United States District Court,
E.D. Texas, Tyler Division.

REEDHYCALOG UK, LTD. and Grant Prideco, Inc,
Plaintiffs.
v.
BAKER HUGHES OILFIELD OPERATIONS INC., Halliburton Energy Services Inc., and U.S. Synthetic Corporation,
Defendants.

No. 6:06 CV 222

Sept. 11, 2007.

Danny Lloyd Williams, J. Mike Amerson, Matthew Richard Rodgers, Stephen E. Edwards, Williams Morgan & Amerson, Houston, TX, Sidney Calvin Capshaw, III, Andrew Wesley Spangler, Elizabeth L. Derieux, Nancy Claire Abernathy, Brown McCarroll, Longview, TX, Thomas John Ward, Jr., Ward & Smith Law Firm, Longview, TX, Christopher Needham Cravey, James A. Jorgensen, Jeffrey Allen Pfeifer, Williams Morgan & Amerson PC, John C. Cain, Keith Alan Rutherford, Wong Cabello Lutsch, Rutherford & Brucculeri, Houston, TX, for Plaintiffs.

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MEMORANDUM OPINION AND ORDER

LEONARD DAVIS**, United States District Judge.**

This Memorandum Opinion construes the terms in U.S. Patent Nos. 6,861,098 ("the '098 Patent"); 6,861,137 ("the '137 patent"); 6,878,447 ("the '447 patent"); and 6,601,662 ("the '662 patent"). Also before the Court is Defendants' Joint Motion for Summary Judgment of Indefiniteness (Docket No. 123), which the Court **DENIES.**

BACKGROUND

Plaintiffs ReedHycalog UK, Ltd and Grant Prideco, Inc. (collectively "ReedHycalog") accuse Baker Hughes

Oilfield Operations, Inc., Halliburton Energy Services, Inc., and U.S. Synthetic Corporation (collectively "Baker Hughes") of infringing the '098 patent, the '137 patent, the '447 patent, and the '662 patent. All four asserted patents are directed at diamond cutting elements used in drill bits.

Drill bit cutters are typically made of synthetic polycrystalline diamond ("PCD") material. Typical PCD cutters have problems because down-hole friction between the rock and the cutter causes extremely high temperatures. High temperatures, temperatures in excess of 750 degrees C., cause the cutters to breakdown. A process called leaching, which was already known in the art, allowed the cutters to have increased thermal resistance by removing the catalyzing material from the cutter. However, this process weakened the impact strength of the cutters. In general, ReedHycalog's patents involve removing the catalyzing material from a thin portion of the cutter so that high thermal characteristics are achieved while still maintaining impact strength.

The patents purport to teach a diamond cutting element with a thin outer layer of diamond that is leached to remove substantially all catalyzing material. Three of the patents require the diamond element to have a "thermal characteristic such that a 950 degrees [Celsius] temperature at the working surface results in a temperature of less than 750 degrees [Celsius] at the depth." Pat. No. '098 col.14:36-38; Pat. No. '137 col.16:65-68; Pat. No. '447 col.14:30-33. The '662 patent purports to teach a cutting element with certain impact strength limitations. Pat. No. '662 col. 18:30-31.

APPLICABLE LAW

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed.Cir.2005) (en banc) (quoting Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1115 (Fed.Cir.2004)). In claim construction, courts examine the patent's intrinsic evidence to define the patented invention's scope. *See id.;* C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 861 (Fed.Cir.2004); Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc., 262 F.3d 1258, 1267 (Fed.Cir.2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See* Phillips, 415 F.3d at 1314; C.R. Bard, Inc., 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. Phillips, 415 F.3d at 1312-13; Alloc, Inc. v. Int'l Trade Comm'n, 342 F.3d 1361, 1368 (Fed.Cir.2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. Phillips, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id*. Other asserted or unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id*. Differences among the claim terms can also assist in understanding a term's meaning. *Id*. For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id*. at 1314-15.

Claims "must be read in view of the specification, of which they are a part." *Id*. (quoting Markman v. Westview Instruments, Inc., 52 F.3d 967, 978 (Fed.Cir.1995)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' " *Id*. (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996)); Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or

disclaim or disavow the claim scope. Phillips, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id*. Also, the specification may resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." Teleflex, Inc., 299 F.3d at 1325. But, "although the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." Comark Commc'ns, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed.Cir.1998); *see also* Phillips, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. Home Diagnostics, Inc., v. Lifescan, Inc., 381 F.3d 1352, 1356 (Fed.Cir.2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent.").

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.' " Phillips, 415 F.3d at 1317 (quoting C.R. Bard, Inc., 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id*. at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition is entirely unhelpful to a court. *Id*. Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id*.

To rule "on a claim of patent indefiniteness, a court must determine whether one skilled in the art would understand what is claimed when the claim is read in light of the specification." Bancorp. Servs., L.L.C. v. Hartford Life Ins. Co., 359 F.3d 1367, 1372 (Fed.Cir.204). To respect a patent's presumption of validity, *see* 35 U.S.C. s. 282, a court should hold a claim indefinite only after reasonable efforts at construction prove futile. *Exxon Research,* 265 F.3d at 1375. A claim is not indefinite merely because it poses a difficult issue of claim construction. Bancorp Servs., 359 F.3d at 1371. "Only claims not amenable to construction or insolubly ambiguous are indefinite" and thus invalid. *Datamize,* 417 F.3d at 1347 (internal quotes omitted). If the claim's meaning is discernable, "even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree," the claim is "sufficiently clear to avoid invalidity on indefiniteness grounds." *Exxon Research,* 265 F.3d at 1375. A party must show invalidity for indefiniteness by clear and convincing evidence, and close questions of indefiniteness "are properly resolved in favor of the patentee." *Datamize,* 417 F.3d at 1348; *Exxon Research,* 265 F.3d at 1380.

MOTION FOR SUMMARY JUDGMENT

Summary Judgment Standard

Summary judgment shall be rendered when the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law. FED. R. CIV. P. 56(c); Celotex Corp. v. Catrett, 477 U.S. 317, 323-25, 106 S.Ct. 2548, 91 L.Ed.2d 265 (1986); Ragas v. Tenn. Gas Pipeline Co., 136 F.3d 455, 458 (5th Cir.1998). An issue of material fact is genuine if the evidence could lead a reasonable jury to find for the non-moving party. Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986). In determining whether a genuine issue for trial exists, the court views all inferences drawn from the factual record in the light mo00st favorable to the nonmoving party. *Id.;* Matsushita Elec. Indus. Co. v. Zenith Radio, 475 U.S. 574, 587, 106 S.Ct. 1348, 89 L.Ed.2d 538 (1986).

Analysis

Baker Hughes argues the patents are invalid because the thermal characteristic limitation and the impact strength limitation are indefinite.

Thermal Characteristic Limitation

The '098 patent, the '137 patent, and the '447 patent each require the diamond element to have a "thermal characteristic such that a 950 degrees [Celsius] temperature at the working surface results in a temperature of less than 750 degrees [Celsius] at the depth." Pat. No. '098 col. 14:36-38; Pat. No. '137 col. 16:65-68; Pat. No. '447 col. 14:30-33.

Baker Hughes first argues that there is no test for thermal gradient disclosed in the claims, or the specification, and there is no standard test in the industry. ReedHycalog responds that the claim language itself is quite definite even to a lay person and that one skilled in the art would look at the claims and understand that the patents-in-suit discuss wear testing, a test well known to those skilled in the art. *See* Pat. No. '447 col. 10: 20-37.

ReedHycalog's expert, David Hall, stated in his declaration that a higher wear index number reflected an increased resistance to thermal degradation of the partially leached PCD elements. Decl. David Hall at 4. Hall goes on to explain that during the wear test, one skilled in the art can look at the color of light generated and discern the temperature associated with these light spectrums. According to Hall, it is known in the art that colors of orange and white-hot can be observed during wear testing and indicate a temperature of 950 degrees C. In addition, it is known in the art that temperatures above 750 degrees C. would cause the unleached material in the cutter to degrade. Therefore, one skilled in the art can readily identify a surface temperature of 950 degrees C. from the color of light emitted during a wear test and can infer from the decrease in wear to the unleached portion of the cutter that the depth temperature did not reach the critical 750 degree C. temperature during that test.

Baker Hughes relies on *Honeywell International, Inc. v. International Trade Commission, Inc.* to support its argument for indefiniteness. 341 F.3d 1332 (Fed.Cir.2003). In *Honeywell,* the patent disclosed a process for producing PET yarn used in automobile tires. Id. at 1334. The process produced yarn with better mechanical qualities than previous PET yarn. *Id.* In order to achieve the desired qualities, the process required the yarn to be spun under high stress conditions and then stretched under heat. *Id.* During part of the preparation process, the yarn had to achieve a melting point elevation ("MPE") within a specified range. *Id.*

The dispute focused on how to prepare the yarn sample prior to testing to determine the MPE measurement. *Id.* at 1335. The preparation of the sample for measuring the MPE was critical to the measurement itself, and there were four known preparation methods in the field. *Id.* Each preparation method yielded a different MPE measurement, and the patent did not disclose which of the four methods should be used to prepare the sample. *Id.* at 1336. Accordingly, there were at least two different possible constructions of the term "MPE": "any one method" or "all methods." *Id.* The Federal Circuit affirmed the District Court's finding of indefiniteness because a person of ordinary skill in the art was aware of several methods to prepare the sample to measure MPE, which would each yield a different result. *Id.* An accused infringer did not know which method to use to determine if its product actually infringed because there were multiple possible constructions of the claim term. *Id.*

In this case, Hall states that the wear test is the only test one of ordinary skill in the art would use to determine thermal characteristics of the cutters. Unlike *Honeywell,* there is only one test, which does not affect the construction of the claim term. Further, in *Honeywell,* the method of preparation affected the outcome of the MPE measurement, therefore the method was key in determining infringement. *Id*. at 1339. In this case, the method used to reach the 950 degree C. temperature (whether through a wear test or otherwise) is irrelevant to the end result. It is known in the art that the cutters break down at temperatures exceeding 750 degrees C. The claim term merely requires a surface temperature of 950 degrees C. and a temperature at the depth of less than 750 degrees C. Accordingly, to test if a product infringes, an accused infringer need only achieve a temperature of 950 degrees C. at the surface by any of the known methods, if more than one method exists. The accused infringer can then examine the unleached portion below for degradation. If degradation occurs, it can infer that the unleached portion reached a temperature higher than 750 degrees C.

ReedHycalog likens this patent to a claim requiring a car to reach a speed of thirty miles per hour where nothing in the patent requires the speed be achieved in any particular manner. The car could be towed by another vehicle, pushed down a hill, or driven; only the end result-a speed of thirty miles per hour-is significant. FN1

FN1. ReedHycalog's corporate representative, Terry Mathias, further testified that:
we've talked in great details about all the variables that you can change in this test at some great length; and I still would hold that it is not necessarily relevant, that as long as you can attain a temperature of 950 degrees C at the surface and 750 degrees at the depth, then it doesn't matter how you attain it.

In addition, although Baker Hughes' argument is essentially that it cannot determine from the patents whether or not its products infringe, one defendant claimed to know-at least at some point-that its products did not infringe the patent-in-suit. ReedHycalog attached a copy of a U.S. Synthetic presentation dated June 15, 2005 entitled "PDC Technology Update" in its response to this motion. Exhibit 10 to Plaintiff's Response to Mot. for Summary Judgment. The presentation states "[n]ew material # 1 delivers deep-leach performance without violating [Reed]Hycalog claims." Clearly U.S. Synthetic has relied on at least one test to determine that its products do not infringe ReedHycalog's patents.

Baker Hughes also argues that there are too many variables and boundary conditions that can be manipulated in the wear test, which makes it unreliable. Regardless of the variables or conditions used, the wear test must be conducted such that the surface temperature is 950 degrees C. The method of achieving this temperature is not essential to determining whether accused products infringe the patent-in-suit, which will be a matter for expert testimony at trial, and does not render the claims indefinite.

The plain language of this term is clear even to a lay person. The term says that when the temperature at the surface is 950 degrees C, the temperature is less than 750 degrees C at the depth. There is no dispute as to what the term means. In addition, ReedHycalog has produced sufficient evidence that the wear test is the only method to determine whether a particular product infringes its patent. Accordingly, the term is not indefinite.

Impact Strength Limitation

The '662 patent purports to teach a cutting element with certain impact strength limitations. Pat. No. '662 col. 18:30-31. For example, claim 1 states: "... and wherein the first volume and the second volume have substantially the same impact strength." Baker Hughes again argues that the patent does not disclose a test to measure the impact strength. ReedHycalog's expert states that impact strength testing has been performed in the industry for over thirty years to test the strength of PCD elements. ReedHycalog points to several exhibits in its response indicating that impact strength testing is common and well known in the art. *See* Plaintiff's Response to Mot., n. 61.

Traditional impact strength testing involves a vertical drop test where the PCD element is dropped against a target (such as a steel block) a repeated number of times until the PCD element chips or until the preselected number of drops is reached. The greater the number of drops that can be made without chipping, the greater impact strength of the PCD elements.

Baker Hughes again argues that the drop tests are subject to a number of variables that could impact the test results. ReedHycalog acknowledges that variables in the testing industry exist, however one skilled in the art need only use the same variables when comparing two PCD elements in order to standardize the test. As long as test on the leached and unleached elements are done under the same conditions, one skilled in the art would be able to compare the elements as the variables would cancel each other out.

Because the terms can be understood by one skilled in the art when read in light of the specification, the terms are not insolubly ambiguous and are amenable to construction. Therefore the claims are not indefinite, and the motion is **DENIED.**

CLAIM CONSTRUCTION

The patents-in-suit have overlapping terms to be construed. Rather than going patent-by-patent, the Court will construe the terms as the parties presented them, term-by-term. If there is a difference in the construction of the term based on a particular patent, the Court will note this difference. FN2

FN2. The terms to be construed include: 1. "to a depth" 2. "said bonded diamonds exhibit a thermal characteristic such that a 950 degree C. temperature at the working surface results in a temperature of less than 750 degrees C. at the depth" 3. "substantially free" 4. "catalyzing material" 5. "working surface" 6. "contains a catalyzing material," / "contains the catalyzing material," / "contact the catalyzing material," / "permitting the catalyzing material to remain" 7. "remote from the working surface," / "adjacent to the working surface," / "remote from the first volume," / "adjacent to the first volume" 8. "within at least 0.1 mm depth from a working surface" and 9. "have substantially the same impact strength"/ "the body with a substantially uniform impact strength."

To a depth

Claim 1 of the '447 patent is representative of the term at issue. FN3 With the disputed term in bold, Claim 1 states:

FN3. The '098, '137, and '447 patents claims and specifications are similar. For simplicity, the Court will cite to the '447 patent generally.

A polycrystalline diamond element comprising a body of bonded diamonds with a working surface, wherein a first volume of the body remote from the working surface contains a catalyzing material, a second volume of the body adjacent to the working surface is substantially free of the catalyzing material **to a depth** from the working surface, wherein said bonded diamonds exhibit a thermal characteristic such that a 950 degree C. temperature at the working surface results in a temperature of less than 750 degrees C. at **the depth.** Baker Hughes proposes "to a distance of at least 0.1 mm measured perpendicularly from the top of each part of each working surface." ReedHycalog contends that this phrase does not need to be construed. To support its argument, Baker Hughes points to the '098 patent specification, which reads: "[t]herefore, for the types of heat input common in cutting elements 10, a 0.1 mm depth is the critical depletion depth from the working surface ...." Pat. No. '098 col. 10: 43-45. However, the previous sentence in that specification states, "[a]s can be seen in curve A in the graph of Fig. 10 there is a dramatic increase in the wear index result of cutting elements 10 when the catalyzing material 64 depletion depth *approaches* 0.1 mm." *Id*. at 10:40-42 (emphasis added). In addition, the '137 patent specifically discusses other leach depths. FN4 Clearly this language contemplates improved wear index at various levels of leaching, not solely 0.1 mm. Baker Hughes' proposed construction would improperly limit the claim to the preferred embodiment. The phrase is easily understood and does not require construction.

FN4. The '137 patent specification states
... it is also believed that a distance D of less than 0.1 mm could provide approximately the same wear index in a cutting element with a diamond density of the body approaching 99% as the 0.2 mm to 0.3 mm D distance in a body with 85% to 90% diamond volume density."

Pat. No. '137 col. 13: 21-29.
Said bonded diamonds exhibit a thermal characteristic such that a 950 degree C. temperature at the working surface results in a temperature of less than 750 degrees C. at the depth

The thermal characteristic language in the term is the subject of the motion for summary judgment above. Baker Hughes contends this entire phrase is indefinite. As stated in the ruling on summary judgment, the phrase is not indefinite.

ReedHycalog only proposes a construction for "bonded diamonds" as "a plurality of diamonds or diamond-like crystals joined together" and contends the rest of the phrase needs no construction. The Court agrees with ReedHycalog's proposed construction, however "diamond-like" is only included in the '662 patent's construction because only the '662 patent specification uses this term in its definition of PCD. In other words, for the '447 patent, '098 patent, and '137 patent, the Court construes "bonded diamonds" as "a plurality of diamond crystals." The Court construes "bonded diamonds" in the '662 patent as "a plurality of diamond or diamond-like crystals." The rest of the phrase needs no construction.

Substantially free

Baker Hughes offers the construction "nearly all." ReedHycalog proposes "substantially devoid of catalyzing material, except that many, if not all, the surfaces of the adjacent diamond crystals may still have a coating of catalyzing material." At the hearing, ReedHycalog argued that its construction would "clarify for the jury they are not looking necessarily for something that is essentially clean; but that, in fact, many, if not all-as the phrase says-of the diamond crystals could, in fact, still have a coating on them." Hearing Transcript, 95:23-96:1. The parties then agreed that "substantially free" means "many, if not all." However, replacing "substantially free" in the claim language with "many, if not all" does make sense. Therefore,

since the parties agreed during the hearing that the area that is substantially free of the catalyzing material may still contain some catalyzing material, the Court construes "substantially free" to mean "free of most, but not all, of the catalyzing material."

Catalyzing material

Prior to the *Markman,* the parties' proposed constructions of catalyzing material were very close. ReedHycalog proposed "a material used to help form bonds between adjacent crystals during the formation of the body of bonded diamonds." Baker Hughes offered "a material used to help form bonds between adjacent diamond crystals during the sintering of the diamond table." At the *Markman,* the parties agreed to ReedHycalog's construction of this term. FN5 Accordingly, the Court adopts this construction.

FN5. Baker Hughes' counsel agreed with ReedHycalog's proposed construction stating: "I believe that Mr. Williams said the catalyzing material was the catalyzing material that was used to form the body of bonded diamonds. As long as that is our understanding, we are fine with their proposed construction." *Markman* Tr. at 22

Working surface

The parties' proposed constructions for this term are very similar. ReedHycalog proposes "any portion of the PCD body which, in operation, may contact the object to be worked; where 'PCD' means polycrystalline diamond or diamond-like elements." Baker Hughes proposes "any surface of the cutting element which, in operation, may contact the object to be worked."

ReedHycalog's proposed construction comes directly from the specification, which explicitly defines the working surface as "any portion of the PCD body 8 which, in operation, may contact the object to be worked." Pat. No. '447 col. 7:25-32. Defendants do not object to ReedHycalog's proposed construction except for the inclusion of "diamond-like elements" in its proposed construction of PCD.FN6 Defendants contend this construction impermissibly broadens the scope of all but five claims in the patents.

FN6. At the *Markman,* Baker Hughes' counsel stated: "In fact, if you put a period after "worked" in their proposed construction and excluded the highlighted portion of their proposed construction, defendants would probably be fine with what they have."

As discussed above, only the '662 patent's specification uses "diamond-like" in its discussion of PCD. Accordingly, the Court adopts ReedHycalog's proposed construction in its entirety with respect to the '662 patent, but construes the term as follows for the remaining patents: "any portion of the PCD body which, in operation, may contact the object to be worked."

Contains a catalyzing material, contains the catalyzing material, contact the catalyzing material, permitting the catalyzing material to remain

These terms relate to the unleached portion of the diamond table. The leached portion is "substantially free" of catalyzing material (as discussed above), and the unleached portion "contains," "contacts," or "permit[s]" the catalyzing material. ReedHycalog contends these phrases need no construction. Baker Hughes proposes "no part of the volume is substantially free of catalyzing material."

The parties did not argue this term at the *Markman* hearing. In its brief, Baker Hughes argues that its construction is necessary to differentiate between the two distinct layers in the diamond table. However, Baker Hughes' proposed construction does not help clarify this for the jury. This term does not need construction.

Remote from the working surface, adjacent to the working surface, remote from the first volume, adjacent to the first volume

These terms relate to the spatial relationship between the leached and unleached portions of the diamond table. The parties did not argue these terms at the *Markman* hearing. In its brief, Baker Hughes argues that its construction is necessary to demonstrate this spatial relationship. ReedHycalog contends these phrases need no construction. Baker Hughes offers the following constructions: (1) "remote from the working surface" means "located at least 0.1mm away from the working surface, measured perpendicularly from the top of each part of each working surface," (2) adjacent to the working surface" means "on or at the working surface," (3) "remote from the first volume" means "located distant from the first volume," and (4) "adjacent to the first volume" means "at or near any pare of the first volume." These proposed constructions do not aid the jury in understanding the terms, and as discussed with the term "at a depth," several of the proposed constructions seek to limit the patent to the preferred embodiment. Accordingly, this term needs no construction.

Within at least 0.1 mm depth from a working surface

This term appears in Claim 41 of the '662 patent:

41. A PCD element comprising a body integrally formed with a metallic substrate, the body comprising a plurality of bonded diamonds crystals having surfaces and a catalyzing material ... wherein at least 30% of the crystals in the body contact the catalyzing material and the surfaces of a majority of the remaining crystals that are **within at least a 0.1 mm depth from a working surface** are substantially free of the catalyzing material ....

The parties did not argue this term at the *Markman* hearing. ReedHycalog contends this term needs no construction. For the same reasons it argued its construction of "at a depth," Baker Hughes proposes "within a distance of at least 0.1 mm measured perpendicularly from the top of each part of each working surface." As with the term, "at a depth," Baker Hughes' proposed construction imports unnecessary limitations into the claims. This term is easily understood and does not require construction.

Have substantially the same impact strength, the body with a substantially uniform impact strength

Claim 1 of the '662 patent contains an example of the terms at issue:

A PCD element comprising a body of bonded diamonds integrally formed with a metallic substrate, the body having a working surface and at least an 85% by volume diamond density, wherein a first volume of the body adjacent to the working surface contains a catalyzing material, a second volume of the body adjacent to the working surface is substantially free of the catalyzing material, and wherein the first volume and the second volume **have substantially the same impact strength.**

The impact strength limitation is one of the subjects of Defendants' motion for summary judgment discussed

in detail above. Baker Hughes contends the entire phrase is indefinite and offers no construction. The Court holds the phrase is not indefinite. ReedHycalog contends "impact strength" should be construed to mean "resistance to impact," but the entire phrase needs no construction. The Court agrees and construes "impact strength" to mean "resistance to impact." The remainder of the phrase needs no construction.

CONCLUSION

Having found the terms are not insolubly ambiguous and are amenable to construction, the Court **DENIES** the motion for summary judgment on indefiniteness and construes the terms as stated herein. For ease of reference, the Court's claim interpretations are set forth in a table as Appendix A.

So ORDERED and SIGNED this 10th day of September, 2007.

APPENDIX A

U.S. Patent Nos. 6,861,098, 6,861,137, 6,878,447, and 6,601,662		
	DISPUTED CLAIM TERMS-	**COURT'S CONSTRUCTION**
1.	**To a depth**	This term needs no construction.
2.	said **bonded diamonds** exhibit a thermal characteristic such that a 950 degree C. temperature at the working surface results in a temperature of less than 750 degrees C. at the depth	"Bonded diamonds" means: (1) For the '447 patent, '098 patent, and '137 patent: a plurality of diamond crystals. (2) For the '662 patent: a plurality of diamond or diamond-like crystals. The rest of the phrase needs no construction.
3.	**Substantially free**	Free of most, but not all, of the catalyzing material.
4.	**Catalyzing material**	A material used to help form bonds between adjacent crystals during the formation of the body of bonded diamonds.
5.	**Working surface**	(1) For the '447 patent, the '098 patent, and the '137 patent: Any portion of the PCD body which, in operation, may contact the object to be worked. (2) For the '662 patent:
		Any portion of the PCD body which, in operation, may contact the object to be worked; where 'PCD' means polycrystalline diamond or

		diamond-like elements.
6.	**Contains a catalyzing material,/contains the catalyzing material,/ contact the catalyzing material,/"permitting the catalyzing material to remain**	These terms need no construction.
7.	**Remote from the working surface,"/ adjacent to the working surface,/ remote from the first volume,/ adjacent to the first volume**	These terms need no construction.
8.	**Within at least 0.1 mm depth from a working surface**	This term needs no construction.
9.	Have substantially the same **impact strength**/ the body with a substantially uniform **impact strength**	"Impact strength" means "resistance to impact." The remainder of the phrase needs no construction

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