

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF INDIANA  
INDIANAPOLIS DIVISION

IN RE: METHOD OF PROCESSING	)	
ETHANOL BYPRODUCTS AND	)	Master Docket:
RELATED SUBSYSTEMS ('858)	)	1:10-ml-02181-LJM-DML
PATENT LITIGATION	)	

**ORDER ON CLAIM CONSTRUCTION**

The parties in this cause, plaintiff, GS CleanTech Corporation (“Plaintiff”), defendants together with the exception of Adkins Energy LLC (“Adkins”) (collectively “Defendants”), and Adkins, have presented argument on and have briefed the claim terms to be construed in the patent-in-suit, U.S. Patent No. 7,601,858, Oct. 13, 2009 (the “858 patent”). Guided by the Supreme Court’s opinion in *Markman v. Westview Inst., Inc.*, 517 U.S. 370, 388-90 (1996) (“*Markman II*”), and by the Federal Circuit’s opinions in *Markman v. Westview Inst., Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (“*Markman I*”), and *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005), to the extent practicable the claim construction rendered herein will not be a “tentative one” subject to change upon receipt of additional information and evidence, but a definitive one based upon all of the evidence of record at this point in the litigation. See *Int’l Commc’n Mat’ls, Inc. v. Ricoh Co., Ltd.*, 108 F.3d 316, 318-19 (Fed. Cir. 1997) (noting that district court performed a “tentative construction” of the claim language to facilitate a decision of the preliminary injunction issue).

## **I. BACKGROUND**

### **A. THE DRY MILLING PROCESS**

The specification of the '858 patent outlines the ethanol production process, which is a necessary precursor to the invention claimed in the patent. The Court will discuss this process before turning its attention to the claimed invention.

Ethanol can be produced using grains such as corn. '858 Patent col.1 l.28-30. Using a method called "dry milling," over two billion gallons of ethanol are produced from grains, primarily corn, in the United States every year. *Id.* col.1 l.30-31, 35-36. The dry milling process utilizes the starch in the corn or other grain to produce ethanol through fermentation, and it creates a waste stream comprised of byproducts termed "whole stillage." *Id.* col.1 l.40-43. Whole stillage contains, among other things, oil. *Id.* col.1 l.43. Whole stillage, after leaving the ethanol fermenting process, may be further separated into products known as "distillers wet grains" and "thin stillage." *Id.* col.1 l.41-43.

### **B. THE '858 PATENT**

The '858 patent is directed to "a method of processing a concentrated byproduct of a dry milling process for producing ethanol . . . . In its most basic form, the method comprises recovering oil from the concentrated byproduct." *Id.* col.2 l.18-22. The specification of the patent repeatedly refers to the invention as a two-step process comprised of a concentration step and a recovery step. For example, "the method includes the step of evaporating the thin stillage to form a concentrate. The recovering step may further comprise separating the oil from the concentrate using a dist stack centrifuge." *Id.*

col.2 l.23-27. Although the specific details vary, every embodiment included in the specification includes an evaporating or concentrating step and an oil recovery step. *Id.* col.2 l.50-56; *Id.* col.2 l.57-61; *Id.* col.3 l.59-66; *Id.* col.2 l.24-27; *Id.* col.2 l.40-49; *Id.* col.2 l.65-col.3 l.5.

### C. THE ASSERTED CLAIMS

Plaintiffs accuse Defendants' methods of infringing independent claims 1, 8, 10, and 16 and dependent claims 3, 5, 13, and 14 of the '858 patent. The asserted claims read:

1. A method of recovering oil from thin stillage, the method comprising, in sequence: evaporating the thin stillage to remove water and form a concentrated byproduct; and recovering oil from the concentrated byproduct by heating and mechanically processing the concentrated byproduct to separate the oil from the concentrated byproduct, wherein the concentrated byproduct has a moisture content of greater than 30% and less than 90% by weight.

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3. The method of claim 1, wherein the recovering step is performed on the concentrated byproduct at a temperature of about 180° F.

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5. The method of claim 1, wherein the recovering step is performed on the concentrated byproduct having a pH of between 3 and 6.

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8. A method of recovering oil from thin stillage, comprising, in sequence: evaporating the thin stillage to create a concentrate having a moisture content of greater than 30% by weight and less than about 90% by weight; and centrifuging the concentrate to recover oil.

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10. A method of processing whole stillage, comprising: recovering thin stillage from the whole stillage, the thin stillage including oil and solids; concentrating the thin stillage including the solids to produce a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of

greater than 30% and less than 90% by weight; and recovering oil from the concentrate by a process consisting essentially of heating and mechanically processing the concentrate to separate the oil from the concentrate.

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13. The method of claim 10, wherein the step of recovering the thin stillage comprises separating the oil from the concentrate using a centrifuge.

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14. The method of claim 20, wherein the recovering and concentrating steps are performed in a continuous fashion.

*Id.* col.5 l.66 to col.6 l.56.

Additional details about the '858 patent are included as necessary in the Court's discussion of the parties' arguments.

## **II. CLAIM CONSTRUCTION STANDARDS**

When construing the '858 patent's claims, the Court must determine the meaning of the language used before it can ascertain the scope of the claims Plaintiff asserts are infringed. See *Markman I*, 52 F.3d at 979. In doing so, the Court's interpretive focus is not the subjective intent of the parties employing a certain term, but the objective test of what one of ordinary skill in the art at the time of the invention would have understood the term to mean. See *Phillips*, 415 F.3d at 1313; *Innova/Pure Water v. Safari Water Filtration*, 381 F.3d 1111, 1116 (Fed. Cir. 2004). When the Court undertakes its duty to construe the claims, it first must look to the intrinsic evidence: the asserted and unasserted claims, the specification, and the prosecution history. See *Phillips*, 415 F.3d at 1314; *Ecolab, Inc. v. Envirochem, Inc.*, 264 F.3d 1358, 1366 (Fed. Cir. 2001); *Vitronics Corp. v. Conceptoronic*,

*Inc.*, 90 F.3d 1576, 1581 (Fed. Cir. 1996); *Markman I*, 52 F.3d at 979. Most of the time, such evidence will provide sufficient information for construing the claims. See *Vitronics*, 90 F.3d at 1583.

The patent claims should “particularly point out and distinctly clai[m] the subject matter which the applicant regards as his invention.” *Markman II*, 517 U.S. at 373 (citing 35 U.S.C. § 112). During claim construction, the appropriate starting point for the Court’s inquiry is always the words of both the asserted and unasserted claims. See *Phillips*, 415 F.3d at 1314; *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 977 (Fed. Cir. 1999); see also *Renishaw PLC v. Marposs Societa’ Per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). As the Federal Circuit has noted, “[c]ommon words, unless the context suggests otherwise, should be interpreted according to their ordinary meaning.” *Desper Prods., Inc. v. Qsound Labs., Inc.*, 157 F.3d 1325, 1336 (Fed. Cir. 1998) (citing *York Prods., Inc. v. Central Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1572 (Fed. Cir. 1996)); see also *Phillips*, 415 F.3d at 1314 (citing *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001)). Further, when there are several common meanings for a term, “the patent disclosure serves to point away from the improper meanings and toward the proper meaning.” *Renishaw*, 158 F.3d at 1250. Accord *Phillips*, 415 F.3d at 1315-17 (discussing the role of the specification in claim construction).

The correct claim construction is also the one that “stays true to the claim language and most naturally aligns with the patent’s description of the invention.” *Renishaw*, 158 F.3d at 1250. See also *Phillips*, 415 F.3d at 1316. That description, or specification, serves an important purpose. In it, the patentee must provide a written description of the invention that would allow a person of ordinary skill in the art to make and use the

invention. See *Phillips*, 415 F.3d at 1313-14; *Markman I*, 52 F.3d at 979. The applicable statute requires that “[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains . . . to make and use the same . . . .” 35 U.S.C. § ¶1112, ¶ 1. See also *Phillips*, 415 F.3d at 1312, 1315; *Johnson Worldwide Assocs.v. Zebco Corp.*, 175 F.3d 985, 993 (Fed. Cir. 1999). Therefore, to discover the correct meaning of a disputed claim term, the Court must refer to the specification’s description of the invention.

In addition, a patentee may be his or her own lexicographer and use terms in a manner different from their ordinary meaning. See *Phillips*, 415 F.3d at 1316; *Johnson Worldwide Assocs.*, 175 F.3d at 990; *Vitronics*, 90 F.3d at 1582. If the patentee chooses to do that, he or she must clearly state the special definition in the specification or file history of the patent. See *Phillips*, 415 F.3d at 1316 (citing *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). The specification then serves as a dictionary when it defines terms, either expressly or by implication, that are used in the claims.

Although claims must be read in light of the specification, limitations from the specification may not be read into the claims. See *Phillips*, 415 F.3d at 1323; *Comark Communs. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998). In particular, the Court should not limit the invention to the specific examples or preferred embodiment found in the specification. See *Phillips*, 415 F.3d at 1323; *Tex. Instruments, Inc. v. U.S. Int’l Trade Comm’n*, 805 F.2d 1558, 1563 (Fed. Cir. 1986). Therefore, the “repetition in the written description of a preferred aspect of a claim invention does not limit the scope of an invention that is described in the claims in different and broader terms.” *Laitram Corp. v.*

*NEC Corp.*, 163 F.3d 1342, 1348 (Fed. Cir. 1998). See also *Phillips*, 415 F.3d at 1323 (describing how to distinguish between a best mode disclosure and a limitation disclosure in a specification).

Interpreting the meaning of a claim term “is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.” *Laitram*, 163 F.3d at 1348 (quoting *Intervet Am., Inc. v. Kee-Vet Lab., Inc.*, 887 F.2d 1050, 1053 (Fed. Cir. 1989) (further citation omitted by *Intervet* court)). See also *Innova/Pure Water*, 381 F.3d at 1117. An extraneous limitation is a limitation added “wholly apart from any need to interpret what the patentee meant by particular words and phrases in the claim.” *Hoganas AB v. Dresser Indus., Inc.*, 9 F.3d 948, 950 (Fed. Cir. 1993). See also *Phillips*, 415 F.3d at 1323; *Renishaw*, 158 F.3d at 1249. Although there is a fine line between reading a claim in light of the specification and reading a limitation from the specification into the claim, the Court must look cautiously to the specification for assistance in defining unclear terms. See *Phillips*, 415 F.3d at 1323-24; *Innova/Pure Water*, 381 F.3d at 1117.

The third source of intrinsic evidence is the prosecution history of the patents-in-suit. See *Phillips*, 415 F.3d at 1317; *Desper Prods.*, 156 F.3d at 1336-37; *Vitronics*, 90 F.3d at 1582. In a patent’s prosecution history, the Court will find a complete record of the proceedings before the PTO leading to issuance of the patent. See *Vitronics*, 90 F.3d at 1582. The prosecution history contains both express representations made by the patentee concerning the scope of the patent, as well as interpretations of claim terms that were disclaimed during the prosecution. See *id.* at 1582-83; see also *Phillips*, 415 F.3d at 1317; *Ecolab*, 264 F.3d at 1368. “The prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and

whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Phillips*, 415 F.3d at 1317.

In some cases, it may be necessary for the Court to consult extrinsic evidence to aid it in construing the claim language. See *id.*; *Vitronics*, 90 F.3d at 1584. Extrinsic evidence is any evidence outside of the patent and prosecution history, “including expert and inventor testimony, dictionaries, and learned treatises.” *Markman I*, 52 F.3d at 980. See also *Phillips*, 415 F.3d at 1317. It may be used to assist the Court’s understanding of the patent or the field of technology. See *Markman I*, 52 F.3d at 980-81. However, “courts [should] not *rely* on extrinsic evidence in claim construction to contradict the meaning of claims discernible from thoughtful examination of the claims, the written description, and the prosecution history—the intrinsic evidence.” *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (emphasis in original) (citing *Vitronics*, 90 F.3d at 1583). Judges are not usually “conversant in the particular technical art involved,” or capable of reading the patent specification and claims as one skilled in the art might. See *Markman I*, 52 F.3d at 986; see also *Pitney Bowes*, 182 F.3d at 1308-09. Therefore, “consultation of extrinsic evidence is particularly appropriate to ensure that [the Court’s] understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art.” *Pitney Bowes*, 182 F.3d at 1309. See also *Phillips*, 415 F.3d at 1318. When the Court relies on extrinsic evidence to assist with claim construction, and the claim is susceptible to both a broader and a narrower meaning, the narrower meaning should be chosen if it is the only one clearly supported by the intrinsic evidence. See *Digital Biometrics v. Identix*, 149 F.3d 1335, 1344 (Fed. Cir. 1998); see also *Phillips*, 415 F.3d at 1317-19 (discussing the proper use of extrinsic evidence). It is entirely

proper for the Court to accept and admit extrinsic evidence, such as an expert's testimony, to educate itself but then base its construction solely on the intrinsic evidence. See *Mantech Env't'l Corp. v. Hudson Env't'l Servs., Inc.*, 152 F.3d 1368, 1373 (Fed. Cir. 1998).

Further, the Federal Circuit has taken special note of the use by courts of a specific type of extrinsic evidence: dictionaries. In its *Vitronics* opinion, the court explained that although technical treatises and dictionaries are extrinsic evidence, judges are free to consult these resources at any time in order to get a better understanding of the underlying technologies. 90 F.3d at 1584 n.6. The *Vitronics* court stated that judges may rely on dictionaries when construing claim terms as long as the dictionary definition does not contradict the definition found in, or ascertained by, a reading of the patent. *Id.* The Federal Circuit affirmed this approach in *Phillips*. 415 F.3d at 1322-23.

**III. DISCUSSION**

**A. “concentrated byproduct” [claims 1, 3, 5]/ “concentrate” [claims 8, 10, 13, 14]/ “thin stillage concentrate” [claim 10]/ “concentrated thin stillage” [claim 16] (collectively, “the Concentrate Terms”)**

<b>Claim Term</b>	<b>Claim</b>	<b>Plaintiff’s Proposal</b>	<b>Defendants’ Proposal</b>	<b>Adkins’ Proposal</b>
“concentrated byproduct”	1,3,5	The product that remains after the removal of water from thin stillage, containing water, oil and solids	Syrup containing water, oil and solids resulting from the concentrating/ evaporating process	Syrup containing water, oil, and solids produced after the step of evaporating (claims 1-10) or concentrating (claims 10-16) thin stillage is complete
“concentrate”	8, 10, 13, 14			
“thin stillage concentrate”	10			
“concentrated thin stillage”	16			

The parties agree that the Concentrate Terms can be construed together. The parties’ proposed constructions indicate that each believes the Concentrate Terms refer to a substance containing water, oil, and solids. The Defendants and Adkins assert that the Concentrate Terms should be limited to a syrup resulting from the concentrating or evaporating process, but Plaintiff argues that Defendants’ and Adkins’ asserted construction places unnecessary limits on the Concentrate Terms.

Relying on an ordinary dictionary definition, Plaintiff argues that a person of ordinary skill in the art would understand that to concentrate something means to remove water from it. Plaintiff argues that by construing the Concentrate Terms as requested by Defendants, the Court would impermissibly read unstated limitations into the claims. Defendants,

however, turn their attention to the claim language in order to support their argument that the Concentrate Terms must be understood as the result of the concentration or evaporation process. For example, claim 1 discloses “a method comprising, in sequence: evaporating the thin stillage to remove water and form a concentrated byproduct.” ‘858 patent col.5 l.65-col.6 l.2. Claim 8 also refers to evaporating in order to form the concentrate. *Id.* col.6 l.26-30. Claim 10 contemplates “concentrating thin stillage . . . to produce a thin stillage concentrate.” *Id.* col.6 l.36-37. Finally, claim 16 discloses a method for processing corn to “produce ethanol and concentrated thin stillage. *Id.* col.6 l.59-60.

The Court agrees with Defendants that the claim language itself suggests that the Concentrate Terms refer to the substance that results from the concentration or evaporation process. *See Phillips*, 415 F.3d at 1314. Contrary to Plaintiff’s argument, this construction does not foreclose the possibility that Plaintiff’s claimed invention can be practiced continuously. *See, e.g., id.* col.3 l.2-4. Instead, the process of concentrating or evaporating can yield the substance referred to by the Concentrate Terms, and then the substance can be further evaporated or concentrated and continue to yield more of that substance. However, the language of the claims does indicate that the concentration or evaporation process precedes the creation of the substance referred to in the Concentrate Terms. Considering the claim language as described above in light of the specification, which consistently describes the substance referred to in the Concentrate Terms as what is formed by the concentration or evaporation step, the Court concludes that construing the Concentrate Terms as a substance “resulting from the concentrating/evaporating process” is supported by the intrinsic evidence.

To that end, the Court rejects Adkins' proposed language because it reads an impermissible unstated limitation into the claims. See *Northern Telecom Ltd. v. Samsung Elecs., Co., Ltd.*, 215 F.3d 1291, 1290 (Fed. Cir. 2000) (noting that the Federal Circuit has "repeatedly and clearly held that it will not read unstated limitations into claim language"). Specifically, it reads the possibility of a continuous process out of the scope of Plaintiff's claims by indicating that the water removal step must be absolutely complete before any of the substance referred to by the Concentrate Terms moves on to the next step.

The question remaining in the construction of the Concentrate Terms is how the substance to which they refer should be understood. Plaintiff offers that its is a "product" consisting of water, oil and solids, but Defendants and Adkins argue that a person of ordinary skill in the art would understand the term to mean "syrup" consisting of oil, water, and solids. Plaintiff asserts conclusorily that its word, "product," can but does not have to mean "syrup" and nothing in the claim language limits the substance to which the Concentrate Terms refer to "syrup." However, Defendants present evidence that a person of ordinary skill in the art at the time of the invention would understand the composition resulting from the evaporation process in an ethanol plant to be "syrup." See U.S. Patent No. 5,662,810 (Sept. 2, 1997), col.1 l.57-62. Additionally, Defendants point out that the specification uses the terms "concentrate" and "syrup" interchangeably to describe the composition described by the Concentrate Terms. See '858 patent col.1 l.48; *id.* col.3 l.53 (using the phrase "concentrate or syrup" to refer to the substance resulting from the evaporation of thin stillage); *id.* col.4 l.8 (same); *id.* col.4 l.43-44 (same). Although the Court may not read limitations into the claim terms from the specification, the '858 patent's claims do not describe the invention in broader or different terms than those included in the

specification. Instead, in this instance, “syrup” most naturally aligns the claim language with the language of the specification. See *Renishaw*, 158 F.3d at 1250. Accordingly, the Court interprets the Concentrate Terms as meaning “syrup containing water, oil, and solids resulting from the concentrating or evaporating process.”

**B. “mechanically processing” [claims 1, 10, 16]**

<b>Claim Phrase</b>	<b>Claim</b>	<b>Plaintiff’s Proposal</b>	<b>Defendants’ Proposal</b>	<b>Adkins’ Proposal</b>
mechanically processing	1, 10, 16	To subject to a mechanical device (or devices) to effect a particular result.	Processing with a centrifuge	Separating components of a mixture with a centrifuge

Defendants and Adkins argue the ‘858 patent’s specification and prosecution history both prove that “mechanically processing” means “processing with a centrifuge.” Plaintiff, conversely, argues that neither the specification nor the prosecution history specifically disclaim other mechanical processing methods aside from centrifuging. Further, Plaintiff argues that the doctrine of claim differentiation requires that the phrase “mechanically processing” mean something more broad and distinct from processing with a centrifuge.

The claims at issue do not include any language describing the phrase “mechanically processing” as involving only a centrifuge. In fact, claim 8 discloses a “method of recovering oil from thin stillage, comprising, in sequence: evaporating the thin stillage . . . and centrifuging the concentrate to recover oil.” ‘858 patent, col.6 l.26-30. Conversely, claim 1, like claims 10 and 16, discloses a method where the recovery step is

accomplished by “heating and mechanically processing the concentrated by-product.” *Id.* col.5-6 l.65-7. In these claims, no mention is made of centrifuging. When different words or phrases are used in separate claims, a difference in meaning is presumed. *Tandon Corp. v. U.S. Int’l Trade Comm’n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987). This principle of claim differentiation would suggest that the difference in the use of terms is significant and that “mechanically processing” should not be limited to processing with a centrifuge.

Defendants and Adkins, however, argue that the Court should not stop its inquiry with the doctrine of claim differentiation. Citing *Nystrom v. Trex Co.*, Defendants and Adkins argue that the consistent description of mechanical processing as centrifuging in the subject patent frames the invention as using only a centrifuge. 424 F.3d 1136 (Fed. Cir. 2005). Indeed, “[d]ifferent terms or phrases in separate claims may be construed to cover the same subject matter where the written description and prosecution history indicate that such a reading of the terms or phrases is proper.” *Id.* at 1143. Defendants specifically point to the ‘858 patent where it states that the “the preferred embodiment essentially requires the addition of a centrifuge.” ‘858 patent, col.5 l.34-36. Defendants go on to argue that at column 5, lines 42-63, the ‘858 patent specifies types of centrifuges that would work in the preferred embodiment. Unlike the patent in *Nystrom*, the context provided in the ‘858 patent’s specification does not make clear that the inventor contemplated only centrifuging as a method of “mechanical processing.” See 424 F.3d at 1143. Claims are not limited to the preferred embodiment in the specification. *Glaxo Wellcome, Inc. v. Andrx Pharms., Inc.*, 344 F.3d 1226, 1233 (Fed. Cir. 2003). The specification of the ‘858 patent states specifically that “[m]odifications or variations” on the preferred embodiment are possible and, further, that in addition to various types of

centrifuges, “other like devices for separating oil from a substance including suspended solids” would be suitable for recovering oil in the recovery step. Accordingly, the Court concludes that the context for the claims provided by the specification does not indicate that the claims refer only to centrifuging. The language of the claims themselves indicates that there is a difference between mechanically processing and processing with a centrifuge.

Plaintiff contends that the Court should give the phrase “mechanically processing” its ordinary meaning. There is no evidence to indicate that one with ordinary skill in the art at the time of the invention would understand “mechanically processing” to mean anything other than Plaintiff’s proffered definition. “Mechanically processing” does not require elaborate definition, as its meaning is relatively apparent. See *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001). Therefore, the Court agrees with Plaintiff that “mechanically processing” means “to subject to a mechanical device (or devices) to effect a particular result.”

**C. “[heating and] mechanically processing the concentrated byproduct to separate the oil from the concentrated byproduct” [claim 1]/ “[heating and] mechanically processing the concentrate to separate the oil from the concentrate” [claim10]/ “[heating and] mechanically processing the concentrated thin stillage to separate the oil from the concentrate” [claim 16]**

<b>Claim Phrase</b>	<b>Claim</b>	<b>Plaintiff’s Proposal</b>	<b>Defendants’ Proposal</b>	<b>Adkins’ Proposal</b>
[heating and] mechanically processing the Concentrate Term separate the oil from the Concentrate Term	1, 10, 16	The Concentrate Term (as Plaintiff proposes it be construed) is subjected to heat and a mechanical device (or devices) to extract a product that is substantially oil from the Concentrate Term	processing with a centrifuge the syrup containing water, oil and solids to separate the oil from the syrup so that the oil stream coming out of the centrifuge is oil without water and/or solids and the syrup stream coming out of the centrifuge is substantially free of oil	
heating . . . the Concentrate Term	1, 10, 16	Same as above	heating the Concentrate Term after the Concentrate Term has left the concentrating or evaporating process	

Heating	1, 10, 16	Subjecting to a source of heat		Adding an external source of heat energy to raise the temperature of the concentrate, or concentrated thin stillage after the evaporating or concentrating step is complete
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The parties disagree as to whether these phrases should be construed in their entirety. Plaintiff contends that the Court should construct the phrases including the bracketed “heating” language. Defendants, conversely, argue that the Court should construe the phrase in two pieces. Specifically, Defendants request construction of the phrase “mechanically processing the concentrate to separate the oil from the concentrate” and similar phrases from claims 1 and 16, and then request a separate construction of the phrase “heating . . . the concentrate to separate the oil from the concentrate” and similar phrases from claims 1 and 16.

Defendants argue that the phrase should be constructed in parts in order to make clear that claims require the heat to be applied after the concentrated byproduct leaves the evaporating process. Plaintiff argues that the phrase Defendants ask to have constructed has no meaning without the bracketed “heating and” language because the separation of the oil is accomplished by both heating and mechanically processing the concentrated byproduct. The Court agrees with Plaintiff that the phrases should be constructed in their entirety. See *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1344 (Fed. Cir. 2006) (“Care must be taken lest word-by-word definition, removed from the context of

the invention, leads to an overall result that departs significantly from the patented invention.”). The Court, however, emphasizes that the Concentrate Terms, as they appear in these phrases should be construed as described above. The Court’s construction of the Concentrate Terms confirms that the syrup referred to by those terms results from the evaporation or concentration process. In the context of the complete phrase, it should be apparent that the heat and mechanical processing that the syrup is subjected to occurs post-evaporation. Indeed, the prosecution history indicates that the heating and mechanical processing of the concentrate occurs separately from and after the evaporation step. Plaintiff stated, in order to overcome the patent office’s rejection premised on obviousness, that it “carefully studied Prevost [a published patent application] and can find no teaching or suggestion of a post evaporation process for recovering oil from the concentrated byproduct by heating and mechanical processing as in claim 1 and 16 or by centrifuging as in claim 14.” Dkt. No. 120-5 at 104 (emphasis in original). Therefore, to distinguish itself from Prevost, Plaintiff clearly disclaimed that the heating that occurs as part of the oil recovery step occurred at any time prior to or as a part of the evaporation or concentrating step. The Court concludes that its construction of the Concentrate Terms is sufficient to make clear that in order to practice the ‘858 patent, the heating and mechanically processing of the syrup referred to by the Concentrate Terms must occur post-evaporation.

Plaintiff argues that grammar, logic, and the specification do not require completion of the evaporation step prior to the oil recovery step. To the extent that Plaintiff argues that as to a single batch of the syrup referred to by the Concentrate Terms, the steps can overlap, the Court disagrees. The prosecution history, as detailed above, makes clear that

the claims refer to a post evaporation/concentration oil recovery step consisting of mechanical processing and heat application. This, however, does not render claim 14, which states that the method claimed in the patent can be practiced continuously, null. The patent can still be practiced in a continuous fashion, but the heat applied in the oil recovery step must be separate from any heat applied in order to evaporate or concentrate any particular batch of thin stillage. Indeed, the patent could, for example, be practiced by applying heat to evaporate the thin stillage in order to produce the concentrated byproduct. Then the recovery step could be accomplished by applying additional heat and centrifuging the concentrated byproduct in order to recover the oil. That step may encompass both evaporation for a new batch of thin stillage that remains after the oil is recovered from the initial batch, and the recovery step for the thin stillage that was already concentrated. Then another centrifuge may be used to process the newly concentrated thin stillage remaining after the oil is recovered from the initial thin stillage. In order to practice the patent, however, further heat must be applied while mechanically processing the new batch of thin stillage. The key to harmonizing the claim language in which the patent teaches that its method can be practiced continuously and the prosecution history that clarifies that the oil recovery must be a post-evaporation process is subjecting the concentrate to a heat source every time it undergoes the oil recovery step.

Before the Court considers the claim phrase in its entirety, it must address Adkins' request for a construction of the term "heating." Adkins proposes that the term "heating" be construed to mean "adding an external source of heat energy to raise the temperature of the concentrate (concentrated byproduct or concentrated thin stillage) after the evaporating or concentrating step is complete. Adkins' argument focuses on the latter part

of its proposed meaning, emphasizing that the prosecution history makes clear that the term “heating,” as it is used in the claims, refers to the step that occurs after the evaporation or concentration step is complete. As the Court has explained above, its construction of the Concentrate Terms clarifies that the heating referred to in the above enumerated claims must occur separately from the evaporation or concentration step.

Adkins further argues that Plaintiff’s proposed construction is insufficient because it defines “heating” in reference to the word “heat.” Relying on the CRC Handbook of Chemistry and Physics, Adkins asserts that a person of ordinary skill in the art would understand that when processing ethanol byproducts “heating” means raising the temperature of the material being heated. Plaintiff argues that Adkins is adding limitations to the term that are not required by the ‘858 patent. The Court agrees that Adkins’ proposed construction does include limitations not required by the language of the ‘858 patent. The Court concludes that the term “heating” has a well understood ordinary meaning and that construing it any other way is unnecessary. See *Phillips*, 415 F.3d at 1314.

The Court will now turn its attention to the language of the phrase “heating and mechanically processing the concentrate/concentrated byproduct/concentrated thin stillage to separate the oil from the concentrate/concentrated byproduct/concentrated thin stillage” as it appears in claims 1, 10, and 16. As the Court discussed, the Concentrate Terms appearing in each of these phrases should be construed as the Court construes them above. Plaintiffs do not argue against Defendants’ assertion that the syrup stream leaving the oil recovery step is substantially free of oil. The primary disagreement between the parties centers on the whether the oil stream resulting from the heating and mechanical

processing is “substantially oil” or “oil free from water and/or solids.” Defendants point to the specification and the prosecution history to show that the phrase must mean that the oil is separated from the syrup such that the oil recovered from the inventive process is oil without water and solids.

With respect to the specification Defendants specifically argue that Plaintiff’s use of the term “usable oil” in the specification together with Figure 2 in the ‘858 patent, which specifies that the oil recovered does not contain any water or solids, indicate that the claim terms must refer to the recovery of oil free from solids and water. Citing two separate portions of the specification, Defendants also assert that the specification limits the claims to “usable oil.” Plaintiff counters Defendants’ assertions by pointing out that there are only three references to “usable oil” or “oil in a usable form” in the specification, but there are several references to “oil” in the specification without any reference to “usable oil.” Further, Plaintiff points out that the two citations to the specification that Defendants contend support claim limitations to “usable oil” are inapposite. Indeed, the first citation, “Col. 3:65” includes the end of a sentence regarding pH levels and the beginning of a sentence regarding evaporation. The other citation, “Col. 5:27-36,” discusses a preferred embodiment that includes a centrifuge to recover “oil,” not “usable oil.” Accordingly, the Court concludes that the two citations provided by Defendants do not support the notion that the specification limits the claims to oil free from water and solids. Further, a few references to “usable oil” amid several references to “oil” in the specification does not amount to a limitation on the claims either. Finally, Figure 2 does not limit the claims to its terms explicitly. The cases are clear that the Court may not limit claims to preferred embodiments. *See, e.g., Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed

Cir. 2009) (“The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims.”). Therefore, the Court concludes that nothing in the specification limits the claims as argued by Defendants.

The other argument Defendants present is that the prosecution history supports their proposed construction. Prevost was one of the main pieces of prior art cited against the ‘858 patent during prosecution. Dkt. No. 120-5 at 81-82, 114-115. Twice the patentee distinguished the claims of the ‘858 patent from Prevost on the basis that it had “carefully studied Prevost and [could] find no teaching or suggestion of a post evaporation process for recovering oil from the concentrated byproduct.” *Id.* at 104, 128 (emphasis in original). Defendants argue that Prevost does, in fact, disclose a post evaporation process for recovering oil from the concentrated byproduct that consists of mechanical processing. Accordingly, argue Defendants, Prevost renders the ‘858 patent claims obvious if the post evaporation process is the only difference between Prevost and the ‘858 patent. Citing the rule that claims should be constructed with an eye toward validity, Defendants state that the quality of the oil that results from the post-evaporation processing must distinguish the ‘858 patent from Prevost. See *Becton, Dickinson & Co v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1255 (Fed. Cir. 2010).

The Court disagrees with Defendants’ characterization of the ‘858 patent’s prosecution history. The Court could not find any statements in the prosecution history to indicate that Applicants limited their methods to the recovery of oil alone, free from water and solids. Indeed, Applicants do distinguish their claimed methods from Prevost, but they do so explicitly on the grounds that their claimed method teaches a post-evaporation

process for recovering oil from the concentrate using heat and mechanical processing. Defendants also cite Applicants' statements regarding evaporation freeing some of the bound oil and how Minowa in combination with Prevost fail to teach or suggest "recovering the oil from the concentrated byproduct by heating and mechanically processing the concentrated byproduct to separate the oil from the concentrated byproduct." Neither of these statements reference the recovery of oil free from water and solids. Indeed, Defendants state that they "presume" that is what Applicants were referencing. However nothing in the context of the prosecution history indicates that Defendants' presumption is correct. Defendants' assumptions regarding the grounds on which Applicants distinguished from Prevost are completely without support in the record of the prosecution history. Although the Court acknowledges that patent claims are generally construed so as to sustain their validity, the Court will not abandon the well established principles of claim construction in order to address a validity issue that is not currently before it. See *Whittaker Corp. v. UNR Indus., Inc.*, 911 F.2d 709, 712 (Fed. Cir. 1990). Accordingly, the Court concludes that Applicants did not limit the scope of the claims in either the specification or the prosecution history. Therefore, the Court construes the language in claims 1, 10 and 16 as: "the Concentrate Term (as construed by the Court in this Order) subjected to heat and a mechanical device (or devices) to extract a product that is substantially oil from the Concentrate Term (as construed by the Court in this Order)."

**D. “centrifuging the concentrate to recover oil” [claim 8]**

Claim Phrase	Claim	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction	Adkins’ Proposed Construction
“centrifuging the concentrate to recover oil”	8	Processing the concentrate (as defined in Plaintiff’s proposed construction for the Concentrate Terms) with a centrifuge to separate the oil from the concentrate so that the oil stream coming out of the centrifuge is substantially oil and the remaining concentrate stream coming out of the centrifuge is substantially free from oil	processing with a centrifuge the syrup containing water, oil and solids to separate the oil from the syrup so that the oils tream coming out of the centrifuge is oil without water and/or solids and the syrup stream coming out of the centrifuge is substantially free of oil.	

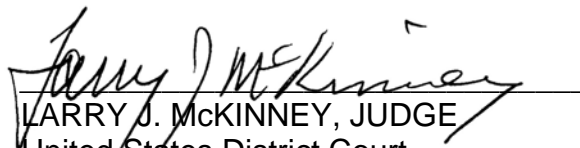
The parties present no new arguments as to the construction of this phrase in claim 8. For the reasons discussed above, the Court adopts Plaintiff’s proposed construction with the modification that “concentrate” should be defined as the Court construes it in this Order. Accordingly, the Court concludes that “centrifuging the concentrate to recover oil” means: “processing the concentrate (as defined by the Court in this Order) with a centrifuge to separate the oil from the concentrate so that the oil stream coming out of the centrifuge is substantially oil and the remaining concentrate stream coming out of the centrifuge is substantially free of oil.”

**IV. CONCLUSION**

For the foregoing reasons, the Court construes the disputed terms of the patent-in-suit, U.S. Patent No. 7,601,858, Oct. 13, 2009 as follows:

Claim Term	Construction
“concentrate”/“concentrated byproduct”/“concentrated thin stillage”	“syrup containing water, oil, and solids resulting from the concentrating or evaporating process”
“mechanically processing”	“to subject to a mechanical device (or devices) to effect a particular result”
“heating and mechanically processing the concentrate/concentrated byproduct/concentrated thin stillage to separate the oil from the concentrate/concentrated byproduct/concentrated thin stillage”	“the Concentrate Term (as construed by the Court in this Order) subjected to heat and a mechanical device (or devices) to extract a product that is substantially oil from the Concentrate Term (as construed by the Court in this Order)”
“centrifuging the concentrate to recover oil”	“processing the concentrate (as defined by the Court in this Order) with a centrifuge to separate the oil from the concentrate so that the oil stream coming out of the centrifuge is substantially oil and the remaining concentrate stream coming out fo the centrifuge is substantially free of oil”

IT IS SO ORDERED this 29<sup>th</sup> day of September, 2011.

  
 LARRY J. MCKINNEY, JUDGE  
 United States District Court  
 Southern District of Indiana

Distribution to all counsel of record.