, 2002, during the prosecution of the '462 patent application,

Applicants stated:

In order to clearly distinguish the claims of the present invention from the coatings shown in the prior art, claims 1 and 28 have been amended now to include the limitation that the portion of the body that is substantially free of catalyzing material extends to a depth of at least about 0.1 mm from the working surface.

None of Karner et al. (5,897,942), Mensa-Wilmot et al. (5,833,021), Keshevan et al. (5,370,195), Cho et al. (5,011,514), JP 59219500 or WO9323204 individually show or describe, nor fairly teach to one skilled in the art, the specific limitations of amended claims 1 and 28, and previously amended claim 39. Specifically, all the references are silent about the claimed PDC element having a portion of the PCD body that is substantially free of catalyzing material extending to a depth of at least about 0.1 mm from the working surface in addition to the other claimed limitations.

(Prosecution history of the '462 patent, Oct. 15, 2002 Amendment at 5.)

31. These statements by Applicant were false and misleading. On information and belief, in making this argument, Applicants intentionally misrepresented the scope and disclosure of the Sumitomo Reference to the PTO in order to overcome the § 102(b) rejections and gain allowance of the claims at issue. Specifically, the Sumitomo reference explicitly discloses the removal of catalyzing material from the interstices of a polycrystalline diamond cutting element to depths of at least 0.20 mm and at least 0.50 mm. The specification of the Sumitomo Reference states:

The majority of the ferrous metal binder phase [e.g., catalyzing material] is removed from an area that is at least 0.2mm of the surface layer of the sintered diamond layer.

The cut surfaces were polished and examined, revealing that nearly all of the metal Co binder phase [e.g., Cobalt catalyzing material] in an area 0.5mm from the surface of the sintered diamond object has been removed electrolytically.

(Translation of the Sumitomo Reference at GPFH0000379.)

326. Applicants knew or should have known that these statements were false because Applicants filed a supplemental information disclosure statement including the aforementioned English translation of the Sumitomo Reference that specifically discloses 0.20 mm and 0.50 mm leach depths. Accordingly, on information and belief, Applicants intentionally misrepresented

the nature of the disclosure in the Sumitomo Reference in order to gain allowance of the pending claims of the '308 patent, the '462 patent, and the '985 patent.

33. The Examiner relied on Applicants' misrepresentations in allowing the claims of these patents. Thus, Applicants exhibited deceptive intent in committing inequitable conduct before the PTO during the prosecution of these patents.

34. As stated above, the Patents in Suit either include or are directly related to the '308 patent, the '462 patent, and the '985 patent. Accordingly, the '308 patent, the '462 patent, and the '985 patent, as well as all patents derived from or related to the applications that issued as the '308 patent, the '462 patent, and the '985 patent, including but not limited to the Patents in Suit, are unenforceable because of the inequitable conduct committed by Applicants.

35. Additionally, as early as 1984, representatives of Applicants, including Terry R. Matthias and Nigel Dennis Griffin, named inventors of the Patents in Suit, met with US Synthetic representatives, including Louis Pope and John Bunting, concerning the development of thermally stable polycrystalline diamond cutting elements. Many of these meetings related to the development of a US Synthetic product known as "Terracut." Applicants, including Matthias and Griffin, were aware that the Terracut product was a "leached" product in which the catalyzing material was removed from the interstices of the polycrystalline diamond material to a depth from the surface of the cutting element. While the catalyzing material was removed to a depth from the surface of the Terracut cutting elements, a second portion of the polycrystalline diamond material included a catalyzing material. During this time period Applicants purchased and analyzed Terracut products made and sold by US Synthetic.

36. Applicants knew or should have known that the Terracut products were material prior art directly relevant to the prosecution of the Patents in Suit. Moreover, Applicants' and the

inventors' knowledge of Terracut and cooperation with US Synthetic shows derivation of invention capable of invalidating one or more of the claims of those patents. On information and belief, in order to gain allowance of the claims of the Patents in Suit and related patents, Applicants exhibited deceptive intent in committing inequitable conduct by intentionally failing to disclose Terracut to the PTO.

37. Similarly, during the prosecution of the application that issued as the '985 patent, the PTO rejected all of the pending claims in view of U.S. Patent No. 6,344,149, issued to Oles ("the Oles patent").

43. When responding to the rejection in view of the Oles patent, Applicants stated that:

Oles '149 discloses a polycrystalline diamond member with a chemical vapor deposition applied hard material (preferably diamond) coating surrounding and mechanically adhering to exterior diamond particles which are exposed by removing the catalyst from near the surface of a typical polycrystalline diamond cutting element.

The CVD applied hard material of Oles '149 does not form bonds with the exterior diamond particles that it surrounds, rather it simply fills the voids left after the catalyst is removed. The CVD applied hard material must be able to move among the bonded diamond crystals to be deposited as indicated.

(Prosecution history of the '985 patent, June 19, 2002 Amendment at 7.)

44. These statements made by Applicants are false and misleading. Contrary to Applicants' arguments to the PTO, the Oles patent expressly teaches that the CVD-applied hard material (e.g., diamond) adheres to (e.g., forms bonds with) the diamond particles in the leached polycrystalline diamond layer:

The polycrystalline diamond layer has an exterior region which comprises diamond particles (i.e., exterior diamond particles) bridged together (i.e., bonded together by bridging) with a hard material (e.g., diamond) applied by CVD surrounding (and mechanically adhering to) the exterior diamond particles so there

are no voids in the exterior region. The polycrystalline diamond layer also has an interior region between the backing and the exterior region wherein the interior region includes diamond particles (i.e., interior diamond particles) bridged together with a metallic catalyst (e.g., cobalt) at the interstices of the diamond particles.

(Oles patent at 4:33-44.)

45. Applicants' misrepresentations to the PTO were material because they were made to overcome a reference cited by the Examiner and to gain allowance of the pending claims of the application that issued as the '985 patent. On information and belief, Applicants' misrepresentations concerning the Oles patent were made with deceptive intent to mislead the PTO so that the '985 patent and all patent applications related to the '985 patent would issue (including the applications that issued as the Patents in Suit).

PRAYER FOR RELIEF

WHEREFORE, US Synthetic prays for judgment as follows:

- A. That this Court find and declare that US Synthetic has not infringed the claims of the Patents in Suit;
- B. That this Court find and declare that the Patents in Suit are invalid;
- C. That this Court find and declare that the Patents in Suit are unenforceable;
- D. That this Court award US Synthetic all of its costs of this action;
- E. That this Court find that this is an exceptional case and award US Synthetic its attorneys' fees pursuant to 35 U.S.C. § 285 or otherwise; and
- F. That this Court grant US Synthetic such other and further relief as this Court shall deem just and proper.

Dated: June 7, 2007

Respectfully submitted,

MCKOOL SMITH, P.C.

/s/Sam Baxter

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