

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

IN RE: METHOD OF PROCESSING) ETHANOL BYPRODUCTS AND) RELATED SUBSYSTEMS ('858) PATENT) LITIGATION)) RELATED CASE:)) 1:10-cv-00180-LJM-DML) 1:10-cv-08001-LJM-DML) 1:10-cv-08002-LJM-DML) 1:10-cv-08007-LJM-DML) 1:10-cv-08008-LJM-DML) 1:10-cv-08009-LJM-DML) 1:10-cv-08010-LJM-DML)	No. 1:10-ml-02181-LJM-DML
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ORDER ON CLAIM CONSTRUCTION OF THE '037 PATENT

The Court has considered the parties', Plaintiffs GS CleanTech Corporation and Greenshift Corporation (collectively, "Plaintiffs") and Defendants David Vander Griedn, Flottweg Separation Technology, Inc., Cardinal Ethanol, LLC, Big River Resources Galva, LLC; Big River Resources West Burlington, LLC, LincolnLand Agri-Energy, LLC; Blue Flint Ethanol, LLC and Lincolnway Energy, LLC (collectively, the "'037 Defendants"), briefs and arguments regarding the proper construction for the disputed terms of U.S. Patent No. 8,168,037 (the "'037 patent"). The Court construes the claims as set forth below.

I. CLAIM CONSTRUCTION STANDARDS

When construing the terms in the assert claims of the '037 patent, the Court must determine the meaning of the language used before it can ascertain the scope of the claims Plaintiffs assert are infringed. *See Markman v. Westview Instruments, Inc.*, 52

F.3d 967, 979 (Fed. Cir. 1995) (hereinafter, “*Markman I*”). In doing so, the Court’s interpretive focus is not the subjective intent of the party 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 v. AWH*, 415 F.3d 1303, 1313 (Fed. Cir. 2005); *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. Conceptronic, 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 v. Westview Instruments, Inc.*, 517 U.S. 370, 373 (1996) (hereinafter, “*Markman II*”) (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. § 112, ¶ 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 '037 patent. *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’tl Corp. v. Hudson Env’tl Servs., Inc.*, 152 F.3d 1368, 1373 (Fed. Cir. 1998).

Further, the Federal Circuit has taken special note of the use by courts of 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.

II. BACKGROUND & THE '037 PATENTED INVENTION

This Multi-District Litigation (“MDL”) was based on Plaintiffs’ allegations that the ‘037 Defendants and the other defendants, which the Court will not name here, infringed U.S. Patent No. 7,601,858 (the “’858 patent”) and/or certain defendants’ declaratory allegations that the ‘858 patent is invalid. *See, e.g.*, Dkt. No. 44, at 1, Plaintiffs’ Synopsis of the Factual Allegations and Issues.¹ As the Court has said before in its Order on Claim Construction, 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.” ‘858 Patent, col.2, ll.18-22. Generally, that invention is a two-step process that includes an evaporating or concentrating step and an oil recovery step. Dkt. No. 169, at 3 (citing ‘858 Patent, col.2, ll.50-56; col.2, ll.57-61; col.3, ll.59-66; col2, ll.24-27; col.2, ll.40-49; col.2 l.65 to col.3, l.5). The ‘858 patent claims priority from U.S. Provisional Application No. 60/602,050, which was filed on August 17, 2004; the non-provisional application for the ‘858 patent was filed on May 5, 2005. ‘858 Patent, at 1. The named inventors of the ‘858 patented technology are David Fred Cantrell (“Cantrell”) and David J. Winsness (“Winsness”). *Id.*, Inventors.

Through various motions and amendments by Plaintiffs and the declaratory defendants, additional patents related to the ‘858 patent were added to this MDL, including U.S. Patent Nos. 8,008,516 (the “’516 patent”); 8,008,517 (the “’517 patent”);

¹ All references are documents refer to the Master Docket, 1:10-ml-2181-LJM-DML.

8,283,484 (the “484 patent”). These three patents and the ‘858 patent share the same specification and have been referred to, collectively, as “the ‘858 patent family.” See, e.g., Dkt. No. 784, Supplemental Order on Claim Construction, at 1. Also through various motions and amendments by Plaintiffs, the ‘037 patent was added to this MDL. See Dkt. No. 428, at 2 (concluding that Plaintiffs’ motion to amend the relevant complaints to add the ‘037 patent should be granted because there was “no evidence of undue delay, bad faith, or dilatory motive” and “no suggestion that the amendment would be futile”); Dkt. No. 671, at 5-6.

The ‘037 patent Abstract broadly states that it is directed to “[m]ethods and related systems [to] efficiently and effectively recover a significant amount of valuable, useable oil from byproducts formed during a dry milling process used for producing ethanol.” ‘037 Patent, Abstract. The ‘037 patent is a continuation of and claims priority to International Application No. PCT/US2006/009238 filed on March 15, 2005. The application that matured into the ‘037 patent, Application Serial No. 11/856,150, was filed on September 17, 2007. ‘037 Patent, at 1. The patent contains eleven drawings and the specification references at least ten aspects of the invention. *Id.* Figs. 1-11; col.2, l.37 to col.4, l.49. Approximately three columns of the specification describes the inventions depicted in Figures 6 through 11. *Id.* col.8, l.5 to col.10, l.35. Those figures describe, *inter alia*, methods for increasing the recovery of oil through washing the whole stillage and adding the resulting “wash water” back to the thin stillage before concentrating the thin stillage and then recovering oil. See, e.g., *id.* col.8, ll.17-32.

However, the claims of the ‘037 patent appear to be directed to the invention more particularly described in Figure 5, and are further described in the Summary of

Invention and the Detailed Description of the Invention. *Id.* col.10, l.57 to col.12, l.48 (Claims 1-15); col.2, l.62 to col.3, l.12 (Summary of the Invention); col.7, l.11 to col.8, l.4 (Detailed Description of the Invention). As stated in Claim 1, the '037 patented invention is, in general, “[a] method of processing thin stillage concentrate created during a dry milling process used for producing ethanol from corn,” which includes at least three steps: (1) recovering oil from thin stillage concentrate; (2) subsequently evaporating the post-oil recovery thin stillage concentrate to reduce its moisture content; and (3) mixing the evaporated post-oil recovery thin stillage concentrate with distillers wet grains. *Id.* col.10, ll.47-67. The specification of the '037 patent incorporates by reference the disclosure of the '858 patent. '037 Patent, col.5, ll.19-23. Winsness is the sole inventor of the '037 patented technology. *Id.*, Inventor.

III. THE RELEVANT CLAIMS

It appears from the arguments of the parties that the asserted claims of the '037 patent include Claims 1, 2, 6, 7, 8, 10, 11, 13 and 15. Those claims read:

1. A method of processing thin stillage concentrate created during a dry milling process used for producing ethanol from corn, comprising:
recovering oil from the thin stillage concentrate
and subsequently evaporating the thin stillage concentrate in an evaporator to further reduce a moisture content and form an evaporated thin stillage concentrate, wherein the evaporated thin stillage concentrate has a lower moisture content than the thin stillage concentrate; and
mixing the evaporated thin stillage concentrate with distillers wet grains.
2. The method of claim 1, wherein the recovering step comprising separating the oil from the thin stillage concentrate using a disk stack centrifuge.

* * *

6. The method of claim 1, wherein evaporating the thin stillage

concentrate comprises removing an additional amount of water from the thin stillage concentrate in a multistage evaporator.

7. The method of claim 1, wherein recovering the oil from the thin stillage concentrate comprises introducing the thin stillage concentrate to a disk stack centrifuge prior to a final state of a multi-stage evaporator.

8. The method of claim 1, wherein recovering the oil from the thin stillage concentrate comprises mechanically processing the thin stillage concentrate.

* * *

10. A method of processing thin stillage created by a dry milling process used for producing ethanol from corn in order to recover oil, comprising:

- evaporating the thin stillage to reduce a moisture content and form a thin stillage concentrate;
- introducing the thin stillage concentrate to a disk stack centrifuge and separating at least a portion of the oil from the thin stillage concentrate and subsequently
- evaporating the thin stillage concentrate to further reduce the moisture content of the thin stillage concentrate and form an evaporated thin stillage concentrate; and
- mixing the evaporated thin stillage concentrate with distillers wet grains.

11. The method of claim 10, wherein the evaporating [sic] the thin stillage comprises using a multi-stage evaporator to form the thin stillage concentrate from the thin stillage and the step of introducing the thin stillage concentrate to the disk stack centrifuge is completed before the final stage of the multi-stage evaporator.

* * *

13. A method of processing thin stillage created by a dry milling process used for producing ethanol from corn in order to recover oil, comprising:

- evaporating the thin stillage to reduce a moisture content and form a thin stillage concentrate, wherein the evaporating [sic] the thin stillage comprises using a multi-stage evaporator to form the concentrate from thin stillage;
- introducing the thin stillage concentrate to a centrifuge and separating oil from the thin stillage concentrate, wherein the step of introducing the concentrate to the centrifuge is completed before a final stage of the multi-stage evaporator;

evaporating the thin stillage concentrate to further reduce the moisture content of the thin stillage concentrate and form an evaporated thin stillage concentrate; and
mixing the evaporated thin stillage concentrate with the further reduced moisture content with distillers wet grains.

* * *

15. A method of processing concentrated thin stillage created during a dry milling process used for producing ethanol from corn, comprising:

recovering oil from the concentrated thin stillage, wherein recovering the oil from the thin stillage concentrate comprises introducing the thin stillage concentrate to a centrifuge prior to a final stage of a multi-stage evaporator; and
evaporating the concentrated thin stillage to reduce a moisture content and form an evaporated thin stillage concentrate prior to mixing with distillers wet grains, wherein the evaporated concentrated thin stillage has a lower moisture content than the concentrated thin stillage.

'037 Patent, col.10, l.57 to col.12, l.48.

Within these claims, the parties dispute the meaning of the following groups of terms: (A) “thin stillage concentrate”/”concentrated thin stillage”/”the concentrate,” (collectively, the “concentrate terms”); (B) “recovering oil/separating oil;” (C) “subsequently evaporating the thin stillage concentrate in an evaporator to further reduce a moisture content and form an evaporated thin stillage concentrate”/”subsequently evaporating the thin stillage concentrate to further reduce the moisture content of the thin stillage concentrate and form an evaporated thin stillage concentrate”/”evaporating the thin stillage concentrate to further reduce the moisture content of the thin stillage concentrate and form an evaporated thin stillage concentrate”/”evaporating the concentrated thin stillage to reduce a moisture content and form an evaporated thin stillage concentrate prior to mixing with distillers wet grains,” (collectively, the “evaporating terms”); and (D) “mechanical processing.”

IV. CONSTRUCTION OF THE DISPUTED TERMS

A. THE CONCENTRATE TERMS

Plaintiffs assert that the “concentrate terms” should be construed identically to the concentrate terms in the ‘858 patent family. Dkt. No. 785, at 22 (citing Dkt. Nos. 169, at 25; & 214, at 2); Dkt. No. 794, at 14-15. Plaintiffs argue that there is nothing in the claim language, the specification or the prosecution history that would require the concentrate terms to be comprised partially of wash water. Dkt. No. 794, at 12-14.

The ‘037 Defendants contend, however, that the ‘858 patent qualified as prior art under 35 U.S.C. § 102(e); therefore, the concentrate terms in the ‘037 patent must be construed to mean something different than what they mean in the ‘858 patent to preserve the validity of the ‘037 patent. Dkt. No. 786, at 1-5 & 8-9; Dkt. No. 795, at 1-9. Section 102(e) provided² that “[a] person shall be entitled to a patent unless . . . the invention was described in . . . a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent” The ‘858 patent issued to both Cantrell and Winsness, which the ‘037 Defendants argue is “another” inventor. Dkt. No. 786, at 1-2. They also argue that the ‘858 patent discloses every element of the ‘037 patented invention if similar terms in the patents mean the same thing. *Id.* at 8-9; Dkt No. 795, at 6-8. Logically, then, to preserve validity of the later-filed ‘037 patent, the Court must construe similar terms differently. Dkt. No. 786, at 8-9; Dkt. No. 795, at 6-8. Specifically, with respect to the concentrate terms, the ‘037

² The entirety of § 102 was rewritten by the Leahy-Smith America Invents Act, Pub. L. 112-29, § 3(b)(1), September 16, 2011, 125 Stat. 285, 293, and became effective eighteen months thereafter. The new statute does not have an “(e)” section; but, those concepts have been incorporated into the new statute differently. *See id.* (new §§ 102(a)(2), (c), & (d)).

Defendants urge the Court to construe them to reflect oil recovery from the added wash water. Dkt. No. 786, at 8-9; Dkt. No. 795, at 8-9. Under the '037 Defendants' construction, the concentrate terms mean: "a process stream consisting of a combination of the thin stillage that directly results from removing most of the solids from whole stillage (i.e., water, oil and corn solids) mixed with a distillers wet grains wash water stream (water and oil), that is together processed to remove water." Dkt. No. 786, at 8.

Although it is a familiar and often-quoted statement that claims ought to be construed to sustain their validity, the *Phillips* court specifically warned against performing validity analysis during claim construction and stated that it has "limited the maxim to cases in which 'the court concludes, after applying all available tools of claim construction, that the claim is still ambiguous.'" *Phillips*, 415 F.3d at 1327 (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 911 (Fed. Cir. 2004)). Therefore, the Court starts its analysis with the language of the asserted and unasserted claims.

Claim 10 of the '037 patent clearly describes the term "thin stillage concentrate," which is an evaporated form of a byproduct of a dry milling process used for producing ethanol from corn. Specifically, Claim 10 states, in relevant part: "A method of processing thin stillage created by a dry milling process used for producing ethanol from corn in order to recover oil, comprising: evaporating the thin stillage to reduce a moisture content and form a thin stillage concentrate" '037 Patent, col.11, ll.28-32. The term is used similarly throughout the claims. *Id.* col.10, ll.57-59 (stating in Claim 1: "A method of processing thin stillage concentrate created during a dry milling process used for producing ethanol from corn"); col.12, ll.1-5 (stating in Claim 13: "A method of

processing thin stillage created by a dry milling process used for producing ethanol from corn in order to recover oil, comprising: evaporating the thin stillage to reduce a moisture content and form a thin stillage concentrate”); col.12, ll.29-23 (stating in Claim 14: “A method of processing thin stillage created by a dry milling process used for producing ethanol from corn in order to recover oil, comprising: evaporating the thin stillage to reduce a moisture content and form a thin stillage concentrate”); col.12, ll.35-37 (stating in Claim 15: “A method of processing concentrated thin stillage created during a dry milling process used for producing ethanol from corn”). This is the same way in which the term is used in the ‘858 patent. ‘858 Patent, col.5, l.65 to col.6, l.2; col.6, ll.26-30; col.6, ll.36-3; col.6, ll.59-60.

The term “thin stillage” is well-known in the dry-milling industry as one of the byproducts from the further separation of whole stillage. ‘037 Patent, col.1, ll.38-45. The evaporated forms of the thin stillage after initial separation is referred to in the ‘037 patent, alternatively, as syrup, or concentrated thin stillage, or simply, concentrate. *See, e.g., id.* col.1, ll.49-50 (stating that “distillers dried grains with solubles . . . is created by evaporating the thin stillage, recombining the resulting concentrate or syrup with distillers wet grains . . .”); col.2, ll.1-9 (describing the difference in volume between “thin stillage” and “syrup”); col.2, ll.45-47 (describing the oil recovery step of one embodiment comprising “separating the oil from the concentrate using a disk stack centrifuge”); col.7, ll.20-24 (discussing Figure 5 and the byproducts created from the centrifuge and stating that a byproducts “were referred collectively above as ‘syrup’ or concentrated stillage for purposes of convenience”); col.7, ll.35-36 (discussing “strategic positioning of the separator for recovering oil from the concentrated stillage relative to

the means for concentrating the thin stillage”). These interchangeable terms were also well-known in the industry at the time of the invention. See Dkt. No. 785-8, at 32 of 76. Just like it was clear in the ‘858 patent, the “concentrated thin stillage” referenced in the ‘037 patent is the product that results from the concentration or evaporation of the thin stillage. See, e.g., ‘037 Patent, col.1, l.50 (describing the concentrate or syrup being created by evaporating the thin stillage); *id.* col.2, ll.40-42 (describing one aspect of the invention that includes “recovering oil from the concentrated thin stillage and further evaporating the concentrated thin stillage,” implying that the “concentrated thin stillage” is thin stillage that has been condensed or evaporated); col.2, ll.56-57 (describing another aspect of the invention, which includes the step of “evaporating the thin stillage to form a concentrate”); col.3, ll.6-7 (describing another aspect that uses “a multi-stage evaporator to form a concentrate from the thin stillage”); col.7, ll.35-41 (discussing “strategic positioning of the separator for recovering oil from the concentrated stillage relative to the means for concentrating the thin stillage,” and a typical multi-stage evaporator “with each stage further concentrating the syrup by removing moisture”).

The ‘037 patent discloses another aspect of the invention that includes “washing the byproduct [of a dry milling process used for producing ethanol from corn] to create wash water including oil, concentrating the wash water; and recovering oil from the concentrated wash water.” *Id.* col.3, ll.33-38. See also col.8, l.5 to col.10, l.54 (describing multiple inventions that require washing the whole stillage and further separating oil from the wash water). It further describes that the “byproduct” could be “whole stillage,” and the “washing step comprises delivering whole stillage to a first decanter for producing thin stillage and distillers wet grains.” *Id.* col.3, ll.39-41. And,

further, another step of washing the distillers wet grains may be performed where the result is distillers wet grains and wash water. *Id.* col.3, ll.42-47. The patent teaches that the wash water may then be combined with the thin stillage before the concentrating step. *Id.* col.3, ll.47-48. But none of the claims of the '037 patent reference wash water, whole stillage, or washing either whole stillage or distillers wet grains as described here.

Similarly, the '037 patent discloses a further aspect for processing thin stillage and distillers wet grains, where the evaporation occurs on a mixture of the thin stillage and the water used to wash the distillers wet grains. *Id.* col.4, ll.5-10. *See also* col.8, l.5 to col.10, l.54 (describing multiple inventions that require washing the whole stillage and further separating oil from the wash water). But, again, none of the claims of the '037 patent reference that they are directed to recovering oil from wash water as described in columns 8 through 10. Rather, the claims of the '037 patent are directed to processing thin stillage, which refers to the commonly-known product separated from whole stillage. *See, e.g.,* '037 Patent, col.10, ll.28-30 ("A method of processing thin stillage created by a dry milling process used for producing ethanol from corn").

The claims and the specification lead the Court to conclude that the concentrate terms of the '037 patent are referring to the earlier embodiments of the invention that describe the processing of thin stillage alone. All of those embodiments use the concentrate terms in the same manner as similar terms were used in the '858 patent – the product that results from a concentrating or evaporating process used on thin stillage.

There is nothing in the prosecution history to rebut that conclusion or that creates an ambiguity about the claimed invention. Specifically, the focus of the examiner was

on whether or not: (1) the claims were indefinite or not enabled, *see* Dkt. No. 785-2, at 29 & 82 of 88; Dkt. No. 785-3, at 40 of 89; Dkt. No. 785-3, at 76 of 89; Dkt. No. 785-8, at 13-14 of 76; (2) the oil recovery process and placement of the oil recovery process within the existing evaporation systems in a dry milling facility were obvious in light of prior art, *see* Dkt. No. 785-2, at 31 & 73 of 88; Dkt. No. 785-3, at 43-46 of 89; Dkt. No. 785-3, at 79-80 of 89; and (3) non-statutory obviousness double patenting over the '858 patent and related patents, *see* Dkt. No. 785-3, at 41-43 of 89; Dkt. No. 785-3, at 78-79 of 89. It is apparent that the inventor successfully overcame all of the examiner's objections when he added certain clarifications in the claims regarding the difference between "concentrated thin stillage" and "evaporated thin stillage concentrate," as well as the further step of mixing the evaporated thin stillage concentrate with distillers wet grains. Dkt. No. 785-3, at 13 & 15-19 of 89 (adding clarification to the claims and arguing that the cited references do not teach the elements of post-oil removal concentration prior to mixing with distillers wet grains); Dkt. No. 785-3, at 59-67 of 89 (amending the claims to clarify the term evaporated thin stillage concentrate and distinguishing the disclosure in the '858 patent as well as prior art cited by the examiner with respect to post-oil recovery further evaporation of the thin stillage concentrate); Dkt. No. 785-6, at 14-24 of 40 (amending claims regarding antecedent basis and to distinguish the '858 patent family, adding claims, and countering the examiner's prior art obviousness argument); Dkt. No. 785-6, at 31-40 of 40; Dkt. No. 785-7, at 2-3 of 71; Dkt. No. 785-7, at 67-71 of 71 & Dkt. No. 785-8, at 2-4 of 76 (amending the claims after a teleconference with the examiner and clarifying that reduced oil thin stillage concentrate is further evaporated and thereafter mixed with distillers wet grains); Dkt.

No. 785-8, at 26-35 of 76 (addressing clarity and enablement objections made by the examiner). Neither the examiner's comments nor the responses by the applicant reference wash water, whole stillage, or a combination of thin stillage concentrate and wash water as any part of the '037 patented invention. The examiner was focused on the invention as claimed not on some other invention disclosed in the '037 patent specification.

The prosecution history supports the conclusion that the patentee and the examiner understood the term "thin stillage concentrate" to mean the same thing as one of ordinary skill in the art. In his November 28, 2011, Amendment in response to the Office Action dated November 28, 2011, the inventor addressed the examiner's rejection based on inconsistent terminology related to the concentrate terms. Dkt. No. 785-8, at 31-32 of 76. In discussing Figure 5, the patentee states: "One of skill in the art would readily understand that the term thin stillage concentrate is interchangeable with syrup or concentrated stillage." *Id.* at 32 of 76. The examiner took no further action and allowed the claims as then amended and explained. *Id.* at 40 of 76 (Notice of Allowance). Therefore, the patentee did not use a special definition for the term, as proposed by the '037 Defendants. To the contrary he specifically stated that the concentrate terms had an ordinary meaning to one of ordinary skill in the art and the examiner still allowed the claims.

The '037 Defendants have not convinced the Court that the concentrate terms are ambiguous. Instead, the '037 Defendants ask the Court to perform an invalidity analysis in order to re-write the claims. As the *Phillips* court has stated, application of the maxim that a court should construe claims to preserve their validity is limited "to

cases in which ‘the court concludes, after applying all available tools of claim construction, that the claim is still ambiguous.’” *Phillips*, 415 F.3d at 1327 (quoting *Liebel-Flarsheim*, 358 F.3d at 911). Such is not the case here; the claims are unambiguous.

Therefore, the Court construes the concentrate terms of the ‘037 patent to mean “syrup containing water, oil and solids resulting from the concentrating or evaporating process.”

B. THE RECOVERY/SEPARATING TERMS

With respect to the “recovering/separating oil” terms, Plaintiffs assert that the terms have their plain and ordinary meaning and should be construed consistently with the similar terms in the ‘858 patent family. Dkt. No. 785, at 17-18; 23-25. Specifically, Plaintiffs argue that the terms mean “procuring or obtaining/extracting a product that is substantially oil” where “substantially” means “largely or mostly.” *Id.* at 18; Dkt. No. 794, at 12-14. On the other hand, consistent with their arguments with respect to the concentrate terms, the ‘037 Defendants contend that the ‘037 patented invention must be differentiated from the ‘858 patented process and therefore it recovers more oil because of the additional oil separated from the wash water. Dkt. No. 786, at 9-10. In addition, the recovery term requires that one stream be comprised of “a substantial amount of the oil” from the thin stillage and “a substantial amount of the oil” from the wash water; and a second stream be comprised of “a substantially de-oiled thin stillage concentrate.” Dkt. No. 795, at 9. In other words, the term must have some kind of efficiency component. Dkt. No. 786, at 10. Their proposed construction is: “separating oil from all of the water and solids in the thin stillage concentrate to produce a first

stream exiting a mechanical processing device/centrifuge that consists of a substantial amount of the oil from the thin stillage and a substantial amount of the oil from the wash water and a second stream that consists of a substantially de-oiled thin stillage concentrate.” Dkt. No. 795, at 9. The ‘037 Defendants assert that such a construction avoids any potential § 102(e) invalidity problem. *Id.* at 8-9.

Applying the ordinary principles of claim construction, the recovery/separating terms are not ambiguous and have their ordinary meaning of “obtaining (recovering)/extracting (separating) a product that is substantially oil,” where substantially means “largely or mostly.” In all of the claims, the recovery term merely requires that oil be removed or obtained from the remaining components of the thin stillage concentrate. *See, e.g.*, ‘037 Patent, col.10, l.60 (Claim 1); col.11, ll.18-21 (Claim 7); col.11, ll.34-35 (Claim 10); col.12, ll.8-9 (Claim 13); col.12, ll.24-25 (Claim 14); col.12, ll.38-42 (Claim 15). Furthermore, in Claim 2, “wherein the recovering step comprises separating oil,” “separating” is nothing more than a specific manner in which to recover the oil and has its plain meaning of “extracting.” *Id.* col.11, ll.1-2. There is nothing in the specification to suggest otherwise with respect to the invention claimed in the ‘037 patent. As the Court discussed previously with respect to the concentrate terms, the claims are devoid of language referencing wash water and/or whole stillage being washed, which means that the invention of the ‘037 patent is directed to a processing technique for concentrated thin stillage alone.

The ‘037 patented process includes some of the methods described in the ‘858 patent; however, the prosecution history reveals that the inventor successfully distinguished his invention from that in the ‘858 patent without ever mentioning

recovering oil from any wash water. Instead, like the examiner, the inventor focused on the additional processing of thin stillage concentrate claimed in the '037 patent – further evaporation and combining the evaporated thin stillage concentrate with distillers wet grains. *See, generally*, Pls.' Ex. A, '037 Patent Prosecution History. Further, the only figure of the '037 patent discussed in the prosecution history is Figure 5, which does not include any disclosure for recovery of oil from any wash water. Dkt. No. 785-8, at 32 of 76. As Plaintiffs suggested at the *Markman* hearing, the patent examiner was persuaded that the inventor's combination of elements, whether well-known in the art or not, was new.

In addition, to the extent the '037 Defendants intended to argue the point, there is nothing in the specification or the prosecution history that necessitates an oil efficiency requirement or that the post-oil recovery thin stillage concentrate stream be "substantially oil free." *See* '037 Patent, col.10, l.57 to col.12, l.48; *see, generally*, Pls.' Ex. A, '037 Patent Prosecution History; *see also* Dkt. No. 784, at 9-14 (discussing the absence of such a limitation in the majority of the claims of the '858 patent). To the extent it is necessary, the Court incorporates by reference the reasoning set forth in its Supplemental Order on Claim Construction, pages 9 through 11, regarding the absence of any "substantially oil free" limitation in the claims.

For these reasons, the Court construes the "recovering/separating oil" terms to mean "obtaining (recovering)/extracting (separating) a product that is substantially oil," where substantially means "largely or mostly."

C. THE EVAPORATING TERMS

Plaintiffs argue that the evaporating terms have their ordinary meaning: “after Recovering Oil Term, subjecting the Concentrate Term to an additional step of evaporation to create a further evaporated Concentrate Term.” Dkt. No. 785, at 24. Plaintiffs argue that the ‘037 Defendants’ construction improperly imports limitations from the specification into the claims, rely on an irrelevant written opinion relating to a different patent, and would impermissibly render Claim 1 superfluous. *Id.* at 19-21; Dkt. No. 794, at 15-17. In addition, to the extent the ‘037 Defendants’ definition requires a separate evaporator, Plaintiffs contend that there is nothing in the claims, the specification, or the prosecution history to support such a limitation. Dkt. No. 794, at 16-17.

In contrast, the ‘037 Defendants’ construction for the evaporating term is: “processing the second stream exiting the mechanical processing device/centrifuge through an evaporation process to produce a substantially de-oiled thin stillage concentrate with a lower moisture content than the second stream.” Dkt. No. 786, at 10. In other words, the ‘037 Defendants assert that the evaporation step requires that the entire post-oil recovery concentrated thin stillage stream be diverted to a separate evaporator prior to the next step. Dkt. No. 795, at 12-17. At the *Markman* hearing, the ‘037 Defendants further clarified their argument that the evaporating step requires a separate evaporator in order to accomplish the benefits of the method described in the patent. In large part, the ‘037 Defendants base their construction on a reading of Figure 5, the requirements of the invention set forth in Claim 10, the cost savings that the inventor stated could be achieved using the patented method and the inventor’s

deposition testimony. Dkt. No. 786, at 11-13 (citing, *inter alia*, '037 Patent, col.7, ll.52-60); Dkt. No. 795, at 11-15.

Starting with the language of the claims, the Court concludes that the evaporating terms mean exactly what they say: the post-oil recovery thin stillage concentrate stream is further evaporated. The preferred embodiment disclosed in Figure 5 and discussed in the specification at column 7, lines 11 to 30, suggest that an evaporator capable of reducing about 50% of the moisture of the post-oil recovery thin stillage concentrate is desirable. However, continuing in the description of the invention and referred to as “[a] related aspect of the invention,” the specification contemplates using the existing stages of a multi-stage evaporation system to perform the further evaporation step. '037 Patent, col.7, l.34 to col.8, l.4. *See also* col.2, l.53 to col.3, l.12 & ll.21-32 (discussing, generally, aspects of the invention that include the oil recovery step between effects of a multi-stage evaporator). The specification further reveals that the inventor contemplated that the size or configuration of the evaporator(s) for the further evaporation of the post-oil recovery thin stillage concentrate would affect the efficiency of the process. *Id.* col.7, l.61 to col.8, l.4 (discussing the possibility that additional evaporator capacity might be needed to maximize the benefit from the claimed invention). The '037 Defendants make much of Winsness' testimony that a traditional in-series multi-stage evaporation system, where successive effects have lower efficiency would not produce the results identified in Figure 5. However, neither the inventor's specification nor his testimonial acknowledgement that efficiency of the evaporator matters necessitates reading a presumed limitation from Figure 5 into the claims. Instead, it suggests a preferred method, illuminated further by the dependent

claims that expressly require a particular type of evaporator. *Id.* col.11, ll.47-50 (Claim 12, which requires “at least one scraped surface heat exchanger”); col.12, ll.29-31 (Claim 14, also requiring “at least one scraped surface heat exchanger”). Further, The ‘037 Defendants could not point to anything in the prosecution history that limits the patented invention to a separate evaporator.

For these reasons, the Court concludes that the evaporating terms mean just what they say: “to subject the post-oil recovery thin stillage concentrate to further or additional evaporation.”

D. MECHANICALLY PROCESSING

Plaintiffs aver that the “mechanically processing” term has its ordinary meaning and should be construed to mean the same thing as it did in the ‘858 patent: “to subject to a mechanical device (or devices) to effect a particular result.” Dkt. No. 785, at 21. Further, Plaintiffs contend that the mechanical device need not be the only process utilized to recover oil in the ‘037 patent claims because Claim 8 uses the term “comprises,” which is “open-ended and does not exclude additional, unrecited elements or method steps.” *Id.* at 22.

The ‘037 Defendants contend that the Court should construe the mechanical processing term to “clarif[y] that mechanically processing must lead to the claimed result.” Dkt. No. 786, at 14. Specifically, the ‘037 Defendants propose the following construction: “to subject the thin stillage concentrate to a mechanical device (or devices) to effect the oil recovery step as construed.” *Id.* In other words, only mechanical processing may be used to recover oil from the thin stillage concentrate. The ‘037 Defendants proffer no argument in support of their proposed construction.

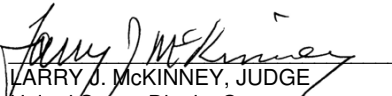
The Court concludes that the plain meaning of “mechanically processing” applies in the ‘037 patent and there is no evidence that the inventor intended for mechanical processing to be the exclusive step for recovery of oil. As the Court stated in its Order on Claim Construction with respect to the ‘858 patent, which uses identical language to describe an oil recovery step: “‘Mechanically processing’ does not require elaborate definition, as its meaning is relatively apparent.” Dkt. No. 169, at 15 (citing *Brown v. 3M*, 265 F.3d 1349, 1352 (Fed. Cir. 2001)). With respect to whether mechanically processing is meant to be the exclusive process for recovering oil in Claim 8, the Court concludes that the inventor’s use of the term “comprises” signals that he did not exclude other methods or processes in addition to mechanically processing. Like its counterpart “comprising,” the term “comprises” is “understood to mean ‘including but not limited to.’” *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir. 2007) (citing, *inter alia*, *Application of James F. Hunter*, 48 C.C.P.A. 887, 288 F.2d 930 (CCPA 1961) (the term “comprises” does not limit the claim to the steps that are listed)). There is nothing in the patent specification or prosecution history to limit the claimed process, nor have the ‘037 Defendants pointed the Court to any such limitation. Therefore, the term “mechanically processing” means: “to subject to a mechanical device (or devices) to effect a particular result.”

V. CONCLUSION

For the foregoing reasons, the Court construes the disputed claim terms as follows:

Term(s)	Court's Construction
"thin stillage concentrate"/"concentrated thin stillage"/"the concentrate"	"syrup containing water, oil and solids resulting from the concentrating or evaporating process"
"recovering oil/separating oil"	"obtaining (recovering)/extracting (separating) a product that is substantially oil," where substantially means "largely or mostly"
"subsequently evaporating the thin stillage concentrate in an evaporator to further reduce a moisture content and form an evaporated thin stillage concentrate"/"subsequently evaporating the thin stillage concentrate to further reduce the moisture content of the thin stillage concentrate and form an evaporated thin stillage concentrate"/"evaporating the thin stillage concentrate to further reduce the moisture content of the thin stillage concentrate and form an evaporated thin stillage concentrate"/"evaporating the concentrated thin stillage to reduce a moisture content and form an evaporated thin stillage concentrate prior to mixing with distillers wet grains"	"to subject the post-oil recovery thin stillage concentrate to further or additional evaporation"
"mechanical processing"	"to subject to a mechanical device (or devices) to effect a particular result"

IT IS SO ORDERED this 8th day of May, 2013.


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

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