

No.

In The
Supreme Court of the United States

GS CLEANTECH CORPORATION and GREENSHIFT CORPORATION,

Petitioners,

– v. –

ADKINS ENERGY LLC, BIG RIVER RESOURCES GALVA, LLC, BIG RIVER RESOURCES WEST BURLINGTON, LLC, LINCOLNLAND AGRI-ENERGY, LLC, IROQUOIS BIO-ENERGY COMPANY, LLC, CARDINAL ETHANOL, LLC, LINCOLNWAY ENERGY, LLC, ICM, INC., BUSHMILLS ETHANOL, INC., AL-CORN CLEAN FUEL. LLC FKA AL-CORN CLEAN FUEL, LLC, CHIPPEWA VALLEY ETHANOL COMPANY, LLP, HEARTLAND CORN PRODUCTS, GEA MECHANICAL EQUIPMENT US, INC., AS SUCCESSOR-IN-INTEREST TO GEA WESTFALIA SEPARATOR, INC. PURSUANT TO THE NOTICE OF MERGER FILED ON 4/28/2011, ACE ETHANOL, LLC, BLUE FLINT ETHANOL LLC, UNITED WISCONSIN GRAIN PRODUCERS, LLC, FLOTTWEG SEPARATION TECHNOLOGIES, INC., ADKINS ENERGY LLC, AEMETIS, INC., AEMETIS ADVANCED FUELS KEYES, INC., LITTLE SIOUX CORN PROCESSORS, LLLP, GUARDIAN ENERGY, LLC, WESTERN NEW YORK ENERGY, LLC, SOUTHWEST IOWA RENEWABLE ENERGY, LLC, PACIFIC ETHANOL MAGIC VALLEY LLC, PACIFIC ETHANOL STOCKTON, HOMELAND ENERGY SOLUTIONS, LLC, PACIFIC ETHANOL, INC., and DAVID J. VANDER GRIEND,

Respondents.

**On Petition for a Writ of Certiorari to the United States Court of Appeals
for the Federal Circuit**

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Until the Federal Circuit’s decision in this patent case, every Circuit had held that an issue resolved on partial summary judgment, and not reopened at trial, must be reviewed *de novo*. Here, the district court resolved the issue of patent invalidity on partial summary judgment, and did not reopen it at trial. Yet, the Federal Circuit expressly refused to review the issue *de novo*, and instead reviewed it under the “abuse of discretion” standard governing review of the decision at trial.

The question presented is:

Whether the Federal Circuit, in cases arising under the Patent Act, may depart from the uniform rule of the other Circuit Courts that an issue resolved on partial summary judgment, and not reopened at trial, must be reviewed *de novo* on appeal.

PARTIES TO THE PROCEEDING

The parties to the proceeding are listed in the caption.

RULE 29.6 STATEMENT

Viridis Asset Management, LLC owns more than 10% of GreenShift Corporation. Greenshift Corporation owns 100% of GS CleanTech Corporation.

RELATED PROCEEDINGS

1. *GS CleanTech Corp. v. Adkins Energy, LLC*, Nos. 16-2231 and 17-1838, United States Court of Appeals for the Federal Circuit. Judgment entered March 2, 2020.
2. *GS CleanTech Corp. et al. v. Big River Resources Galva, LLC et al.*, No. 17-1832, United States Court of Appeals for the Federal Circuit. Judgment entered March 2, 2020.
3. *GS CleanTech Corp. v. Adkins Energy, LLC*, No. 10-cv-04391, United States District Court for the Northern District of Illinois. Judgment entered May 20, 2016.
4. *In re: Method of Processing Ethanol Byproducts and Related Subsystems ('858) Patent Litigation*, No. 10-ml-02181, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
5. *GS CleanTech Corp. v. Cardinal Ethanol, LLC*, No. 10-cv-00180, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
6. *ICM, Inc. v. GS CleanTech Corp. et al.*, No. 10-cv-08000, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
7. *GS CleanTech Corp. v. Amazing Energy Atlantic, LLC et al.*, No. 10-cv-08001, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.

8. *GS CleanTech Corp. v. Blue Flint Ethanol, LLC*, No. 10-cv-08002, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
9. *GS CleanTech Corp. v. United Wisconsin Grain Prods., LLC*, No. 10-cv-08003, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
10. *GS CleanTech Corp. v. Bushmills Ethanol, Inc.*, No. 10-cv-08004, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
11. *GS CleanTech Corp. v. Iroquois Bio-Energy Co., LLC*, No. 10-cv-08005, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
12. *GEA Westfalia Separator, Inc. v. Greenshift Corp.*, No. 10-cv-08006, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
13. *GS CleanTech Corp. v. GEA Westfalia Separator, Inc. et al.*, No. 10-cv-08007, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
14. *GS CleanTech Corp. v. Center Ethanol, LLC et al.*, No. 10-cv-08008, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
15. *GS CleanTech Corp. v. Big River Resources Galva, LLC et al.*, No. 10-cv-08009, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
16. *GS CleanTech Corp. v. Flottweg Separation Tec. Inc., et al.*, No. 10-cv-08010, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
17. *GS CleanTech Corp. v. Adkins Energy, LLC*, No. 10-cv-08011, United States District Court for the Southern District of Indiana. Judgment entered Sept. 18, 2015.
18. *GS CleanTech Corp. v. Guardian Energy, LLC*, No. 13-cv-08013, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
19. *GS CleanTech Corp. v. Aemetis, Inc. et al.*, No. 13-cv-08014, United States District Court

- for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
20. *GS CleanTech Corp. v. Western New York Energy, LLC*, No. 13-cv-08015, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
 21. *GS CleanTech Corp. v. Southwest Iowa Renewable Energy, LLC*, 13-cv-08016, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
 22. *GS CleanTech Corp. v. Homeland Energy Solutions, LLC*, No. 13-cv-08017, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
 23. *GS CleanTech Corp. v. Pacific Ethanol, Inc.*, No. 13-cv-08018, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
 24. *GS CleanTech Corp. v. Pacific Ethanol Stockton, LLC*, No. 14-cv-08019, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.
 25. *GS CleanTech Corp. v. Pacific Ethanol Magic Valley, LLC et al.*, 14-cv-08020, United States District Court for the Southern District of Indiana. Judgment entered Sept. 15, 2016.

TABLE OF CONTENTS

QUESTION PRESENTED i

PARTIES TO THE PROCEEDING ii

RULE 29.6 STATEMENT ii

RELATED PROCEEDINGS ii

TABLE OF CONTENTSv

TABLE OF APPENDICES vi

TABLE OF AUTHORITIES vii

PETITION FOR A WRIT OF CERTIORARI.....1

OPINIONS BELOW1

JURISDICTION2

STATUTORY PROVISIONS INVOLVED.....2

STATEMENT OF THE CASE.....2

 A. Jurisdiction Below5

 B. Factual Background5

 C. Proceedings Below.....7

 1. Discovery of the Proposal; First and Second Cantrell
 Declarations7

 2. The Summary Judgment of Invalidity Due to an On-Sale Bar11

 3. The Bench Trial on Inequitable Conduct.....12

 4. The Federal Circuit Appeal.....17

ARGUMENT22

 A. This Court Should Grant Certiorari to Reaffirm that Issues Decided on
 Partial Summary Judgment Must Be Reviewed *De Novo*, Based on the
 Record As It Existed at the Time of Summary Judgment24

 B. This Court Should Grant Certiorari to Reaffirm that Issues Resolved on
 Partial Summary Judgment Are Conclusively Established, Unless the
 District Court Expressly Reopens Them.....27

 C. This Court Should Grant Certiorari to Confirm that “Predicate” Issues
 Must Be Reviewed First, Under the Appropriate Legal Standard33

CONCLUSION.....39

TABLE OF APPENDICES

APPENDIX A – OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, FILED MARCH 2, 2020

APPENDIX B – CORRECTED MEMORANDUM OPINION & ORDER OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF INDIANA, INDIANAPOLIS DIVISION, FILED SEPTEMBER 15, 2016

APPENDIX C – REDACTED ORDER OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF INDIANA, INDIANAPOLIS DIVISION, FILED NOVEMBER 13, 2014

APPENDIX D – DENIAL OF REHEARING OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, FILED JUNE 30, 2020

TABLE OF AUTHORITIES

	Page(s)
Cases:	
<i>Alberty-Velez v. Corporacion De Puerto Rico Para La Difusion Publica</i> , 242 F.3d 418 (1st Cir. 2001).....	28, 29
<i>Allen Eng’g Corp. v. Bartell Indus., Inc.</i> , 299 F.3d 1336 (Fed. Cir. 2002).....	11
<i>Am. Council of the Blind v. Paulson</i> , 525 F.3d 1256 (D.C. Cir. 2008).....	24
<i>Amdahl Corp. v. Profit Freight Sys., Inc.</i> , 65 F.3d 144 (9th Cir. 1995).....	24
<i>Amerinet, Inc. v. Xerox Corp.</i> , 972 F.2d 1483 (8th Cir. 1992).....	25
<i>Burns v. Exxon Corp.</i> , 158 F.3d 336 (5th Cir. 1998).....	24
<i>Carlson v. Bos. Sci. Corp.</i> , 856 F.3d 320 (4th Cir. 2017).....	24
<i>Chapman v. AI Transp.</i> , 229 F.3d 1012 (11th Cir. 2000).....	25
<i>Ciarlante v. Brown & Williamson Tobacco Corp.</i> , 143 F.3d 139 (3d Cir. 1998).....	25
<i>Clinton v. Jones</i> , 520 U.S. 681 (1997).....	37
<i>Coach, Inc. v. Goodfellow</i> , 717 F.3d 498 (6th Cir. 2013).....	24, 25
<i>Cross Med. Prod., Inc. v. Medtronic Sofamor Danek, Inc.</i> , 424 F.3d 1293 (Fed. Cir. 2005).....	38
<i>Day v. Celadon Trucking Servs., Inc.</i> , 827 F.3d 817 (8th Cir. 2016).....	24
<i>Dillon v. Cobra Power Corp.</i> , 560 F.3d 591 (6th Cir. 2009).....	28

<i>eBay Inc. v. MercExchange, L.L.C.</i> , 547 U.S. 388 (2006).....	24
<i>Evitts v. Lucey</i> , 469 U.S. 387 (1985).....	4
<i>Freeland v. Enodis Corp.</i> , 540 F.3d 721 (7th Cir. 2008)	25
<i>Friends for All Children, Inc. v. Lockheed Aircraft Corp.</i> , 746 F.2d 816 (D.C. Cir. 1984).....	38
<i>Glaros v. H.H. Robertson Co.</i> , 797 F.2d 1564 (Fed. Cir. 1986).....	25, 28
<i>GS CleanTech Corp. v. Adkins Energy, LLC</i> , CAFC Case No. 16-2231	17, 18
<i>GS CleanTech Corp. v. Adkins Energy, LLC</i> , N.D. Ill. No. 10-cv-04391, 2016 WL 1019672, 2018 WL 1469001	1-2
<i>Halo Elecs., Inc. v. Pulse Elecs., Inc.</i> , 136 S. Ct. 1923 (2016).....	24
<i>Hayduk v. City of Johnstown</i> , 386 F. App'x 55 (3d Cir. 2010)	28
<i>In re: Method for Processing Ethanol Byproducts and Related Subsystem</i> (‘858) Patent Litigation, S.D. Ind. Case No. 10-ml-02181.....	<i>passim</i>
<i>Invitrogen Corp. v. Clontech Labs., Inc.</i> , 429 F.3d 1052 (Fed. Cir. 2005).....	24
<i>John F. Harkins Co. v. Waldinger Corp.</i> , 796 F.2d 657 (3d Cir. 1986).....	35
<i>Leddy v. Standard Drywall, Inc.</i> , 875 F.2d 383 (2d Cir.1989).....	<i>passim</i>
<i>Liberty Mut. Ins. Co. v. Wetzel</i> , 424 U.S. 737 (1976).....	12
<i>Lippi v. City Bank</i> , 955 F.2d 599 (9th Cir. 1992)	25
<i>Lovell v. Chandler</i> , 303 F.3d 1039 (9th Cir. 2002)	37

<i>Martin v. Associated Truck Lines, Inc.</i> , 801 F.2d 246 (6th Cir. 1986)	36
<i>Mohammadi v. Nwabuisi</i> , 605 F. App'x 329 (5th Cir. 2015)	30, 31
<i>Morgan v. Covington Twp.</i> , 648 F.3d 172 (3d Cir. 2011).....	24
<i>Nat'l R.R. Passenger Corp. (Amtrak) v. Rountree Transp. & Rigging, Inc.</i> , 422 F.3d 1275 (11th Cir. 2005)	24
<i>Nelson v. Adams USA, Inc.</i> , 529 U.S. 460 (2000).....	21, 22
<i>Nissho-Iwai Am. Corp. v. Kline</i> , 845 F.2d 1300 (5th Cir. 1988)	25
<i>Octane Fitness, LLC v. ICON Health & Fitness, Inc.</i> , 572 U.S. 545 (2014).....	24
<i>Patlex Corp. v. Mossinghoff</i> , 758 F.2d 594 (Fed. Cir. 1985).....	4
<i>Pfaff v. Wells Elecs., Inc.</i> , 525 U.S. 55 (1998).....	<i>passim</i>
<i>Plumtree Software, Inc. v. Datamize, LLC</i> , 473 F.3d 1152 (Fed. Cir. 2006).....	9, 20, 22
<i>Qwest Corp. v. AT & T Corp.</i> , 479 F.3d 1206 (10th Cir. 2007)	24
<i>Rogath v. Siebenmann</i> , 129 F.3d 261 (2d Cir. 1997).....	24
<i>Roland v. Langlois</i> , 945 F.2d 956 (7th Cir. 1991)	24
<i>Sands, Taylor & Wood Co. v. Quaker Oats Co.</i> , 978 F.2d 947 (7th Cir. 1992)	28, 30, 31, 36
<i>Scaltech Inc. v. Retec/Tetra, L.L.C.</i> , 178 F.3d 1378 (Fed. Cir. 1999).....	11
<i>Sears, Roebuck & Co. v. Mackey</i> , 351 U.S. 427 (1956).....	23

<i>Singh v. George Washington Univ. Sch. of Med. & Health Scis.</i> , 508 F.3d 1097 (D.C. Cir. 2007).....	25, 28
<i>Star Sci., Inc. v. R.J. Reynolds Tobacco Co.</i> , 537 F.3d 1357 (Fed. Cir. 2008).....	19, 21, 22, 33
<i>Straights & Gays for Equal. v. Osseo Area Sch.-Dist. No. 279</i> , 540 F.3d 911 (8th Cir. 2008)	36, 37
<i>Therasense, Inc. v. Becton, Dickinson & Co.</i> , 649 F.3d 1276 (Fed. Cir. 2011).....	13, 32
<i>U.S. E. Telecommunications, Inc. v. US W. Commc'ns Servs., Inc.</i> , 38 F.3d 1289 (2d Cir. 1994).....	25
<i>United States v. Hardage</i> , 982 F.2d 1436 (10th Cir. 1992)	25
<i>Variety Stores, Inc. v. Wal-Mart Stores, Inc.</i> , 888 F.3d 651 (4th Cir. 2018)	25
<i>Velez v. Awning Windows, Inc.</i> , 375 F.3d 35 (1st Cir. 2004).....	24
<i>Voutour v. Vitale</i> , 761 F.2d 812 (1st Cir. 1985).....	25
 Statutes & Other Authorities:	
U.S. Const., Amend. VII.....	4, 27
28 U.S.C. § 1254(1)	2
28 U.S.C. § 1295(a)(1).....	5
28 U.S.C. § 1331.....	5
28 U.S.C. § 1338(a)	5
35 U.S.C. § 102(b)	2, 8, 11
35 U.S.C. § 284.....	24
35 U.S.C. § 285.....	12, 24
37 C.F.R. § 1.56(a).....	8

37 C.F.R. § 1.56(b)	8
David Hricik, “The Many Mistakes in the Panel Decision in GS CleanTech Corp v. Adkins”, https://patentlyo.com/hricik/2020/03/mistakes-decision-cleantech.html	16
David Hricik, “Will the Court Correct the Mess that is GS CleanTech Corp. v. Adkins Energy LLC”, https://patentlyo.com/hricik/2020/04/correct-cleantech-adkins.html	16
De novo scope of review, Summary Judgment: Federal Law and Practice (E. Brunet, J. Parry and M. Redish, Nov. 2020) § 11:1	4
Fed. R. Civ. P. 54(b)	23
Fed. R. Civ. P. 56(a)	11
Law 360 article, “Fed. Circ. Inequitable Conduct Case Alarms IP Ethics Attys’, https://www.law360.com/appellate/articles/1252427/fed-circ-inequitable-conduct-case-alarms-ip-ethics-attys	16
Sup. Ct. R. 10(a)	4, 22

PETITION FOR A WRIT OF CERTIORARI

Petitioners GS CleanTech Corporation and Greenshift Corporation (collectively, “Petitioners” or “CleanTech”) respectfully petition for a writ of *certiorari* to review the opinions and judgments of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The opinion of the court of appeals in *GS CleanTech Corp. v. Adkins Energy, LLC* is reported at 951 F.3d 1310, and is included in the Appendix at App. A. The court of appeals’ decision denying Petitioners’ request for rehearing is not reported, but is provided in the Appendix at App. D.¹ The opinion of the district court granting summary judgment in *In re: Method of Processing Ethanol Byproducts and Related Subsystems (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, is reported at 303 F. Supp. 3d 791, and is provided in the Appendix at App. C. The opinion of the district court finding inequitable conduct in that case is not officially reported, but is provided in the Appendix at App. B, and is available on Westlaw at 2016 WL 4919980.

Other opinions of the district court in *In re: Method of Processing Ethanol Byproducts and Related Subsystems (‘858) Patent Litigation*, S.D. Ind. No. 10-ml-02181, are available at: 2010 WL 3152744, 2011 WL 4538085, 2012 WL 952809, 2012 WL 396867, 2012 WL 13028098, 2012 WL 13029392, 2012 WL 13029397, 2012 WL 13029754, 2012 WL 5844746, 2013 WL 372240, 2013 WL 1909484, 2013 WL 3820593, 2014 WL 12754939, 2014 WL 12774227, 2014 WL 12805047, 2014 WL 2938183, 2014 WL 12753784, 2014 WL 12753785, 2015 WL 12977449, 2015 WL 13639448, 2015 WL 13642258, 2020 WL 1433856, and 2020 WL 240944.

Opinions of the district court in *GS CleanTech Corp. v. Adkins Energy, LLC*, N.D. Ill. No.

¹ Citations to “App. ____” are to the Appendix to this Petition

10-cv-04391, are available at: 2016 WL 1019672 and 2018 WL 1469001.

JURISDICTION

The Federal Circuit entered its original decision and judgment on March 2, 2020. App. A. CleanTech filed a timely petition for rehearing on April 15, 2020. CleanTech’s petition for rehearing was denied on June 30, 2020. App. D at 3. On March 19, 2020, this Court ordered that all petitions for writs of certiorari are due 150 days after an order denying a timely petition for rehearing. 150 days from June 30, 2020 is November 27, 2020. Thus, this Petition is timely.

This Court has jurisdiction to review the decision below under 28 U.S.C. § 1254(1).

STATUTORY PROVISIONS INVOLVED

35 U.S.C. § 102(b) (pre-America Invents Act (AIA), effective Nov. 2, 2002):

“A person shall be entitled to a patent unless--(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States.”

STATEMENT OF THE CASE

This case presents an important question regarding the proper standard of review for issues resolved on summary judgment. Until the Federal Circuit’s decision below, the standard had been clear: Every Circuit reviewed every issue resolved on summary judgment *de novo*. And for good reason. A litigant loses its Seventh Amendment right to a jury trial on any issues decided against it on summary judgment. But now, for cases arising under the Patent Act, the Federal Circuit has adopted “abuse of discretion” review for issues resolved on summary judgment; even when those

issues are never reopened at trial. This new split between the Federal Circuit in patent cases, and every other Circuit Court in non-patent civil cases, warrants review by this Court.

Below, a case-dispositive issue—patent invalidity—was conclusively resolved against Petitioners on summary judgment. Under this Court’s precedent, and the precedent of every other Circuit Court, the Federal Circuit should have reviewed the summary judgment of patent invalidity *de novo*. It did not. Instead, it held—for the first time by any federal appellate court—that it could review the issue under the “abuse of discretion” standard governing review of the district court’s *separate, later* bench trial finding of inequitable conduct. This deprived Petitioners of the review to which they were entitled, effectively ending the case.

The Federal Circuit’s justification for departing from *de novo* review was that, allegedly, the invalidity issue was “reopened” during the bench trial. But every Circuit that has addressed the issue has held that, once an issue is conclusively resolved on summary judgment, it is removed from the case, unless the district court expressly notifies the parties that it is being reopened, and gives them an opportunity to present new evidence. Here, the district court never notified the parties that the issue was being reopened, and never gave them an opportunity to present new evidence. At trial, the parties did not treat the issue as reopened. Indeed, prior to trial, the district court granted a motion *in limine* **excluding** all evidence on the issue, based on Respondents’ argument that the issue had been conclusively resolved on summary judgment.

The Federal Circuit’s decision (in a footnote) to deem the issue “reopened” at trial—when neither the parties nor the district court treated it as reopened—was pure judicial fiat; an attempt to rewrite the record of the case below, so that the Federal Circuit could apply its preferred, more-lenient standard of review. But neither the Federal Circuit, nor any other appellate court, has the authority to rewrite the record to reach a preferred result. Once a right to appeal has been created,

“the procedures used in deciding appeals must comport with the demands of the Due Process . . . Clause[] of the Constitution.” *Evitts v. Lucey*, 469 U.S. 387, 393 (1985). The Federal Circuit’s actions in this case fall far short of meeting those standards.

“The *de novo* standard, when applied to appellate review of grants of summary judgment, protects Seventh Amendment values” by acting as a “safeguard against wayward summary judgment orders.” § 11:1. De novo scope of review, *Summary Judgment: Federal Law and Practice* (E. Brunet, J. Parry and M. Redish, Nov. 2020). *De novo* review ensures that parties receive the jury trial to which they are entitled, unless the district judge and an appellate court **both** conclude, as a matter of law, that no reasonable jury could find for the non-movant. *Id.* CleanTech demanded a jury trial (Appx100000), and under Federal Circuit precedent, CleanTech was entitled to a jury trial on Respondents’ invalidity defense. *Patlex Corp. v. Mossinghoff*, 758 F.2d 594, 603 (Fed. Cir. 1985). Yet, CleanTech was denied that jury trial, first by the district court’s erroneous summary judgment of invalidity, and then by the Federal Circuit’s erroneous refusal to review the summary judgment *de novo*. This amounted to a denial of CleanTech’s Seventh Amendment rights.

Unless the decision below is reversed, many future litigants face the prospect of having their Seventh Amendment Rights similarly denied. The Federal Circuit is the only appellate court, apart from this Court, with nationwide jurisdiction. The Federal Circuit hears all appeals from all patent cases nationwide. Patent cases constitute one of the largest groups of cases (by amount in controversy) of all federal civil cases. Unless reversed, the Federal Circuit’s erroneous decision will bind all future patent litigants, and will likely lead many of them to lose their Seventh Amendment rights. This will cause untold harm to such litigants, and the patent system as a whole.

The decision below is “in conflict with the decision of another United States court of appeals on the same important matter,” and “has so far departed from the accepted and usual course

of judicial proceedings . . . as to call for an exercise of this Court’s supervisory power.” Sup. Ct. R. 10(a). Thus, *certiorari* is respectfully requested.

A. Jurisdiction Below

The district court had original jurisdiction over this case under 28 U.S.C. §§ 1331 and 1338(a). The Federal Circuit had appellate jurisdiction under 28 U.S.C. § 1295(a)(1).

B. Factual Background

Petitioners own U.S. Pat. Nos. 7,601,858 (“the ‘858 patent”), 8,008,516 (“the ‘516 patent”), 8,008,517 (“the ‘517 patent”), 8,168,037 (“the ‘037 patent”) and 8,283,484 (“the ‘484 patent”) (collectively, the “Patents-in-Suit”). App. A at 5. The Patents-in-Suit describe and claim a novel method of extracting corn oil from the byproducts of ethanol distillation. *Id.* at 5-7. The Patents-in-Suit all claim priority to a provisional application filed on August 17, 2004. *Id.* at 12.

The patented technology was invented by two veterans of the agricultural and extraction industries: David Cantrell and David Winsness (the “inventors”). Appx31417²; Appx35734-35. In the early 2000s, the inventors learned that there was valuable corn oil in two byproducts of the ethanol distillation process: “thin stillage,” and “syrup.” *Id.* The inventors realized that, if they could find a way to economically extract corn oil from thin stillage or syrup, this would add a significant new revenue stream to ethanol plants. Appx35735-36, ¶ 8.

In 2003, the inventors began investigating ways to extract corn oil from thin stillage or syrup. Appx31417-18; Appx35738. In June 2003, the inventors asked Agri-Energy, an ethanol plant in Minnesota, for two five-gallon samples of thin stillage and syrup. App. A at 8-9. The inventors tasked Greg Barlage, an employee of centrifuge maker Alfa Laval, to test the samples with a bench-top centrifuge, and see if oil could be extracted. *Id.* at 7-9. Barlage deemed the syrup

² Citations to “Appx” are to the Joint Appendix from the Federal Circuit case below.

sample too viscous, so he only attempted to extract oil from the thin stillage sample. Appx31417-18, ¶¶ 18-23; Appx110088. The test was a failure, because the centrifuge quickly clogged. *Id.*

In July 2003, Barlage traveled to Agri-Energy with a small laboratory test centrifuge, to attempt to extract corn oil from samples of Agri-Energy's syrup. App. A at 9. That test also failed, because the centrifuge quickly clogged. Appx31418, ¶¶ 18-23.

The inventors realized, from the testing failures, that the only way to determine if corn oil extraction would work was to conduct exploratory tests in a live ethanol plant, during full-scale operations. Appx31418, ¶¶ 28-30. Accordingly, on August 1, 2003, Cantrell emailed a three-page proposal to Agri-Energy (the "Proposal"), asking for permission to conduct in-plant tests. App. A at 9-10. The Proposal asked Agri-Energy to participate in a confidential "trial process" using a "test module." App. C at 132-133. To incentivize Agri-Energy to participate in the test, the inventors proposed to install the "test module" (a centrifuge owned by Alfa Laval) at Agri-Energy, at the inventors' sole expense, and for Agri-Energy to operate the unit for 60 days. *Id.* Agri-Energy would be permitted to retain any oil extracted during this period. *Id.* To further incentivize Agri-Energy, the inventors gave Agri-Energy the option to either return the test unit "no questions asked," or to purchase it, at the end of the 60 days. *Id.* The Proposal explicitly stated that "[a]ll discoveries . . . shall remain the property of [the inventors' company] and [be] confidential."

On August 18 and 19, 2003, Cantrell traveled to Agri-Energy to meet with its Board of Directors. App. C at 135-136. Cantrell hand-delivered a copy of the Proposal to the Agri-Energy Board, who responded favorably. *Id.* However, shortly thereafter, Alfa Laval sold the centrifuge the inventors had intended to use as the "test unit." *Id.* at 137. Thus, the project went cold. *Id.*

By May 2004, the inventors located another centrifuge. App. C at 138-139. Agri-Energy agreed to let the inventors install that centrifuge at their facility, and run tests. *Id.* The inventors

did so. *Id.* The tests were a success; they proved that, under counter-intuitive conditions specific to operating ethanol plants, a centrifuge could be used, in the process envisioned by the inventors, to successfully extract corn oil from syrup in an ethanol plant. *Id.* at 139-140; Appx35738. This was the first time the inventors knew they had a working invention. *Id.*

Shortly thereafter, the inventors retained a patent attorney, Andrew Dorisio. App. B at 16-17. Dorisio prepared a provisional patent application directed to the invention, and filed it on August 17, 2004. App. B at 20; Appx900. On May 5, 2005, he filed a nonprovisional application, claiming priority to the provisional application. *Id.* That application issued as the ‘858 patent. *Id.*

In March 2008, prosecution of the ‘858 patent family was transferred to the firm of Cantor Colburn LLP. App. B at 22. Cantor Colburn prosecuted all of the patents in the family to issuance.

Prior to the invention, no ethanol plants in the U.S. were extracting corn oil. Appx31891-31892, ¶15. By February 2013, **70%** of plants were doing so, by way of the patented technique. *Id.* Indeed, the ability to extract corn oil via the patented technique was the primary factor that allowed many ethanol distilling facilities to remain profitable. Appx35735-36, ¶ 8.

Many ethanol facilities agreed to take licenses to the Patents-in-Suit. Appx26356, ¶ 196. However, many others did not. The inventors (through CleanTech) sued the companies that adopted the patented technology, but refused to take a license, for patent infringement.

C. Proceedings Below

CleanTech sued a number of ethanol facilities for infringement of the ‘858 patent in district courts throughout the United States. On August 6, 2010, the Panel on Multidistrict Litigation (“MDL”) consolidated the cases into a single MDL in the Southern District of Indiana.

1. Discovery of the Proposal; First and Second Cantrell Declarations

Starting in 2010, the parties engaged in discovery. Cantor Colburn represented CleanTech in the litigation. In March 2010, Winsness traveled to Cantrell’s house to collect documents for

the litigation. Appx63882, ¶¶ 15-19. While doing so, Winsness saw, for the first time, ink-signed and color-printed versions of the Agri-Energy Proposal. *Id.* Neither Winsness nor Cantrell saw the August 1, 2003 emailed version of the Proposal at that time, because Cantrell’s email account in 2003 was set to automatically delete all emails after 90 days. Appx40202-03.

Winsness sent the ink-signed and color-printed version of the Agri-Energy Proposal to Cantor Colburn in March 2010. Appx63882, ¶¶ 18-20. Cantor Colburn attorneys reviewed the Proposal. *Id.* At that point, several members of the ‘858 patent family were still undergoing prosecution at the USPTO. Thus, Cantor Colburn had to decide whether to submit the Proposal to the patent office. Under patent office rules, a patent applicant must submit, during prosecution, all documents they are aware of that are “material to patentability.” 37 C.F.R. § 1.56(a). A document is “material to patentability” if it: “(1) establishes, by itself or in combination with other information, a *prima facie* case of unpatentability of a claim; or (2) [i]t refutes, or is consistent with, a position the applicant takes” during prosecution. 37 C.F.R. § 1.56(b).

The date on the face of the Agri-Energy Proposal was “July 31, 2003.” Appx63882, ¶19. That was more than one year earlier than the August 17, 2004 priority date of the Patents-in-Suit. Thus, there was a possibility that the Proposal could invoke an “on-sale bar” against the Patents-in-Suit under 35 U.S.C. § 102(b) (pre-America Invents Act, effective November 2, 2002) and this Court’s decision in *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 67 (1998). Under *Pfaff*, “the on-sale bar applies when two conditions are satisfied before the critical date” – i.e., more than one year before the priority date of the patent. *Id.* “First, the [invention] must be the subject of a commercial offer for sale.” *Id.* “Second, the invention must be ready for patenting.” *Id.*

Cantor Colburn reviewed the Proposal, and prepared several memoranda (in the form of draft submissions to the patent office), outlining why the Agri-Energy Proposal did not invoke an

on-sale bar under *Pfaff*. App. B at 37. The most detailed memorandum was prepared on August 16, 2010. Appx110830-43. That memorandum outlined four reasons why the Proposal did not invoke an on-sale bar under *Pfaff*, *i.e.*: (i) because the Proposal was for an “experimental use,” rather than a commercial purpose (Appx110835-39); (ii) because the Proposal was not a “commercial offer for sale” in the contract sense (Appx110839-40) (iii) because the Proposal was not an offer “of the Patented Invention,” since (at most) it was an offer to deliver a “test module,” but the patented claims are all method claims, and an offer for sale of a method claim only occurs if the offeror offers to perform the method for consideration (Appx110840-42) (*citing Plumtree Software, Inc. v. Datamize, LLC*, 473 F.3d 1152 (Fed. Cir. 2006)); and (iv) the invention was not “ready for patenting” at the time of the Proposal (Appx110842-43).

In early September 2010, Cantrell told Cantor Colburn that, to the best of his recollection, the first time he delivered the Proposal to Agri-Energy was when he hand-delivered it to the Agri-Energy Board seven years earlier, on August 18, 2003. App. B at 37-38. Cantrell’s recollection was incorrect. As stated above, he had also emailed a copy of the Proposal to Agri-Energy on August 1, 2003. But Cantrell had forgotten about that email. At trial, Cantrell consistently testified that he had no recollection of sending the August 1, 2003 email, and that he truly believed he did not send the Proposal until August 18, 2003. Appx70146-70148; Appx70584-70585.

Cantor Colburn was skeptical of Cantrell’s “hand delivery” narrative. App. B at 37-38. If Cantrell did not deliver the Proposal until August 18, 2003—*one day after* the August 17, 2003 critical date—then the Proposal would not be prior art, and it could not invoke an on-sale bar. *Id.* That seemed too convenient. So, Cantor Colburn investigated. They asked Cantrell to pull his credit card receipts, to prove that he was in Luverne, Minnesota (Agri-Energy’s location) on August 18, 2003. He did. The receipts confirmed that Cantrell was in Luverne, and did meet with

Agri-Energy, on that date. App. B at 38; Appx63882-3. Cantor Colburn also spoke with Cantrell's business associates, including Winsness, who confirmed that hand-delivery of letters was "how Cantrell conducted business." App. B at 38. Between the credit card receipts, and the confirmation that hand-delivery was Cantrell's usual practice, Cantor Colburn was satisfied. *Id.*

Accordingly, Cantor Colburn drafted a Declaration for Cantrell to sign (the "First Cantrell Declaration"), in which Cantrell testified to his hand delivery of the Proposal. App. B at 39-41. The Declaration stated what everyone at the time (counsel and client) believed to be true: that the first time the Proposal was delivered was when it was hand-delivered on August 18, 2003. *Id.* On November 16, 2010, Cantor Colburn submitted the First Cantrell Declaration, along with a copy of the Agri-Energy Proposal, to the USPTO, in prosecution of the '516 and '517 patents. *Id.* at 41-42. Cantor Colburn's submissions argued that the Proposal could not be "material" to patentability, because it was delivered one day after the critical date of August 17, 2003. *Id.*

The '516 and '517 patents issued on August 30, 2011. App. A at 16. CleanTech subsequently amended its complaints to assert infringement of the '516 and '517 patents.

On September 21, 2011, Respondents deposed Cantrell in the litigation. App. B at 43. There, Respondents confronted Cantrell with the August 1, 2003 email, which they had apparently obtained from Agri-Energy. *Id.* Cantrell was shocked; his firm recollection had been that the first time he delivered the Proposal was when he hand-delivered it on August 18, 2003. Appx70146-70148. The deposition was the first time Cantor Colburn saw the email. Appx63883, ¶ 36.

When Cantrell was deposed, the '516 and '517 patents had already issued; thus, there was nothing CleanTech could do to "cure" the incorrect hand-delivery statement as to those patents. However, the application for the '484 patent was still pending. Accordingly, in 2012, Cantor Colburn drafted a second declaration for Cantrell to sign (the "Second Cantrell Declaration"), to

correct the mistake in the first. App. B at 46-47. Cantrell signed the Second Declaration on July 10, 2012, and Cantor Colburn filed it at the USPTO. *Id.* at 47-48. The Second Declaration attached a copy of the August 1, 2003 email (with the Proposal), and admitted the mistake in the First Declaration. Appx121695, ¶¶ 1-2. The ‘484 patent issued on October 9, 2012. App. B at 51.

2. The Summary Judgment of Invalidity Due to an On-Sale Bar

In September 2013, Respondents moved for summary judgment of invalidity due to an on-sale bar. Respondents argued that the Agri-Energy Proposal was a commercial offer for sale of the invention, more than one year prior to the critical date, and that the invention was ready for patenting at the time of the Proposal. App. C at 166. Thus, Respondents argued, the Proposal invalidated the Patents-in-Suit under 35 U.S.C. § 102(b) and *Pfaff. Id.*

CleanTech vigorously opposed Respondents’ motion for summary judgment. Appx26357-26373. Both prongs of *Pfaff* (*i.e.*, “commercial offer” and “ready for patenting”) are, or involve, questions of fact, on which Respondents bore the burden of proof by “clear and convincing evidence.” *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1352 (Fed. Cir. 2002)). Thus, summary judgment was proper only if CleanTech failed to establish *any* “genuine dispute [of] material fact” as to either *Pfaff* prong. Fed. R. Civ. P. 56(a).

CleanTech adduced abundant evidence to avoid summary judgment. CleanTech submitted deposition testimony, declarations, documents, and other evidence to show that the Proposal was not a “commercial offer for sale,” in the contract sense, as required by law. Appx26362. CleanTech submitted testimony, declarations, documents and other evidence to show that the Proposal did not anticipate the claimed inventions (as required by *Scaltech Inc. v. Retec/Tetra, L.L.C.*, 178 F.3d 1378, 1383 (Fed. Cir. 1999)), because it did not require performance of every step of the claimed methods. Appx26363-26364. CleanTech submitted documents, testimony, and other evidence to show that the Proposal was for an “experimental,” rather than a “commercial,” purpose.

Appx26364-26368. And CleanTech submitted abundant evidence—including testimony, Declarations from both inventors, and numerous documents—to show that the invention was not “ready for patenting” at the time of the Proposal, because the inventors did not know whether it would work until they performed the in-plant tests in May 2004. Appx26369-26373.

Despite this abundant evidence; despite Respondents’ “clear and convincing” burden of proof; and despite that the district court was supposed to view all facts in the light most favorable to CleanTech, the district court grant summary judgment of invalidity, because the Proposal invoked an “on-sale bar” against almost all claims³ of the Patents-in-Suit. App. C at 164-174. The summary judgment was clearly erroneous. CleanTech has no doubt that, if the Federal Circuit had reviewed the summary judgment under the proper *de novo* standard, it would have reversed, because there were clearly genuine disputes of material fact on both prongs of the *Pfaff* analysis.

3. The Bench Trial on Inequitable Conduct

The district court’s summary judgment of on-sale bar was actually a *partial* summary judgment, because it did not dispose of all the claims in the case. App. C at 233. Most significantly, Respondents’ counterclaim for a declaration of inequitable conduct remained pending.⁴ Because the summary judgment of on-sale bar was only a partial summary judgment, CleanTech could not appeal it as a matter of right. *Liberty Mut. Ins. Co. v. Wetzel*, 424 U.S. 737, 744 (1976).

The district court set the inequitable conduct counterclaim for a bench trial. App. B at 1. “Inequitable conduct” is a judicially-created doctrine, under which a patent (or patent family) can

³ Although not all claims of the Patents-in-Suit were found invalid under the on-sale bar, the summary judgment order was fully case-dispositive, because the district court found the remaining claims invalid or not infringed for different reasons. *See generally* App. C.

⁴ Even though the summary judgment order was fully case-dispositive, Respondents insisted on pursuing their inequitable conduct claim, presumably to bolster their claim that this was an “exceptional case” for attorney’s fees purposes under 35 U.S.C. § 285.

be held unenforceable if the patent applicant committed fraud on the patent office in obtaining the patent. The *en banc* Federal Circuit promulgated the current standards governing inequitable conduct in *Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276 (Fed. Cir. 2011).

Under *Therasense*, to prove inequitable conduct, a defendant must prove two separate factors by “clear and convincing evidence.” *Id.* First, it must prove that the patent applicant “acted with the specific intent to deceive the PTO.” *Id.* at 1290. Second, it must generally prove “but-for materiality:” i.e., that “the PTO would not have allowed a claim had it been aware of the undisclosed prior art,” based on the “preponderance of the evidence” standard applied by the PTO in making validity determinations. *Id.* at 1291-92.

Because the Federal Circuit adopted “but-for materiality” in *Therasense*, it noted that “[o]ften,” the “materiality” determination “will be congruent with the validity determination.” *Id.* Specifically, it held: “if a claim is *properly invalidated in district court* based on the deliberately withheld reference, then that reference is *necessarily material* because a finding of invalidity in a district court requires clear and convincing evidence, a higher evidentiary burden than that used in prosecution at the PTO.” *Id.* (emphases added).

Respondents argued that CleanTech and Cantor Colburn committed inequitable conduct in connection with the Agri-Energy Proposal. App. B at 57-58. Specifically, Respondents argued that the inventors (Cantrell and Winsness) committed inequitable conduct during prosecution of the ‘858 patent—the first Patent-in-Suit to issue, on October 13, 2009 (Appx900)—by failing to submit the August 1, 2003 email and Agri-Energy Proposal to the patent office. *Id.* Respondents further argued that Cantor Colburn and the inventors committed inequitable conduct during prosecution of the ‘516 and ‘517 patents by submitting the First Cantrell Declaration, which incorrectly stated that the Proposal was first delivered to Agri-Energy by “hand delivery,” after the

critical date. *Id.* Finally, Respondents argued that Cantor Colburn and the inventors committed inequitable conduct during prosecution of the ‘484 patent by submitting the Second Cantrell Declaration, which they alleged was an inadequate cure of the First Declaration. *Id.*

The district court set a bench trial on inequitable conduct for October 2015. App. B at 2. Due to the Federal Circuit’s holding that “if a claim is properly invalidated in district court based on [a] deliberately withheld reference, then that reference is *necessarily material*,” the district court’s summary judgment of invalidity *conclusively* (albeit wrongly) established that the Agri-Energy Proposal was “material” to patentability. *Therasense*, 649 F.3d at 1292. Thus, the only issue remaining for the bench trial was “intent”—i.e., whether the inventors or Cantor Colburn “specifically intended” to deceive the PTO with respect to the Proposal. *Id.*

The record of proceedings leading up to, and during, trial demonstrates that all parties, and the district court, understood that the “materiality” of the Proposal was *not at issue* at trial. The district court asked the parties to submit pre-trial briefs. Respondents’ pre-trial brief could not have been clearer. It stated: “Because the Court’s summary judgment order resolved the issue of materiality, *the only issue to be decided at trial is whether Applicants acted with deceptive intent* when they made false statements to the PTO and omitted material facts from their disclosures to it.” *In re: Method for Processing Ethanol Byproducts and Related Subsystem (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1576 at 33 of 35 (emphasis added). Thus, Respondents clearly understood—indeed, argued—that the only issue to be tried was intent.

CleanTech also submitted a pretrial brief. The vast majority of CleanTech’s argument—19 of 20 pages—was directed to the issue of intent. *In re: Method for Processing Ethanol Byproducts and Related Subsystem (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1574 at 5-23 of 35. That is because CleanTech also understood the materiality issue to have been resolved

on summary judgment. CleanTech also included a short, one-page section seeking to offer new evidence. *Id.* at 23-24 of 26. That section did *not* attempt to reargue the summary judgment decision that had already been made. It simply argued that *new evidence* which emerged *after* the summary judgment—namely, the allowance of CleanTech’s related U.S. App. No. 13/450,997, which claimed very similar subject matter to the invalidated claims, and which was allowed even though the Examiner was fully aware of the Agri-Energy Proposal—should be considered at trial, as evidence that the Agri-Energy Proposal was not, in fact, material to patentability. *Id.*

Respondents vehemently objected to CleanTech’s attempt to introduce this evidence. Respondents filed a motion *in limine*, titled “Motion to Exclude Evidence Relating to the Prosecution of Patents Not in Suit,” on September 17, 2015, seeking to exclude the evidence of the allowance, and any other evidence of materiality. Appx64380-64385. Respondents argued:

Plaintiff’s pre-trial filings indicate it intends to ignore this Court’s summary judgment decision and argue the offer and surrounding facts concerning the on-sale bar were immaterial. In particular, it seeks to introduce evidence of the PTO’s December 2014 allowance of a continuance application to the ’858 family. ***Materiality having been decided on summary judgment, this Court should exclude this evidence and any other argument that the Agri-Energy offer and surrounding facts are not material.***

Appx64381 (emphasis added). Respondents argued that any attempt “to argue the sale offer was immaterial is to challenge this Court’s summary judgment findings and refuse to accept the law of the case.” Appx64382. Respondents concluded, at Appx64385 (emphasis added):

In granting summary judgment for invalidity on the basis of the inventors’ 2003 dealings with Agri-Energy, ***this Court decided that the Offer Letter and the 2003 testing and sales diagram were material.*** Summary judgment having already been decided on this issue in Defendants’ favor, ***this Court should exclude any evidence that the offer was immaterial,*** including the PTO’s allowance of claims in a continuation application.

On September 24, 2015, the district court granted Respondents’ motion *in limine*, ordering:

“Defendants’ Motion to Exclude Evidence Relating to the Prosecution of Patents Not in Suit . . . is GRANTED.” Appx64556, ¶ 4. And the district court reaffirmed this ruling at trial: when CleanTech tried to introduce evidence of the ‘997 Application allowance, the district court did not allow it, referring back to its earlier *in limine* ruling. *In re: (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1648 at 100-104 of 234.⁵ Indeed, Respondents even stated, in their closing argument at trial: “the materiality prong is met, Your Honor . . . because quite simply [of] the information that Your Honor relied upon in deciding summary judgment,” and thus, “what this case is really about is intent to deceive.” *In re: (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1649 at 23-24 of 79. Accordingly, it was clear, from the record before and during trial, that the “materiality” of the Proposal was not at issue, and the only issue to be tried was intent.

The district court issued its decision after the bench trial on September 15, 2016. App. B. The district court found inequitable conduct during the prosecution of the ‘858, ‘516, ‘517, and ‘484 patents. App. B at 65-77. As to the ‘858 patent, the district court found that there was inequitable conduct because the inventors “intentionally allowed Hagerty,”⁶ a patent prosecution

⁵ The Federal Circuit stated that CleanTech did not “contest[]” the exclusion of this evidence “before the District Court.” App. A at 38. Not so; immediately after the ruling, CleanTech’s counsel stated: “[I] take exception, Your Honor,” to which the court replied, “[t]he ruling I just made is clearly there for the record, to be reviewed.” *In re: (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1648 at 104 of 234.

⁶ The finding that Hagerty acted culpably during prosecution of the ‘858 patent was unsupportable, because the parties *stipulated* that he did not learn of the Agri-Energy Proposal until March 2010, after the ‘858 patent issued. Appx63882, ¶ 19. Commentators have criticized the Federal Circuit’s decision for failing to discriminate between alleged misconduct by counsel and client. See <https://www.law360.com/appellate/articles/1252427/fed-circ-inequitable-conduct-case-alarms-ip-ethics-attys> (Law360 article, “Fed. Circ. Inequitable Conduct Case Alarms IP Ethics Attys”); <https://patentlyo.com/hricik/2020/03/mistakes-decision-cleantech.html> (article by professor David Hricik, “The Many Mistakes in the Panel Decision in GS CleanTech Corp v. Adkins”); <https://patentlyo.com/hricik/2020/04/correct-cleantech-adkins.html> (second article by Professor Hricik, “Will the Court Correct the Mess that is GS CleanTech Corp. v. Adkins Energy LLC”).

attorney from Cantor Colburn, not to submit the Agri-Energy Proposal to the PTO. App. B at 65-68. As to the '516 and '517 patents, the district court found inequitable conduct because “the inventors and the attorneys misrepresented to the PTO that the July 31 offer letter⁷” was first delivered after the critical date, in the First Cantrell Declaration. App. B at 68-73. And as to the '484 patent, the district court found inequitable conduct because the Second Cantrell Declaration did not adequately cure the inaccurate statement in the First Cantrell Declaration. App. B at 74-77. Accordingly, the district court held the '858, '516, '517 and '484 patents unenforceable, and entered final judgment for Respondents. Appx318. CleanTech then appealed. Appx72482.

In its inequitable conduct decision, the district court did not enter an independent “finding” that the Agri-Energy Proposal was “material” to patentability. Instead, it simply “adopt[ed] herein by reference the findings of fact and conclusions of law in the Summary Judgment Order . . . Master Docket No. 1351, at 164 to 175,” *i.e.*, the section of the summary judgment order resolving invalidity under the on-sale bar. App. B at 59. This confirms that “materiality” and the “on-sale” issues were not reopened at trial, and the only issue tried to the court was intent.

4. The Federal Circuit Appeal

CleanTech filed its Opening Appeal Brief on August 29, 2018. Therein, CleanTech argued that the summary judgment of on-sale bar was error, for all the reasons stated above. *GS CleanTech Corp. v. Adkins Energy, LLC*, CAFC Case No. 16-2231, Dkt. 62 at 35-45. CleanTech further argued that, because the only finding of “materiality” in the record was the summary judgment of on-sale bar, but the summary judgment decision should be reversed, the finding of inequitable conduct should also be reversed, and the case remanded for trial. *Id.* at 104-106.

⁷ The district court referred to the Proposal as the “July 31 offer letter” because, while it was emailed on August 1, 2003, the face of the document bore the date “July 31, 2003.” App. B at 133.

Respondents filed a Response Brief on December 18, 2018. In it, they urged the Federal Circuit to “skip over” reviewing the summary judgment of on-sale bar, and review only the inequitable conduct decision for “abuse of discretion.” CAFC Case No. 16-2231, Dkt. 81-1 at 55-60. Respondents urged that such a review would more “efficiently resolve th[e] case,” because it would obviate the need to address the district court’s summary judgment decisions. *Id.* at 50. Respondents argued that it was proper to skip reviewing the summary judgment decisions, and review only the inequitable conduct decision, because “the District Court held an eight-day bench trial on inequitable conduct, *placing materiality squarely before it.*” *Id.* (emphasis added).

That argument was stunning, to say the least. Respondents *expressly argued* to the district court that because “[m]ateriality ha[d] been decided on summary judgment, this Court should exclude . . . any other argument that the Agri-Energy offer and surrounding facts are not material,” and they *prevailed* on that argument. Appx64385; Appx64556, ¶ 4. Respondents’ new argument that materiality had been “at issue” was not just false; it was knowingly false.

CleanTech filed a Reply Brief on February 26, 2019. In it, CleanTech advised the Federal Circuit that Respondents had taken the exact opposite position on materiality, *successfully*, before the district court. CAFC Case No. 16-2231, Dkt. 100 at 4-9. Thus, CleanTech argued, Respondents should be judicially estopped from asserting that materiality had been “at issue” during the bench trial. *Id.* Apart from any estoppel, CleanTech argued, it was manifest from the record that materiality had not been “at issue” during the trial. *Id.* Thus, CleanTech argued, the Federal Circuit was required to conduct a *de novo* review of the summary judgment rulings. *Id.*

The Federal Circuit panel issued its decision on March 2, 2020. App. A. In footnote 15, the panel accepted Respondents’ invitation to more “efficiently” resolve the case by skipping review of the summary judgment decision, and reviewing only the inequitable conduct decision, for

“abuse of discretion.” App. A at 25-26, n. 15 (“Despite CleanTech’s arguments to the contrary, . . . we will address the issue of inequitable conduct without first conducting a *de novo* review of the District Court’s summary judgment [of] on-sale bar”). The panel’s justification for this was a single sentence taken near-*verbatim* out of Respondents’ brief, and reproduced without citation: *i.e.*, that “[t]he District Court held an eight-day bench trial in which materiality was squarely before it.” *Id.* at 25. The panel ignored the fact that the district court **excluded** all evidence of materiality from the trial; ignored the fact that Respondents **successfully argued**, prior to trial, that materiality was not at issue at trial; and completely ignored CleanTech’s argument that Respondents should be judicially estopped from taking such clearly inconsistent positions. *Id.*

Having decided to deprive CleanTech of *de novo* review, the panel proceeded to review the on-sale bar decision for “abuse of discretion.” App. A at 26 (“The District Court Did Not **Abuse Its Discretion** in Determining the Claimed Invention Was the Subject of a Pre-Critical Date Offer for Sale”), 27 (“The District Court did not **abuse its discretion** in determining that the claimed invention was the subject of an offer for sale in the summer of 2003”); 28 (“The District Court did not **abuse its discretion** in determining the claimed invention was ready for patenting in June or July 2003”) (emphases added). This was not only improper for the reasons set forth below; it was a violation of the Federal Circuit’s own standards. Under Federal Circuit precedent, the “ultimate decision” of inequitable conduct is reviewed for “abuse of discretion,” but the “underlying factual determinations,” including materiality, are reviewed “for clear error.” *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1365 (Fed. Cir. 2008). “If the district court’s determination of inequitable conduct is based on a **clearly erroneous finding of materiality** and/or intent, it constitutes an abuse of discretion and must be reversed.” *Id.* Thus, even if it were proper to “skip” reviewing the summary judgment decision, and review only the inequitable conduct decision

(which it was not), the “materiality” and “intent” prongs of that decision should have been reviewed for “clear error.” The Federal Circuit’s decision to review those prongs for “abuse of discretion” violated its own standards—and ensured that CleanTech had no chance of success.⁸

Under abuse of discretion review, the panel easily affirmed the district court’s finding of an on-sale bar. App. A at 26-31. On the “commercial offer” prong of *Pfaff*, the panel found that the district court “did not abuse its discretion” in determining that the Proposal was *not* for an “experimental purpose,” which would have negated a “commercial offer” under *Pfaff*, 525 U.S. at 64. App. A at 30. The panel effectively ignored all of CleanTech’s evidence that the Proposal was for an experimental purpose. *Id.*; *see also* CAFC Case No. 16-2231, Dkt. 62 at 39-45 (outlining this evidence). Incredibly, the panel also found that CleanTech waived reliance on the dispositive *Plumtree* case—a case directly supporting CleanTech’s position that the Proposal’s offer to install

⁸ Moreover, the inequitable conduct decision is materially inconsistent with recent developments at the patent office. On May 19, 2020, the USPTO issued U.S. Pat. No. 10,655,083 (the “’083 patent”), a continuation of the Patents-in-Suit. The ‘083 patent’s claims have substantially the same scope as those of the Patents-in-Suit. *See* ‘083 patent at 6:22-66. The ‘083 patent was examined by the same Examiner who examined the Patents-in-Suit, Deborah Carr. On April 17, 2019, Examiner Carr issued an office action, rejecting the claims due to the “on-sale bar” raised by the Proposal. *See* April 17, 2019 Office Action at 3-5. Examiner Carr cited the district court’s inequitable conduct ruling to support the rejection. *Id.* On July 24, 2019, Petitioners held an interview with Examiner Carr, to review why the invention was not ready for patenting in 2003 (*i.e.*, because the 2003 bench testing failed and the inventors did not know if the process would work), why the 2003 Proposal was not originally submitted (*i.e.*, because Petitioners, the inventors, and Cantor Colburn did not believe it was material to patentability), and why the 2003 Proposal did not invoke an on-sale bar (*i.e.*, because there was no commercial offer for sale, because of *Plumtree*, and because the invention was not ready for patenting). Examiner Carr was persuaded. She withdrew the rejection, and allowed the claims. Thus, the very Examiner whom the district court determined was “misled” by the inventors and Cantor Colburn reviewed the district court’s rulings and Respondents’ materials, and determined that she was *not* misled; that the invention which gave rise to the Patents-in-Suit was not ready for patenting in 2003, that the 2003 Proposal did not raise an on-sale bar, and that none of the information that was allegedly withheld from the USPTO was material to patentability. Examiner Carr’s decision to issue the ‘083 patent directly contradicts the district court’s and Federal Circuit’s rulings that the 2003 Proposal invoked an “on sale” bar, and that there was inequitable conduct during prosecution of the Patents-in-Suit.

equipment, and not to perform the claimed methods, could not trigger the “on-sale” bar—because “CleanTech cited to *Plumtree* **only once** in its summary judgment opposition.” App. A at 27 (emphasis added). The panel cited no authority (and there is none) for its apparent position that a party must cite a case “more than once” to preserve reliance upon it on appeal.⁹

On the “ready for patenting” prong of *Pfaff*, the panel found that the “District Court did not abuse its discretion in determining the claimed invention was ready for patenting in June or July 2003.” App. A at 28. The panel ignored all the evidence showing that CleanTech did not know whether the invention would work—and, thus, that the invention was not “ready for patenting”—until the in-plant tests in May 2004, after the critical date. CAFC Case No. 16-2231, Dkt. 62 at 45-47 and Dkt. 100 at 14-19 (outlining this evidence). The panel then found that the district court did not “abuse its discretion” (again, using the wrong standard under *Star Scientific*) in finding deceptive intent. App. A at 31-38. Thus, the panel affirmed the district court’s judgment that the ‘858, ‘516, ‘517 and ‘484 patents were unenforceable for inequitable conduct. *Id.* at 38. Because that was case-dispositive as to those patents, the panel did not review any other part of the district court’s opinion as to those patents, including the summary judgment of on-sale bar. *Id.*, n. 16.

One patent was not covered by the inequitable conduct decision—the ‘037 patent. The panel dispensed with that patent in a single footnote. App. A at 20, n. 13. In the footnote, the panel “conclude[d] that the District Court properly **determined**” that the asserted claims of the ‘037 patent were obvious. *Id.* (emphasis added). But the district court did not “determine” anything—it ruled, on summary judgment, that there were no genuine disputes of fact, and that the ‘037 claims

⁹ The panel’s “waiver” decision directly conflicted with *Nelson v. Adams USA, Inc.*, 529 U.S. 460, 469 (2000), in which this Court held that an issue is preserved when “the lower court [is] fairly put on notice as to [its] substance.” CleanTech clearly put the district court on “fair notice” of its *Plumtree* argument, because it cited *Plumtree* for that exact argument below. Appx26364.

were obvious as a matter of law. App. C at 214-217. That summary judgment of obviousness was clearly erroneous. *See* CAFC Case No. 16-2231, Dkt. 62 at 70-77; Dkt. 100 at 41-42. More importantly, however, the panel applied the wrong standard of review. The footnote never mentions that obviousness was decided on summary judgment, and never mentions the *de novo* standard. To the contrary, the panel purported to review the district court’s “determin[ation]”—i.e., *finding*—of obviousness, which suggests that the panel applied clear error, or abuse of discretion, review. This was error, for the same reasons as the failure to conduct *de novo* review of the summary judgment of on-sale bar. This error also warrants review and correction.

CleanTech petitioned for *en banc* rehearing on April 15, 2020. CleanTech raised four grounds for rehearing: (i) that the panel improperly refused to review the summary judgment of on-sale bar *de novo* (CAFC Case No. 16-2231, Dkt. 175 at 6-11); (ii) that the panel’s “waiver” finding as to the *Plumtree* case violated *Nelson* (*id.* at 11-13); (iii) that the panel violated *Star Scientific* by reviewing for abuse of discretion, rather than clear error (*id.* at 13-15); and (iv) that the panel improperly failed to review the ‘037 summary judgment *de novo* (*id.* at 15-17).

The Federal Circuit denied rehearing on June 30, 2020. App. D. This Petition followed.

ARGUMENT

The Federal Circuit’s decision below “conflict[s] with the decision[s] of []other United States Court[s] of appeals on the same important matter[s],” and “has so far departed from the accepted and usual course of judicial proceedings . . . as to call for an exercise of this Court’s supervisory power” (Sup. Ct. R. 10(a)), because: (i) it violated the uniform rule of all circuits that an issue decided on partial summary judgment is reviewed *de novo*; (ii) it violated the rule of the First, Second, Third, Fifth, Sixth, Seventh, and DC Circuits that an issue resolved on partial

summary judgment is conclusively established unless the district court expressly notifies the parties that it is being reopened; and (iii) it violated the rule of the Third, Sixth, Seventh, Eighth, Ninth, and DC Circuits that a “predicate” decision must be reviewed first, under the appropriate appellate standard, before any later decision depending on the predicate decision is reviewed.

All of these issues are matters of great import. Unless the Federal Circuit’s erroneous precedential decision is reversed, every patent litigant in the nation (and all other litigants who appear before the Federal Circuit, such as litigants in the Court of Federal Claims, the Court of International Trade, etc.) will be bound by it. This would severely burden all such litigants, by subjecting them to an appellate regime in which the Federal Circuit—when it suits its interests—can effectively deny meaningful review, by reviewing issues that should be reviewed *de novo* under a far stricter standard (such as the virtually insurmountable “abuse of discretion” standard). This would incentivize—indeed, *compel*—all such litigants to seek immediate interlocutory review of *all* partial summary judgment orders under Fed. R. Civ. P. 54(b), because that would be the only way to ensure the Federal Circuit actually reviews the summary judgment decision *de novo*. Such incentives directly violate “the historic federal policy against piecemeal appeals.” *Sears, Roebuck & Co. v. Mackey*, 351 U.S. 427, 438 (1956). Moreover, unless reversed, the Federal Circuit’s decision will lead many future litigants to lose their Seventh Amendment rights, by denying them the important safeguard of *de novo* review of an adverse summary judgment.

Thus, this Court should review the case on *certiorari*, to alleviate the pernicious effects of the panel’s decision, and to remind the Federal Circuit that—although it has unique competence in matters of *patent* law—on issues of *procedural* law, it must conform its jurisprudence to the

prevailing standards in this Court and the other courts of appeal.¹⁰

A. This Court Should Grant Certiorari to Reaffirm that Issues Decided on Partial Summary Judgment Must Be Reviewed *De Novo*, Based on the Record As It Existed at the Time of Summary Judgment

Prior to the Federal Circuit’s decision in this case, every Circuit had held that an issue decided on partial summary judgment must be reviewed *de novo*. *See Velez v. Awning Windows, Inc.*, 375 F.3d 35, 41 (1st Cir. 2004) (“We review the merits of the entry of partial summary judgment *de novo*”); *Rogath v. Siebenmann*, 129 F.3d 261, 263 (2d Cir. 1997) (same); *Morgan v. Covington Twp.*, 648 F.3d 172, 177 (3d Cir. 2011) (same); *Carlson v. Bos. Sci. Corp.*, 856 F.3d 320, 324 (4th Cir. 2017) (same); *Burns v. Exxon Corp.*, 158 F.3d 336, 340 (5th Cir. 1998) (same); *Coach, Inc. v. Goodfellow*, 717 F.3d 498, 502 (6th Cir. 2013) (same); *Roland v. Langlois*, 945 F.2d 956, 960 (7th Cir. 1991) (same); *Day v. Celadon Trucking Servs., Inc.*, 827 F.3d 817, 826 (8th Cir. 2016); *Amdahl Corp. v. Profit Freight Sys., Inc.*, 65 F.3d 144, 146 (9th Cir. 1995) (same); *Qwest Corp. v. AT & T Corp.*, 479 F.3d 1206, 1209 (10th Cir. 2007) (same); *Nat’l R.R. Passenger Corp. (Amtrak) v. Rountree Transp. & Rigging, Inc.*, 422 F.3d 1275, 1282 (11th Cir. 2005) (same); *Am. Council of the Blind v. Paulson*, 525 F.3d 1256, 1272 (D.C. Cir. 2008) (same). Indeed, the Federal Circuit itself had previously held that a partial summary judgment must be reviewed *de novo*. *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1062 (Fed. Cir. 2005).

Meanwhile, prior to the Federal Circuit’s decision in this case, every Circuit (including the Federal Circuit itself) had held that a partial summary judgment must be reviewed based on the

¹⁰ This Court has been required to send this message to the Federal Circuit several times in the recent past. *See, e.g., eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 392 (2006) (reversing Federal Circuit’s special rule that permanent injunction is presumed after finding of patent infringement); *Octane Fitness, LLC v. ICON Health & Fitness, Inc.*, 572 U.S. 545, 553 (2014) (reversing Federal Circuit’s “unduly rigid” test for “exceptional case” under 35 U.S.C. § 285); *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S. Ct. 1923, 1932 (2016) (reversing Federal Circuit’s “unduly rigid” test for entitlement to enhanced damages under 35 U.S.C. § 284).

record as it existed at the time of summary judgment. *Voutour v. Vitale*, 761 F.2d 812, 817 (1st Cir. 1985) (“Our review is confined to an examination of the materials before the court at the time the [partial summary judgment] rulings were made. Neither the evidence offered subsequently at the trial nor the verdict is relevant”); *U.S. E. Telecommunications, Inc. v. US W. Commc'ns Servs., Inc.*, 38 F.3d 1289, 1301 (2d Cir. 1994) (same); *Ciarlante v. Brown & Williamson Tobacco Corp.*, 143 F.3d 139, 147 (3d Cir. 1998) (same); *Variety Stores, Inc. v. Wal-Mart Stores, Inc.*, 888 F.3d 651, 657 (4th Cir. 2018) (same); *Nissho-Iwai Am. Corp. v. Kline*, 845 F.2d 1300, 1307 (5th Cir. 1988) (same); *Coach, Inc. v. Goodfellow*, 717 F.3d 498, 502 (6th Cir. 2013) (same); *Freeland v. Enodis Corp.*, 540 F.3d 721, 738 (7th Cir. 2008) (same); *Amerinet, Inc. v. Xerox Corp.*, 972 F.2d 1483, 1489–90 (8th Cir. 1992) (same); *Lippi v. City Bank*, 955 F.2d 599, 604 (9th Cir. 1992) (same); *United States v. Hardage*, 982 F.2d 1436, 1444–45 (10th Cir. 1992) (same); *Chapman v. AI Transp.*, 229 F.3d 1012, 1026-27 (11th Cir. 2000) (same); *Singh v. George Washington Univ. Sch. of Med. & Health Scis.*, 508 F.3d 1097, 1106 (D.C. Cir. 2007) (same); *Glaros v. H.H. Robertson Co.*, 797 F.2d 1564, 1568–69 (Fed. Cir. 1986) (same).

The Federal Circuit’s decision below violated both rules. The issue of whether the Agri-Energy Proposal invoked an invalidating on-sale bar was conclusively decided on partial summary judgment. App. C at 164-174. Respondents admitted as much, by arguing to the district court:

In granting summary judgment for invalidity on the basis of the inventors’ 2003 dealings with Agri-Energy, this Court decided that the Offer Letter and the 2003 testing and sales diagram were material. Summary judgment having already been decided on this issue in Defendants’ favor, this Court should exclude any evidence that the offer was immaterial.

Appx64385. Because the on-sale bar issue was decided on partial summary judgment, the Federal Circuit should have reviewed it *de novo*, based on the record at summary judgment.

It did not. Instead, it expressly reviewed the on-sale bar decision—i.e., both prongs of the

Pfaff analysis—for abuse of discretion. App. A at 26 (“District Court Did Not *Abuse Its Discretion* . . . [in finding] a Pre-Critical Date Offer for Sale”), 28 (“District Court Did Not *Abuse Its Discretion* . . . [in finding] Ready for Patenting”). Moreover, the Federal Circuit’s analysis expressly relied on evidence that was not before the district court on summary judgment. *See* App. A at 25, n. 15 (relying on “other relevant evidence during the trial”), 30 (relying on the fact that certain “testimony . . . was discredited by the District Court” at trial). Thus, the Federal Circuit violated both rules that are uniformly followed by the courts of appeal: *i.e.*, that partial summary judgment is reviewed *de novo*, and that such review is confined to the summary judgment record.

The impropriety of the Federal Circuit’s analysis is confirmed by noting that, while the Federal Circuit purported to be reviewing a “materiality” decision made after trial, virtually every citation in its “on-sale bar” analysis was to the district court’s *summary judgment* decision. The summary judgment decision was Joint Appendix pages 1-233 (with pages 164-174 directed to the on-sale bar); the inequitable conduct decision was pages 236-313. In the Federal Circuit’s analysis of the “On-Sale Bar” (App. A at 26-31), every single citation to the decisions below, except one, was to pages in the range of J.A. 1-233; *i.e.*, to the summary judgment decision. *See, e.g.*, App. A at 26 (citing “J.A. 167”), 27 (citing “J.A. 169,” “J.A. 167,” and “J.A. 170-72”), 28 (citing “J.A. 126-27” and “J.A. 125-26”), 29 (citing “J.A. 125-26, 171,” “J.A. 127,” and “J.A. 130-32”), 30 (citing “J.A. 172,” “J.A. 167,” and “J.A. 172-73”), and 31 (citing “J.A. 173”).

Thus, clearly, the Federal Circuit was not reviewing a “bench trial finding” (because there was none)—it was reviewing the *summary judgment* of on-sale bar. Based on the uniform rules of the courts of appeal, that summary judgment had to be reviewed *de novo*. It was not. Instead, the Federal Circuit reviewed it under the insurmountable “abuse of discretion” standard. And, in so doing, the Federal Circuit improperly relied on evidence not in the summary judgment record.

Certiorari should be granted to correct these manifest violations of the rules of appellate practice, and to ensure that future litigants are not deprived of the important Seventh Amendment safeguard provided by *de novo* review of an adverse summary judgment.

B. This Court Should Grant Certiorari to Reaffirm that Issues Resolved on Partial Summary Judgment Are Conclusively Established, Unless the District Court Expressly Reopens Them

The Federal Circuit panel justified its “abuse of discretion” review of the on-sale bar decision by claiming that the on-sale issue had been “squarely before” the district court during the bench trial. App. A at 25, n. 15. But every Circuit that has addressed the issue has held that, once an issue is resolved on partial summary judgment, it is *out of the case*, and the parties are entitled to treat it as conclusively established, unless the district court expressly reopens it. Here, the district court never “expressly reopened” the on-sale issue: to the contrary, it granted Respondents’ motion *in limine* to exclude all evidence relating to that issue from the trial. Thus, this Court should grant *certiorari*, to reaffirm and adopt the salutary rule that issues resolved on partial summary judgment are out of the case, absent express reopening by the district court.

The first Circuit to adopt this rule was the Second Circuit, in *Leddy v. Standard Drywall, Inc.*, 875 F.2d 383, 386 (2d Cir.1989). There, the Second Circuit held:

Once a district judge issues a partial summary judgment order removing certain claims from a case, the parties have a right to rely on the ruling by forbearing from introducing any evidence or cross-examining witnesses in regard to those claims. If, as allowed by Rule 54(b), the judge subsequently changes the initial ruling and broadens the scope of the trial, *the judge must inform the parties and give them an opportunity to present evidence relating to the newly revived issue*. Failure to do so might in some circumstances cause substantial prejudice.

Id. (emphasis added). The rule of *Leddy* is sound. Once a district court enters partial summary judgment on an issue, no reasonable litigant would think she needs to spend precious trial time re-litigating that issue, on the off-chance that the district court (or, here, the appellate court) might

deem the issue “reopened” at trial. Indeed, in most cases, the district court would preclude any attempt to re-litigate the issue. That is exactly what happened here, when the district court granted Respondents’ motion *in limine* to exclude all evidence on “materiality” (i.e., on whether the Agri-Energy Proposal invoked an on-sale bar). Appx64556, ¶ 4.

It is manifestly unfair to preclude a party from re-litigating an issue at trial, only to rule *after the fact* that the issue had been “reopened” at trial, such that it can be reviewed under the more-lenient standard governing review of the trial decision. Yet, that is exactly what happened here. The rule of *Leddy* ensures this will not happen, by ensuring that an issue is “reopened” only if the district court expressly notifies the parties it is being reopened. This Court should grant *certiorari* to adopt *Leddy* as the law of the land, so that future litigants do not find themselves in the unfortunate (and plainly prejudicial) position CleanTech finds itself in here.

Recognizing its salutary effects, many Circuits have adopted *Leddy*; none have rejected it. *See Alberty-Velez v. Corporacion De Puerto Rico Para La Difusion Publica*, 242 F.3d 418, 422 (1st Cir. 2001) (citing *Leddy* to adopt rule that “if the judge ‘subsequently changes the initial ruling and broadens the scope of trial, the judge must inform the parties and give them an opportunity to present evidence relating to the newly revived issue’”); *Hayduk v. City of Johnstown*, 386 F. App'x 55, 61-62 (3d Cir. 2010) (same); *Dillon v. Cobra Power Corp.*, 560 F.3d 591, 597 (6th Cir. 2009) (same); *Sands, Taylor & Wood Co. v. Quaker Oats Co.*, 978 F.2d 947, 952 (7th Cir. 1992) (same); *Singh v. George Washington Univ. Sch. of Med. & Health Scis.*, 508 F.3d 1097, 1106 (D.C. Cir. 2007) (same). Indeed, even the Federal Circuit—while not expressly adopting *Leddy*—has noted that “[a]n order granting [partial summary] judgment on certain issues is a judgment on those issues. It forecloses further dispute on those issues at the trial stage.” *Glaros*, 797 F.2d at 1573.

The First Circuit’s analysis of the issue in *Alberty-Velez* was particularly astute. There,

prior to trial, the district court granted partial summary judgment that the plaintiff, in an employment discrimination case, was an employee of the defendant. *Alberty-Velez*, 242 F.3d at 421. At the end of trial, the defendant moved for judgment as a matter of law, on the grounds that the evidence at trial showed that the plaintiff was *not* an employee. *Id.* at 422. The district court granted the motion. *Id.* This amounted to a reversal of the partial summary judgment ruling. *Id.* Plaintiff objected. *Id.* at 423. Plaintiff argued that the unexpected reversal fatally prejudiced her case, because if she had known a reversal was possible, she would have put on evidence to show that she was an employee. *Id.* at 424-5. The district court rejected this argument, but the First Circuit accepted it. *Id.* It held that “[t]he prejudice to her case could not be more palpable,” because she expressly relied on the partial summary judgment to forbear from adducing any evidence on the question of whether she was an employee. *Id.* at 425-6. The First Circuit adopted the rule of *Leddy*, and held that the district court violated that rule by failing to notify the plaintiff it was planning to reverse its partial summary judgment. *Id.* The First Circuit held that the only effective remedy was to vacate the judgment and remand for a new trial, which it did. *Id.*

Here, CleanTech was at least as prejudiced as the plaintiff in *Alberty-Velez*. CleanTech expressly relied on the summary judgment of on-sale bar to forebear from re-litigating that issue at trial. Indeed, the one effort CleanTech made to introduce new evidence on the on-sale question (i.e., the allowance of the ‘997 application) was *rejected*, based on Respondents’ motion *in limine*, which argued that the issue was conclusively resolved. Thus, *certiorari* is warranted, to correct the injustice done to CleanTech, and to ensure that future litigants do not suffer from similar injustice.

This case is indistinguishable from *Leddy*, even given the district court’s post-trial statement that the “evidence at trial only buttresse[d] the Court’s earlier conclusion . . . [of an] on-sale bar.” App. B at 59. While the Federal Circuit relied heavily on this statement, App. A at 26,

n. 15, it does not distinguish this case from *Leddy*. Under the salutary rule of *Leddy*, the district court was *not entitled* to make new findings on the on-sale bar after trial, because that issue was decided on summary judgment, and the district court never notified CleanTech it was being reopened. Thus, the district court’s comment that the trial evidence “buttressed” the summary judgment decision did not, and could not, retroactively “convert” the summary judgment decision (reviewed *de novo*) into a bench trial decision (reviewed for abuse of discretion).

The Seventh Circuit faced this same argument in *Quaker Oats*. There, in a trademark infringement case, the district court granted partial summary judgment prior to trial, rejecting the defendant’s “fair use” defense. 978 F.2d at 951. The district court subsequently held a bench trial on the remaining issues, including infringement and damages. *Id.* After trial, the district court entered an order finding infringement, and awarding damages. *Id.* The defendant appealed. *Id.* On appeal, the plaintiff argued that the “fair use” decision should be reviewed “under the clearly erroneous standard,” rather than *de novo*, even though the issue had been decided on summary judgment. *Id.* at 952, n. 5. The proffered justification was that, “[i]n its opinion following the bench trial, the district court *reaffirmed its holding* that ‘defendant’s use . . . did not constitute fair use.’” *Id.* (emphasis added). The plaintiff argued that this statement of “reaffirmance” converted the summary judgment of no fair use into “a factual finding subject to review under the clearly erroneous standard.” *Id.* The Seventh Circuit disagreed. Citing *Leddy*, it held that “once the district court granted summary judgment on the issue of fair use it could not thereafter try that issue without notice to the parties.” *Id.* Thus, the Seventh Circuit reviewed the issue *de novo*. *Id.* at 952.

A similar situation occurred in the Fifth Circuit in *Mohammadi v. Nwabuisi*, 605 F. App’x 329 (5th Cir. 2015). There, in a Fair Labor Standards Act (FLSA) case, the district court granted partial summary judgment to the plaintiff on “liability, liquidated damages, and the applicable

limitations period.” *Id.* at 331. The district court then held a bench trial on the remaining issues. *Id.* After the bench trial, the district court entered a decision, awarding damages. *Id.* Defendant appealed. *Id.* The plaintiff argued that the pre-trial partial summary judgments should be reviewed for clear error, rather than *de novo*, because the post-trial decision “stated that [defendant] failed to present any evidence during the trial to call into question the summary judgment.” *Id.* Plaintiff argued that this “statement” converted the pre-trial summary judgment to a bench trial finding, reviewed for clear error. *Id.* The Fifth Circuit disagreed. *Id.* It held: “These comments . . . do not establish [that the summary judgment issues] were re-tried in the bench trial. Accordingly, the above-discussed *de novo* review applies for the partial summary judgment.” *Id.*

This case is indistinguishable from *Quaker Oats* and *Mohammadi*. For the reasons stated in those cases, the district court’s statement below that the trial evidence “buttressed” its earlier summary judgment of on-sale bar did not, and could not, convert the summary judgment (reviewed *de novo*) into a bench trial finding (reviewed for abuse of discretion). Thus, this Court should grant *certiorari*, to correct the manifestly incorrect standard of review applied by the Federal Circuit.

Nor does the Federal Circuit’s statement below that “the District Court admitted other relevant evidence during the trial, including . . . previously unheard testimony . . . all relating to the materiality of the July 2003 Proposal,” App. A at 25, n. 15, justify a departure from *de novo* review. That statement—made without citation—was simply not true. While new evidence, including new testimony, was indeed admitted at the trial, that evidence was not admitted on the question of materiality—it was admitted on the question of *intent*. *In re: (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1649 at 23-24 of 79 (Appellees’ closing argument: “what this case is really about is intent to deceive.”) The Federal Circuit’s inaccurate, and unsupported, statement that new evidence was entered “on materiality” cannot, and does not, rewrite the actual

record, in which no new evidence on materiality was entered, and the only new evidence on that issue CleanTech sought to adduce—the ‘997 allowance—was expressly excluded. Appx64556.¹¹

Likewise, while the Federal Circuit’s opinion stated that “CleanTech itself raised materiality in its pre-trial briefing,” App. A at 37, the only new evidence CleanTech sought to introduce relevant to materiality was the ‘997 allowance, which occurred after the district court entered its summary judgment decision. Appx63467-63468. And, critically, CleanTech was **precluded** from introducing that evidence, because the district court granted Respondents’ motion *in limine*, which was expressly predicated on the argument that the on-sale bar issue had been conclusively decided on summary judgment.

Finally, “materiality” cannot be separately found under the Federal Circuit’s “exception” to but-for materiality “in cases of affirmative egregious misconduct.” *Therasense*, 649 F.3d at 1292. Neither the district court nor the Federal Circuit applied this exception; thus, it would not be proper for this Court to do so in the first instance. Moreover, the language in *Therasense* relating to this “exception” was *dicta*, because in *Therasense*, there was no “affirmative” misconduct, merely a failure to disclose materials to the patent office. *Id.* at 1295-96. CleanTech is not aware of any case in which the Federal Circuit applied the “affirmative egregious misconduct” exception to find an “affirmative” act that had **no effect** on patentability to be “material.”

¹¹ The Federal Circuit cited a portion of the pre-trial conference transcript in which the district court stated that the motion *in limine* raised “I think, [a Rule] 403 kind of circumstance.” App. A at 38. But that was merely colloquy; the district court’s order granting the motion *in limine* made no reference to Rule 403 (Appx64556, ¶ 4), and Respondents’ motion *in limine* also made no mention of Rule 403 (Appx64380-64385). In any event, it is clear that the **reason** the district court found the ‘997 allowance had little “probative value” was because the materiality issue was no longer in the case, and the subsequent allowance had little relevance to the inventors’ (and Cantor Colburn’s) state of mind at the time of prosecution. *In re: (‘858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1648 at 100-104 of 234. Thus, the district court’s reference to Rule 403 (in colloquy) does not change the fact that the on-sale bar issue was not reopened at trial.

Here, the only “affirmative” alleged misconduct—the incorrect statement in the First Cantrell Declaration as to the delivery date—had no effect on patentability, because under any proper analysis, the Agri-Energy Proposal did not invoke an on-sale bar *regardless* of the delivery date. Examiner Carr herself, the Examiner who examined the Patents-in-Suit, recently acknowledged this, by withdrawing objections based on the Proposal, and allowing claims in the ‘083 patent having substantially the same scope as the claims in the Patents-in-Suit. *See n. 7 supra*. Moreover, there was no alleged “affirmative” misconduct during prosecution of the ‘858 patent: the only alleged misconduct there was the failure to disclose the Proposal to the patent office. Under Federal Circuit precedent, events that occur after a patent has already issued cannot render that patent unenforceable for inequitable conduct. *Star Sci., Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1370, n. 10 (Fed. Cir. 2008). Here, the ‘858 patent issued on October 13, 2009 (Appx900), well before the First Cantrell Declaration was submitted to the USPTO, in prosecution of the ‘516 and ‘517 patents, on November 16, 2010. App. B at 41-42. Thus, even if materiality could be found under the “affirmative egregious misconduct” exception (which it cannot), that finding would not apply to the ‘858 patent, and it would still be necessary to remand to the Federal Circuit for *de novo* review of the summary judgment as to that patent.

Accordingly, for the foregoing reasons, this Court should grant *certiorari* to adopt *Leddy*, and to affirm that issues resolved on partial summary judgment are withdrawn from the case, unless the district court expressly notifies the parties otherwise. This salutary rule will protect future litigants from the unfair surprise of issues being retroactively deemed “reopened” at trial.

C. This Court Should Grant Certiorari to Confirm that “Predicate” Issues Must Be Reviewed First, Under the Appropriate Legal Standard

Logic, fairness and precedent dictate that, when a district court’s earlier decision “A” underlies, or forms an essential basis for, its subsequent decision “B,” and decision A is reviewed

under a more favorable standard than decision B, decision A must be reviewed first, and if it is reversed, decision B must also be reversed. This is essential to ensure that the appellant actually receives the favorable standard of review on decision A to which they are entitled.

This case falls exactly into this paradigm. Here, the district court’s partial summary judgment of on-sale bar—decision “A”—formed an essential basis for its bench trial finding of inequitable conduct—decision “B.” That is because, as Respondents admitted, the summary judgment of on-sale bar conclusively established the “materiality” prong of inequitable conduct, leaving only the “intent” prong to be decided. *See In re: Method for Processing Ethanol Byproducts and Related Subsystem ('858) Patent Litigation*, S.D. Ind. Case No. 10-ml-02181, ECF 1576 at 33 of 35 (Respondents’ pretrial brief: “Because the Court’s summary judgment order resolved the issue of materiality, the only issue to be decided at trial is whether Applicants acted with deceptive intent.”) Thus, the district court’s decision A—the summary judgment of on-sale bar—should have been reviewed first, under the proper *de novo* standard. If the summary judgment of on-sale bar had been reversed, then the inequitable conduct decision would also have to be reversed, because it logically depended on the summary judgment of on-sale bar. App. B at 59.

The Federal Circuit did the exact opposite. It expressly refused to review the summary judgment of on-sale bar—decision A—first. App. A at 25, n. 15 (“Despite CleanTech’s arguments to the contrary . . . we will address the issue of inequitable conduct without first conducting a *de novo* review of the District Court’s summary judgment [of] on-sale bar.”) Instead, it jumped straight to reviewing decision B, the inequitable conduct decision. In doing so, it treated the on-sale issue as though it had been decided at the inequitable conduct trial—when it had not—and erroneously reviewed that issue for abuse of discretion, even though it had been decided on summary judgment, which requires *de novo* review. App. A at 26-31. All of the prejudice and error

that resulted flowed from the Federal Circuit’s erroneous refusal to review the on-sale summary judgment decision first, under the proper standard of review (*de novo*).

Every Circuit that has addressed the issue has held that, when decision A forms an essential predicate for decision B, decision A must be reviewed first, under the proper standard of review.

For instance, in *John F. Harkins Co. v. Waldinger Corp.*, 796 F.2d 657 (3d Cir. 1986), the Third Circuit reviewed a district court’s injunction staying arbitration between two contractors. *Id.* at 658-9. The district court had granted the injunction because it found, based on its interpretation of the contract language, that the dispute between the contractors was not arbitrable. *Id.* On appeal, the Third Circuit noted that “terms of an injunction are normally reviewed for abuse of discretion.” *Id.* However, it also noted that “any determination that is a *prerequisite to the issuance* of an injunction, i.e., the [interpretation of a] term of a contractual arbitration provision, is reviewed according to *the standard applicable to that particular determination.*” *Id.* (emphases added). Thus, before the Third Circuit could conduct an “abuse of discretion” review of the injunction, it had to determine whether “the district court erred in construing the contract’s arbitration language.” *Id.* The Third Circuit held that the district court’s contract interpretation should be reviewed for “clear error,” because the district court considered “extrinsic evidence that went to the issue of [the parties’] intent.” *Id.* at 660. Applying that standard, the Third Circuit affirmed the district court’s interpretation of the contract. *Id.* at 663. Based on that affirmance, the Third Circuit automatically found there was no “abuse of discretion” in granting the injunction, because the only alleged error was the district court’s interpretation of the contract language. *Id.* at 663. Thus, the Third Circuit reviewed the underlying “decision A”—the interpretation of the contract language—first, under the proper “clear error” standard, before reviewing the ultimate “decision B”—the decision enjoining the arbitration—under the “abuse of discretion” standard. *Id.*

Similarly, in *Martin v. Associated Truck Lines, Inc.*, 801 F.2d 246 (6th Cir. 1986), the Sixth Circuit reviewed a district court’s denial of a plaintiff’s motion to amend its complaint. *Id.* at 248-249. The Sixth Circuit noted that a denial of a motion to amend is typically reviewed “under an abuse of discretion standard.” *Id.* However, in this case, the district court’s denial was based “solely on a legal conclusion that the amended pleading would not withstand a motion to dismiss,” *i.e.*, that the amendment would be futile. *Id.* The Sixth Circuit held:

Whether an abuse of discretion occurred in such a case depends in whole upon the correctness of the district court's predicate legal conclusion [of futility]. Therefore, in this case we must review the district court's conclusion that plaintiffs' state law claims are preempted by federal law *de novo*. If the district court's conclusion was proper, we must find no abuse of discretion.

Id. Thus, the Sixth Circuit held that it was required to review the “predicate” decision A—the decision of futility—*de novo*, before reviewing the ultimate decision B—the decision to deny leave to amend the complaint—under the “abuse of discretion” standard.

The same rule was followed by the Seventh Circuit in *Quaker Oats*. There, the district court’s summary judgment denying defendant’s “fair use” defense was a necessary predicate to the ultimate judgment of liability, because if the fair use defense had succeeded, there would have been no liability. *Quaker Oats*, 978 F.2d at 951. Because fair use was a necessary predicate, the Seventh Circuit reviewed fair use first, under the proper *de novo* standard. *Id.* at 951-954. Only after affirming the summary judgment of no fair use did the Seventh Circuit proceed to review the review the bench trial findings for “clear error.” *Id.* at 955-963. Thus, once again, the appeals court reviewed the predicate decision A, *de novo*, before proceeding to review ultimate decision B.

The Eighth Circuit did the same thing in *Straights & Gays for Equal. v. Osseo Area Sch.-Dist. No. 279*, 540 F.3d 911 (8th Cir. 2008). There, the Eighth Circuit reviewed a district court’s permanent injunction. *Id.* at 913. The Eighth Circuit noted its general rule that it “review[s] the

district court's grant of injunctive relief for abuse of discretion.” *Id.* However, it also noted that “[t]he district court *predicated* the injunction on its determination”—on summary judgment—that “certain student groups receiving more favorable access than SAGE were noncurricular.” *Id.* The Eighth Circuit determined that it must “examine first whether this conclusion was correct.” *Id.* The Eighth Circuit further held that that decision must be “review[ed] de novo,” because it was resolved on “partial summary judgment.” *Id.* The Eighth Circuit affirmed the summary judgment decision, and then ultimately affirmed the injunction. *Id.* at 913-916. Thus, once again, the Eighth Circuit reviewed the predicate decision A—the summary judgment on “more favorable access”—*de novo*, before reviewing the ultimate decision B—granting the injunction—for abuse of discretion.

The Ninth Circuit followed this rule in *Lovell v. Chandler*, 303 F.3d 1039 (9th Cir. 2002). There, the Ninth Circuit heard an appeal from two bench trials in which Americans with Disabilities Act (ADA) plaintiffs were awarded damages against the state of Hawaii. *Id.* at 1047. Prior to the bench trials, the district court had granted partial summary judgment, in an underlying class action, that Hawaii was liable for ADA violations. *Id.* at 1044-45. The district court then ordered the plaintiffs to file individual actions on the amount of damages. *Id.* The appeal was from two of those individual actions. *Id.* The Ninth Circuit held that, before it could review the bench trial findings in the individual cases, it had to review the partial summary judgment of liability in the class action, because “[r]eview of the substance of that order [was] ‘necessary to ensure meaningful review’ of the [bench trial] judgments.” *Id.* at 1049 (*quoting Clinton v. Jones*, 520 U.S. 681, 707 n. 41 (1997)). Thus, the Ninth Circuit first reviewed, “de novo,” the partial summary judgment of liability. *Id.* at 1052-58. It affirmed the summary judgment. It then reviewed, for “abuse of discretion,” the district court’s decision to award expert witness fees to the plaintiffs in the bench trials, and affirmed. *Id.* at 1058-59. Thus, once again, the appeals court reviewed the

predicate decision A, *de novo*, before proceeding to the ultimate decision B (the damages award).

The DC Circuit did the same in *Friends for All Children, Inc. v. Lockheed Aircraft Corp.*, 746 F.2d 816 (D.C. Cir. 1984). There, the court heard an appeal from a grant of a preliminary injunction. *Id.* at 823-824. The preliminary injunction was based on an earlier partial summary judgment of liability. *Id.* at 818-23. On appeal, the DC Circuit held:

The District Court's entry of interim relief **requires** us to undertake a two-step analysis. **First**, we will review the grant of partial summary judgment with respect to the issue whether Lockheed is liable for the cost of diagnostic examinations. **Then** we will review the propriety of entering a mandatory preliminary injunction for which the grant of summary judgment served as necessary predicate.

Id. at 824 (emphases added). Thus, the court reviewed the underlying predicate decision A (summary judgment) before reviewing the dependent ultimate decision B (preliminary injunction).

Finally, the Federal Circuit itself followed this rule in *Cross Med. Prod., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293 (Fed. Cir. 2005). There, the Federal Circuit heard an appeal from a permanent injunction forbidding infringement of a particular patent claim. *Id.* at 1299. The injunction was predicated on an earlier “partial summary judgment order[.]” finding that claim infringed and valid. *Id.* The Federal Circuit held: “Because Cross Medical's success on the merits”—an element of the permanent injunction inquiry—“turns on the propriety of the summary judgment rulings, our review of the grant of the permanent injunction **requires that we rule on the summary judgment orders.**” *Id.* at 1301 (emphasis added). Thus, the Federal Circuit began its review by reviewing the partial summary judgment, “*de novo.*” *Id.* at 1302-24. The Federal Circuit reversed the summary judgment of infringement, because there were genuine disputes of fact. *Id.* The Federal Circuit then automatically vacated the injunction, because it was premised on the summary judgment ruling. *Id.* at 1324. Thus, once again, the appeals court reviewed underlying decision A (infringement), *de novo*, before proceeding to ultimate decision B (injunction).

As shown above, the Third, Sixth, Seventh, Eighth, Ninth, DC, *and even Federal* Circuits have held that when decision A underlies subsequent decision B, decision A must be reviewed first, under the appropriate standard. The Federal Circuit’s decision below violated that rule. Thus, *certiorari* should be granted, to reaffirm the common-sense rule that underlying, predicate decisions must be reviewed first, under the appropriate standard of review. Failure to adopt this rule will likely lead future litigants, like CleanTech, to be deprived of the proper review.

CONCLUSION

The Federal Circuit’s decision ignored well-established precedent and violated several uniformly-applied rules of appellate practice, thereby depriving CleanTech of its Seventh Amendment right to a jury trial, improperly invalidating otherwise-valid patents, and establishing a dangerous new national precedent that threatens untold harm to future litigants. Unless reversed, the Federal Circuit’s decision will have pernicious effects in every patent case, and every other case within the Federal Circuit’s jurisdiction. In order to avoid those pernicious effects, and to correct the injustice done to CleanTech, *certiorari* should be granted.

Dated: November 25, 2020

Respectfully submitted,

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APPENDIX A

**United States Court of Appeals
for the Federal Circuit**

GS CLEANTECH CORPORATION,
Plaintiff-Appellant

v.

ADKINS ENERGY LLC,
Defendant-Cross-Appellant

2016-2231, 2017-1838

Appeals from the United States District Court for the Northern District of Illinois in No. 1:10-cv-04391, Judge Larry J. McKinney.

GS CLEANTECH CORPORATION, GREENSHIFT CORPORATION,
Plaintiffs-Appellants

CANTOR COLBURN LLP
Interested Party

v.

BIG RIVER RESOURCES GALVA, LLC, BIG RIVER RESOURCES WEST BURLINGTON, LLC, LINCOLNLAND AGRI-ENERGY, LLC, IROQUOIS BIO-ENERGY COMPANY, LLC, CARDINAL ETHANOL, LLC, LINCOLNWAY ENERGY, LLC,

**ICM, INC., BUSHMILLS ETHANOL, INC., AL-CORN
CLEAN FUEL, LLC, CHIPPEWA VALLEY
ETHANOL COMPANY, LLP, HEARTLAND CORN
PRODUCTS, GEA MECHANICAL EQUIPMENTUS,
INC., AS SUCCESSOR-IN-INTEREST TO GEA
WESTFALIA SEPARATOR, INC. PURSUANT TO
THE NOTICE OF MERGER FILED ON 4/28/2011,
ACE ETHANOL, LLC, BLUE FLINT ETHANOL LLC,
UNITED WISCONSIN GRAIN PRODUCERS, LLC,
FLOTTWEG SEPARATION TECHNOLOGY, INC.,
ADKINS ENERGY LLC, AEMETIS, INC., AEMETIS
ADVANCED FUELS KEYES, INC., LITTLE SIOUX
CORN PROCESSORS, LLLP, GUARDIAN ENERGY,
LLC, WESTERN NEW YORK ENERGY, LLC,
SOUTHWEST IOWA RENEWABLE ENERGY, LLC,
PACIFIC ETHANOL MAGIC VALLEY LLC,
PACIFIC ETHANOL STOCKTON, HOMELAND
ENERGY SOLUTIONS, LLC, PACIFIC ETHANOL,
INC., DAVID J. VANDER GRIEND,
*Defendants-Appellees***

2017-1832

Appeal from the United States District Court for the
Southern District of Indiana in Nos. 1:10-cv-00180-RLM-
DML, 1:10-cv-08000-RLM-DML, 1:10-cv-08001-RLM-
DML, 1:10-cv-08002-RLM-DML, 1:10-cv-08003-RLM-
DML, 1:10-cv-08004-RLM-DML, 1:10-cv-08005-RLM-
DML, 1:10-cv-08006-RLM-DML, 1:10-cv-08007-RLM-
DML, 1:10-cv-08008-RLM-DML, 1:10-cv-08009-RLM-
DML, 1:10-cv-08010-RLM-DML, 1:10-cv-08011-RLM-
DML, 1:10-ml-02181-RLM-DML, 1:13-cv-08012-RLM-
DML, 1:13-cv-08013-RLM-DML, 1:13-cv-08014-RLM-
DML, 1:13-cv-08015-RLM-DML, 1:13-cv-08016-RLM-
DML, 1:13-cv-08017-RLM-DML, 1:13-cv-08018-RLM-

GS CLEANTECH CORP. v. ADKINS ENERGY LLC

3

DML, 1:14-cv-08019-RLM-DML, 1:14-cv-08020-RLM-DML, Judge Larry J. McKinney.

Decided: March 2, 2020

STEVEN B. POKOTILOW, Stroock & Stroock & Lavan LLP, New York, NY, argued for plaintiffs-appellants. Also represented by BINNI N. SHAH.

JOHN M. WEYRAUCH, Dicke, Billig & Czaja, PLLC, Minneapolis, MN, argued for defendants-appellees Big River Resources Galva, LLC, Big River Resources West Burlington, LLC, Lincolnland Agri-Energy, LLC, Cardinal Ethanol, LLC, Lincolnway Energy, LLC, ICM, Inc., Flottweg Separation Technology, Inc., Blue Flint Ethanol, LLC, David J. Vander Griend. Defendants-appellees Big River Resources Galva, LLC, Big River Resources West Burlington, LLC, Lincolnland Agri-Energy, LLC, Cardinal Ethanol, LLC, ICM, Inc., Flottweg Separation Technology, Inc., Little Sioux Corn Processors, LLLP, Guardian Energy, LLC, Western New York Energy, LLC, Southwest Iowa Renewable Energy, LLC, Pacific Ethanol Magic Valley LLC, David J. Vander Griend also represented by PETER R. FORREST.

MICHAEL BUCHANAN, Patterson Belknap Webb & Tyler LLP, New York, NY, argued for defendants-appellees ACE Ethanol, LLC, Aemetis Advanced Fuels Keyes, Inc., Aemetis, Inc., Al-Corn Clean Fuel, LLC, Big River Resources Galva, LLC, Big River Resources West Burlington, LLC, Blue Flint Ethanol LLC, Bushmills Ethanol, Inc., Cardinal Ethanol, LLC, Chippewa Valley Ethanol Company, LLP, Flottweg Separation Technology, Inc., GEA Mechanical Equipment US, Inc., Guardian Energy, LLC, Heartland Corn Products, Homeland Energy Solutions, LLC, ICM, Inc., Iroquois Bio-Energy Company, LLC,

Lincolnland Agri-Energy, LLC, Lincolnway Energy, LLC, Little Sioux Corn Processors, LLLP, Pacific Ethanol Magic Valley LLC, Pacific Ethanol Stockton, Pacific Ethanol, Inc., Southwest Iowa Renewable Energy, LLC, United Wisconsin Grain Producers, LLC, David J. Vander Griend, Western New York Energy, LLC, Adkins Energy LLC.

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CAMILLE L. URBAN, Brown, Winick, Graves, Gross, Baskerville & Schoenebaum, PLC, Des Moines, IA, for defendants-appellees Aemetis, Inc., Aemetis Advanced Fuels Keyes, Inc., Pacific Ethanol Stockton, Homeland Energy

GS CLEANTECH CORP. v. ADKINS ENERGY LLC

5

Solutions, LLC, Pacific Ethanol, Inc. Also represented by
MICHAEL A. DEE.

Before REYNA, WALLACH, and HUGHES, *Circuit Judges*.
WALLACH, *Circuit Judge*.

The U.S. District Court for the Southern District of Indiana (“District Court”) found Appellants GS CleanTech Corporation and Greenshift Corporation’s (together, “CleanTech”) U.S. Patent Nos. 7,601,858 (“the ’858 patent”), 8,008,516 (“the ’516 patent”), 8,008,517 (“the ’517 patent”), and 8,283,484 (“the ’484 patent”) (together, “the Patents-in-Suit”) unenforceable due to inequitable conduct. Corrected Memorandum Opinion & Order after Bench Trial, *In re: Method of Processing Ethanol Byproducts & Related Subsystems (’858) Patent Litig.*, No. 1:10-ml-02181-LJM-DML (S.D. Ind. Sept. 15, 2016), ECF No. 1653 (J.A. 236–313) (Opinion and Order); *see* J.A. 314–15 (Judgment).

CleanTech appeals. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1) (2012). We affirm.

BACKGROUND

I. The Patents-in-Suit¹

The Patents-in-Suit are directed to the recovery of oil from a dry mill ethanol plant’s byproduct, called thin stillage. ’858 patent, Abstract.² The Patents-in-Suit disclose

¹ The Patents-in-Suit share a specification. For the ease of reference here, we will refer to the ’858 patent’s specification.

² Stillage treatment relates to the process of treating “whole stillage[,]” which is the “waste stream comprised of byproducts” that is a result of the dry milling process. ’858 patent col. 1 ll. 35–41. Dry milling is “a popular method of

a method of “successful” “recover[y] [of] the valuable oil from th[e] [thin stillage] byproduct,” *id.* col. 1 ll. 52–53, by, for example, “evaporating the thin stillage to form a concentrate,” *id.* col. 2 ll. 23–25, or syrup, and then “separating the oil from the concentrate using a disk stack centrifuge,” *id.* col. 2 ll. 25–27.

Independent claim 8 of the ’858 patent recites:

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.

Id. col. 6 ll. 26–30.³ Independent claims 1, 10, and 16 include a separate post-evaporation heating step. *Id.* col. 5 l. 65–col. 6 l. 7 (Independent Claim 1), col. 6 ll. 34–42 (Independent Claim 10), col. 6 ll. 59–64 (Independent Claim 16). All dependent claims recite various combinations of temperature, pH, or moisture content ranges for the syrup or the use of the centrifuge. *Id.* col. 6 ll. 8–33, 43–58. Independent claim 30 of the ’484 patent similarly recites a “method of recovering oil from thin stillage[,]” except it is by “mechanically processing the thin stillage concentrate” instead of centrifugation. ’484 patent col. 8 ll. 29–37.

producing ethanol . . . [and] is typically practiced using corn.” *Id.* col. 1 ll. 35–37. Whole stillage, which has commonly been treated as waste, “may be further separated into products known as distillers wet grains and ‘thin stillage.’” *Id.* col. 1 ll. 41–43.

³ Independent claim 8, which is illustrative, broadly recites the claimed invention. The remaining claims recite additional limitations beyond those recited in independent claim 8.

Independent claim 1 of the '516 patent provides the additional step of “evaporating water from the thin stillage to form a thin stillage concentrate.” '516 patent col. 6 ll. 11–19. Independent claim 7 includes the additional step of “separating distiller wet grains and thin stillage from the whole stillage” and using a disk stack centrifuge to separate the “oil from the thin stillage concentrate.” *Id.* col. 6 ll. 34–42. Independent claim 1 of the '517 patent also recites the creation of the thin stillage concentrate, within a broader moisture content range. '517 patent col. 6 ll. 32–37.

II. Factual History⁴

A. Development of the Ethanol Oil Recovery System

In 2000, David Cantrell founded Vortex Dehydration Technology (“VDT”), J.A. 117, with the purpose of selling products and methods of processing factory waste for resale, J.A. 118. In 2002, David Winsness joined VDT as its Chief Technology Officer. J.A. 117. Later in 2002, Messrs. Cantrell and Winsness (collectively, “the Inventors”) met Greg Barlage, a “market unit manager for equipment sales” at the company Alfa Laval AB, which sold animal and vegetable oil processing equipment. J.A. 117, 118. Mr. Barlage approached the Inventors with the proposal that VDT use Alfa Laval oil processing equipment—such as evaporators and centrifuges—in its processes. J.A. 119. Soon, the Inventors began developing an oil recovery product specifically designed for animal processing waste products, using centrifuges provided by Alfa Laval. J.A. 119.

Relevant here, VDT maintained a business relationship with Agri-Energy LLC (“Agri-Energy”), J.A. 121, which operated a dry-mill ethanol plant in Minnesota,

⁴ We will rely on the District Court’s factual recitation where it is uncontested by the parties. Where certain facts are disputed, we will refer to the record evidence.

J.A. 120.⁵ Starting sometime before June 2003, Mr. Cantrell shifted his focus from meat and fish byproduct processing to the creation of an ethanol oil recovery system and hired employees from Alfa Laval and Agri-Energy, as well as a marketing team. J.A. 122. In June 2003, Mr. Cantrell sent an email to two Agri-Energy employees, including one named George Winter, that included information about how VDT's oil recovery system for processed animal waste might be applicable in an ethanol plant, as well as an image of an oil recovery system with a centrifuge and an operational cost spreadsheet. J.A. 123. Subsequently, Mr. Cantrell informed Mr. Barlage that Agri-Energy would send Mr. Barlage a sample of its "thin stillage

⁵ The District Court discounted testimony provided by Mr. Cantrell at the bench trial, determining that Mr. Cantrell's testimony "on any topic [to be] of little credible value." J.A. 242. The District Court noted that Mr. Cantrell made "inconsistent statements," "had some difficulty staying focused," and "was argumentative and unclear about facts when questioned by [Appellees'] counsel." J.A. 242–43. The District Court stated that this was in sharp contrast to Mr. Cantrell's "fortuitously remember[ing] when events took place and recall[ing] the 'real' meaning of documents when questioned by CleanTech's lawyers." J.A. 243. The District Court concluded that "[Mr.] Cantrell's testimony sounded carefully scripted rather than genuine and generally dismissive of the contemporaneous documentary evidence." J.A. 243. Accordingly, the District Court determined that it would "rel[y] primarily on the documents and testimony from other witnesses about the relationship between Agri-Energy and inventors during this period[.]" J.A. 243. "[We] give[] great deference to the district court's decisions regarding [the] credibility of witnesses." *Ecolochem, Inc. v. S. Cal. Edison Co.*, 227 F.3d 1361, 1378–79 (Fed. Cir. 2000) (internal quotation marks and citation omitted).

and syrup” for oil recovery testing using a centrifuge. J.A. 124.⁶

In June 2003, Mr. Barlage performed oil recovery tests on the Agri-Energy samples by heating each sample to a temperature of 176 °F and running them through an Alfa Laval centrifuge. J.A. 125. The syrup had a pH of “approximately 4” and a “moisture content between 70% and 80%.” J.A. 125. Based on the tests, Mr. Barlage concluded that it was easier to divest oil from syrup than from thin stillage. J.A. 125. In his report (“June 2003 Report”), Mr. Barlage concluded that “[s]omething in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily[,]” and recommended additional testing at a plant. J.A. 110092.

In early July 2003, Mr. Barlage traveled to Agri-Energy and tested VDT’s oil recovery system, including a centrifuge, with Agri-Energy’s ethanol syrup (“July 2003 Test”). J.A. 128–29. Again, the test included a syrup with a pH of around 4, with a moisture content between 70% and 80%, and the test was conducted at a temperature of 180 °F. J.A. 128–29. During the test, the centrifuge separated the oil from the syrup, but the centrifuge repeatedly clogged. J.A. 129. Around this time, Mr. Winsness directed a VDT employee to prepare a drawing of the ethanol oil recovery system, J.A. 130–31, which was completed by the end of July 2003, J.A. 132; *see* J.A. 110044 (Ethanol Oil Recovery System Diagram). The employee understood that the Ethanol Oil Recovery System Diagram “was intended to become a sales drawing.” J.A. 17278.

On August 1, 2003, Mr. Cantrell emailed several Agri-Energy employees (“August 2003 Email”) and attached a proposal, dated July 31, 2003. J.A. 132–33; *see*

⁶ Ethanol syrup is concentrated thin stillage. J.A. 124.

J.A. 110021–22 (“July 2003 Proposal”). The July 2003 Proposal stated that VDT “would like to offer Agri-Energy a No-Risk trial [of the] ‘Oil Recovery System.’” J.A. 110021. The proposal stated that “[t]he test module is designed to process 18,000 [pounds] per hour of evaporator condensate and recovers 16,000 [pounds] of oil per day adding annual profits of \$312,000 to \$530,000 per year.” J.A. 110021 (emphasis omitted). The proposal went on to detail the “No-Risk Trial,” which “allow[ed] Agri-Energy [sixty] days to operate the unit and confirm its value[,]” at which point Agri-Energy could “purchase the system” for \$423,000 or “return the skid to [VDT] (no questions asked).” J.A. 110021 (emphasis omitted). According to the Inventors, the purpose of the letter was to seek an opportunity to run in-plant tests and obtain data on how the test module ran. J.A. 31418–19. Agri-Energy understood the July 2003 Proposal as an offer for purchase. J.A. 248.

On August 18, 2003, Mr. Cantrell traveled to Agri-Energy and, the following day, presented his proposal to the Agri-Energy Board of Directors. J.A. 135. In the meeting, Mr. Cantrell described VDT’s ethanol extraction system as “a process where the corn oil is pulled off[,]” and he asserted that the system “worked” and that it “would generate additional income[.]” J.A. 135–36. On the same day, Mr. Winsness informed VDT shareholders that Mr. Cantrell was “meeting with an ethanol plant” and the Inventors “expect[ed] to have an order in the near future (\$400K).” J.A. 136. On August 27, 2003, Mr. Cantrell informed VDT’s chairman that “we have made an offer to Agri-Energy.” J.A. 136. Agri-Energy did not accept the July 2003 Proposal, and no centrifuge system was installed at Agri-Energy’s facility at that time. J.A. 137; *see* J.A. 70656 (Testimony by Mr. Cantrell) (stating that Agri-Energy did not accept the July 2003 Proposal). In early 2004, Agri-Energy and VDT again communicated regarding the installation of an oil recovery system, J.A. 137, and in May 2004, a centrifuge was installed in the Agri-Energy plant, J.A. 139.

B. Patent Prosecution History

In February 2004, the Inventors contacted attorney Andrew Dorisio about preparing a patent application for, inter alia, their method of separating corn oil from concentrated thin stillage using a centrifuge. J.A. 251–52. Specifically, the Inventors sought to patent a method whereby “[a]n evaporator would be used to concentrate thin stillage” to a syrup with “a moisture content between 60% and 85%,” and the syrup would then be mechanically processed to separate out the oil, using a disk stack centrifuge. J.A. 251. The temperature and pH of the thin stillage—150 °F to 212 °F and with a pH range from 3 to 6—would be the standard values of thin stillage in an ethanol plant. J.A. 251. Mr. Dorisio informed the Inventors about the on-sale bar of 35 U.S.C. § 102 (2000), which required that the claimed invention not be sold or offered for sale more than one year before the application filing date, and inquired if such an offer had been made. J.A. 252; *see* J.A. 111059; *see also* 35 U.S.C. § 102(b) (“A person shall be entitled to a patent unless . . . the invention was . . . on sale . . . more than one year prior to the date of the application for patent in the United States[.]”).⁷ Contemporaneous to their

⁷ Congress amended 35 U.S.C. § 102 when it passed the Leahy-Smith America Invents Act (“AIA”), and AIA § 4(e) made those changes applicable to “any patent application that is filed on or after” September 16, 2012. Pub. L. No. 112-29, § 4(e), 125 Stat. 284, 297 (2011). Because the application that led to the Patents-in-Suit was filed before September 16, 2012, pre-AIA § 102 applies. Under pre-AIA § 102, a person shall be entitled to a patent unless the claimed invention was on sale more than one year before the application’s filing date. 35 U.S.C. § 102(b). A patent is invalid under the on-sale bar if, before the filing date, the invention was both (1) the subject of a commercial

discussion with Mr. Dorisio, the Inventors also conducted research on the U.S. Patent and Trademark Office's ("USPTO") website, which included information about provisional patent applications and the on-sale bar. J.A. 252.

Subsequently, the Inventors provided Mr. Dorisio with test results from June 2003 and described the July 2003 Tests. J.A. 255. Mr. Dorisio, apparently without being told about the July 2003 Proposal or the Ethanol Oil Recovery System Diagram, filed U.S. Provisional Patent Application No. 60/602,050 ("the '050 provisional application") on August 17, 2004, with the USPTO, J.A. 140, 151; *see* J.A. 900, setting the critical date for the on-sale bar at August 17, 2003, J.A. 164. *See Helsinn Healthcare S.A. v. Teva Pharm. USA, Inc.*, 855 F.3d 1356, 1360 (Fed. Cir. 2017) ("The critical date for the on-sale bar is one year earlier[.]"), *aff'd*, 139 S. Ct. 628 (2019). In May 2005, Mr. Dorisio filed a non-provisional application, U.S. Patent Application No. 11/122,859 ("the '859 application"). The '859 application included a letter stating that a separate patent application, entitled "Substantially Fat Free Products From Whole Stillage Resulting from the Production of Ethanol from Oil-Bearing Agricultural Products," U.S. Patent Application No. 10/619,833 ("Prevost"), "may be found to claim the same invention as at least one claim of the instant application." J.A. 256 (internal quotation marks omitted).

In July 2005, Mr. Dorisio provided the Inventors with a draft clearance opinion, based on his understanding that the Inventors had reduced their claimed invention to practice in June 2003, and argued that the Inventors could swear behind Prevost, which was filed on July 15, 2003. J.A. 256; *see* J.A. 111060–74 (Draft Clearance Opinion); *see also* J.A. 111065 ("Past correspondence indicates [the] actual reduction to practice of the [claimed invention] during

sale or offer for sale and (2) "ready for patenting." *See Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 67 (1998).

experiments conducted in early to mid-June 2003. If accurate, this date of invention precedes the filing date of . . . [Prevost] by at least one month[.]”, 18286 (Prevost) (providing a filing date of July 15, 2003). In 2006, the Inventors joined CleanTech, J.A. 35686, which acquired VDT’s ethanol oil recovery method applications, J.A. 8–10.⁸

In March 2008, Mr. Winsness transferred the prosecution of CleanTech’s ethanol oil recovery method applications from Mr. Dorisio to the law firm Cantor Colburn LLP (“Cantor Colburn”). J.A. 257. An attorney at Cantor Colburn, Peter Hagerty, explained to at least one of the Inventors the on-sale bar and the Inventors’ obligation of candor toward the USPTO. J.A. 54666. In June 2008, a USPTO patent examiner rejected the ’859 application, based in part on Prevost. J.A. 258. Cantor Colburn amended the ’859 application’s claims. J.A. 258. By at least September 2008, Cantor Colburn was aware of Mr. Barlage’s testing in June and July 2003. J.A. 111075; *see* J.A. 111075 (Mr. Winsness’s Email to Mr. Hagerty) (explaining that the “testing we did in June 2003” showed that “a sequence of evaporation followed by centrifugation allows for oil recovery”).

In May 2009, a potential investor in CleanTech conducted due diligence and sought information on the company’s pending patent applications; specifically, the potential investor requested from the Inventors “pre-filing disclosures of the inventions” or “pre-filing offers for sale[.]” among other information. J.A. 261; *see* J.A. 111023. The Inventors denied having any such

⁸ The ’858 patent issued from the ’859 application, J.A. 900, and all the remaining patents of the Patents-in-Suit issued from applications that were continuations of the ’859 application, J.A. 910, 921, 953. The Patents-in-Suit claim effective filing dates of August 17, 2004. J.A. 900, 910, 921, 953.

information, although, in 2010, “Mr. Cantrell had retained a ‘signed version’ of the July 2003 Proposal in his ‘home files,’ and ‘an unsigned version was on [Mr.] Winsness’[s] computer[.]” J.A. 262; *see* J.A. 63882. In June 2009, Cantor Colburn withdrew the pending ’859 application from issue. J.A. 264; *see* J.A. 71338.

On the same day as the withdrawal, Cantor Colburn filed a letter with the USPTO in the ’859 application file disclosing that “[s]ometime in May 2004, feasibility testing of a process and system for recovering oil from thin stillage was performed[.]” J.A. 110380. The letter was also filed with the USPTO in the prosecution of the ’516, ’517, and ’484 patents. J.A. 264–65; *see* J.A. 110371–78, 110697–99. No reference was made to Mr. Barlage’s June and July 2003 testing, the June 2003 Report, the Ethanol Oil Recovery System Diagram, or the July 2003 Proposal. *See generally* J.A. 110371–74, 110375–78, 110379–81, 110697–99. In October 2009, the USPTO issued the ’858 patent. J.A. 900.

C. The Two Cantrell Declarations

In March 2010, Mr. Winsness provided a signed copy of the July 2003 Proposal to Cantor Colburn. J.A. 267; *see* J.A. 63882.⁹ Around June 2010, Mr. Hagerty drafted a

⁹ At trial, evidence showed that Mr. Winsness provided Cantor Colburn with two letters in March 2010: an ink-signed original dated July 31, 2003, and an ink signed original dated August 19, 2003. J.A. 63882. The two letters differed from the electronic versions sent by Mr. Cantrell to Agri-Energy, such as by presenting a different letterhead. J.A. 266–67. The parties presented evidence about when each letter was signed, but the District Court “[f]ound] the results of the experts’ analyses inconclusive with respect to the dating” of the two letters. J.A. 267. Additionally, the District Court concluded that “[i]f it had

two-page Information Disclosure Statement (“IDS”) to be submitted to the USPTO, attaching the July 2003 Proposal. J.A. 110793–95; *see* J.A. 270. In the IDS, Mr. Hagerty claimed that the ’858 patent’s method was “never disclosed, carried out, or performed” more than one year before the filing date and that the July 2003 Proposal was irrelevant. J.A. 110793–95.

In May and June 2010, Mr. Winsness met with a company that stated that it had reason to believe the ’858 patent, as well as the other Patents-in-Suit, were invalid due to an offer in violation of the on-sale bar. J.A. 268. In late June 2010, Mr. Winsness made an “unannounced” trip to Agri-Energy and offered to provide Agri-Energy with a royalty-free license for CleanTech’s ethanol oil recovery system, which Agri-Energy refused. J.A. 146–47. Agri-Energy’s maintenance manager testified that he felt that Mr. Winsness was offering “a royalty-free license in exchange for admitting the patent was valid.” J.A. 146. Mr. Winsness testified that he had offered a royalty-free system to Agri-Energy in 2004 and an “early adopter advantage” at an unspecified point in time. J.A. 269. Subsequently, in July 2010, Cantor Colburn attorney Michael Rye provided Agri-Energy with a letter, asking Agri-Energy to “confirm” certain facts, including that VDT had not provided Agri-Energy with drawings or diagrams “for the

not questioned [Mr.] Winsness’[s] veracity on other issues, the [District] Court could certainly conclude from this that [Mr.] Winsness has a propensity to evade the truth.” J.A. 266. For the purposes of our analysis, this point is ancillary—albeit concerning regarding the candor of counsel and their clients—to the significant fact that Mr. Cantrell provided Agri-Energy with a version of the July 2003 Proposal by email on August 1, 2003, a fact that is now not disputed. J.A. 155; *see* J.A. 110274 (Second Cantrell Declaration).

proposed system in 2003” and that the system proposed to Agri-Energy was for testing purposes. J.A. 147; *see* J.A. 110322–23. Agri-Energy refused to verify the assertions, as it believed most of them to be “untrue.” J.A. 148. Soon after, Mr. Cantrell claimed to Cantor Colburn that he hand-delivered the July 2003 Proposal to Agri-Energy on August 18, 2003, despite the letter bearing a date weeks earlier. J.A. 148; *see* J.A. 70601.

In November 2010, Cantor Colburn filed a declaration executed by Mr. Cantrell with the USPTO for the ’516 and ’517 patent applications and attached a copy of the July 2003 Proposal. The declaration explained that Mr. Cantrell had hand delivered the July 2003 Proposal to Agri-Energy on August 18, 2003. J.A. 148; *see* J.A. 110016–19 (First Cantrell Declaration). Cantor Colburn informed the USPTO that the July 2003 Proposal did not violate the on-sale bar, as it occurred less than a year before the application filing date. J.A. 148. Omitted from the disclosure was Mr. Barlage’s Test Report, the Ethanol Oil Recovery System Diagram, and Mr. Barlage’s June and July 2003 testing. *See generally* J.A. 110016–19. The USPTO issued the ’516 and ’517 patents on August 30, 2011. *See* J.A. 910, 921.

In September 2011, Mr. Cantrell was deposed regarding the infringement lawsuit of the instant case. J.A. 148; *see* J.A. 20185–249. Mr. Cantrell was shown the July 2003 Proposal emailed to Agri-Energy on August 1, 2003, and Mr. Cantrell testified that the email was not authentic. J.A. 278; *see* J.A. 20207–08. Mr. Cantrell later admitted that it was “possible” that he sent the August 1 email. J.A. 70601. Mr. Hagerty, when deposed in 2011, stated that “it sent a chill up his spine” when he learned that the letter was sent on August 1, 2003. J.A. 278. The parties, however, had stipulated during the March to August 2010 timeframe that Cantor Colburn was working under the impression that the July 2003 Proposal was sent on or near August 1, 2003. J.A. 278–79. Mr. Hagerty testified that he

was unconcerned about the July 2003 Proposal because it did not “disclose anything or amount to an offer.” J.A. 279.

In July 2012, Cantor Colburn withdrew the ’484 patent application, which also contained the First Cantrell Declaration, and filed a second declaration from Mr. Cantrell with the USPTO, which stated that Mr. Cantrell had forgotten about sending the August 2003 Email with the July 2003 Proposal attached. J.A. 155, *see* J.A. 110274 (Second Cantrell Declaration). Notably, the Second Cantrell Declaration did not provide any retractions of the false information provided in the First Cantrell Declaration—that it misstated that the first delivery of the July 2003 Proposal was on August 18, 2003—and did not explain the significance of the email in the Second Cantrell Declaration, which indicated a pre-critical date offer for sale. *See generally* J.A. 110274. In October 2012, the ’484 patent issued. J.A. 953.

III. Procedural History

Starting in 2009 and continuing through 2014, Clean-Tech filed lawsuits against the Appellees¹⁰ and Adkins

¹⁰ The Appellees are: Big River Resources Galva, LLC; Big River Resources West Burlington, LLC; Lincolnland Agri-Energy, LLC; Iroquois Bio-Energy Company, LLC; Cardinal Ethanol, LLC; Lincolnway Energy, LLC; ICM, Inc.; Bushmills Ethanol, Inc.; Al-Corn Clean Fuel, LLC; Chippewa Valley Ethanol Company, LLP; Heartland Corn Products; GEA Mechanical Equipment US, Inc., as Successor-in-Interest to GEA Westfalia Separator, Inc.; Ace Ethanol, LLC; Blue Flint Ethanol, LLC; United Wisconsin Grain Producers, LLC; Flottweg Separation Technologies, Inc.; Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Little Sioux Corn Processors, LLLP; Guardian Energy, LLC; Western New York Energy, LLC; Southwest Iowa Renewable Energy, LLC; Pacific Ethanol Magic

Energy, LLC (“Adkins”) for infringement of the Patents-in-Suit and CleanTech’s U.S. Patent No. 8,168,037 (“the ’037 patent”) in a number of actions that were subsequently combined into a multidistrict litigation case. In 2013, CleanTech moved for summary judgment. J.A. 1, 4–5. The Appellees and Adkins moved for, inter alia, summary judgment on invalidity. J.A. 3–5. The District Court found there was no infringement. J.A. 83, 86–87, 88, 90–91, 96. The District Court determined that specified claims in the lawsuit were invalid because of the on-sale bar, J.A. 174; anticipation, J.A. 181; obviousness, J.A. 192, 217; incorrect inventorship, J.A. 202; inadequate written description, J.A. 195; lack of enablement, J.A. 197, 219; and indefiniteness, J.A. 205.¹¹

Relevant here, the District Court determined that “undisputed contemporaneous evidence supports only one conclusion, the on-sale bar applies and invalidates the [Patents-in-Suit] because,” first, “the July [2003] Proposal was the culmination of a commercial offer for sale and,” second, “the method described in the [Patents-in-Suit] had either or both been reduced to practice or/and there was sufficient description of the patented method” by the critical date to allow for the implementation of the patent. J.A. 167.¹² The District Court explained that the July 2003

Valley LLC; Pacific Ethanol Stockton; Homeland Energy Solutions, LLC; Pacific Ethanol, Inc.; and David J. Vander Griend.

¹¹ Notably, the August 2003 Email and the accompanying July 2003 Proposal were not produced during discovery in the infringement litigation before the District Court. J.A. 134.

¹² The District Court initially determined that the on-sale bar did not apply to the ’484 patent, J.A. 174, but later clarified its ruling, explaining that independent claim 30 of the ’484 patent was invalid under the on-sale bar because

Proposal contained the “major elements of a contract for the sale of a system that could perform the patented method . . . : [namely] all items necessary to recover oil and the price.” J.A. 167. The District Court stated that the “dealing between the parties” leading up to the July 2003 Proposal evidences both parties’ understanding that it was an offer for sale. J.A. 168. The District Court relied upon the communications between VDT and Agri-Energy, as VDT had advised Agri-Energy about the system, how it would work, what it was comprised of, where it should be placed, what it would accomplish, and the cost of operation. J.A. 168–69. The District Court concluded that, under the Uniform Commercial Code (“UCC”), the signed proposal would have constituted a commercial contract. J.A. 169. Further, the District Court explained that other evidence regarding VDT and Agri-Energy’s contact surrounding the July 2003 Proposal corroborated its conclusion. J.A. 169–70 (referencing the creation of the Ethanol Oil Recovery System Diagram and Mr. Winsness’s announcement to shareholders that VDT had made an offer to sell and that the sale would lead to other sales). The District Court explained that a reasonable jury would not have concluded that the July 2003 Proposal was an offer to test its claimed invention as the Inventors knew the method could be successfully reduced to practice, J.A. 170–71 (listing evidence), and had been reduced to practice, J.A. 172 (citing Mr. Barlage’s two instances of practicing the method in 2003); *see* J.A. 172–73 (referencing other communications between the Inventors, Agri-Energy, and others implicating a reduction to practice). Accordingly, the District Court invalidated all of the claims of the ’859, ’516, and ’517 patents,

it required the same steps as the claims of the ’859, ’516, and ’517 patents that were also invalid, J.A. 234–35.

and independent claim 30 of the '484 patent pursuant to the on-sale bar.¹³

Following its summary judgment determinations, the District Court held an inequitable conduct bench trial.

¹³ In addition to the Patents-in-Suit, the District Court addressed the '037 patent, which was not included in the subsequent inequitable conduct bench trial. J.A. 237–38. The District Court determined that the '037 patent was obvious over Prevost and the Patents-in-Suit. J.A. 215–16; *see* J.A. 214 (explaining that it was undisputed that the Patents-in-Suit served as prior art to the '037 patent). Specifically, the District Court explained that Prevost and the Patents-in-Suit teach the oil recovery method for concentrated thin stillage, which is used with evaporators, as is disclosed by the '037 patent. J.A. 215–16. *Compare* '858 patent col. 5 ll. 28–30, *with* '037 patent col. 10 ll. 56–67. The District Court stated that a person having ordinary skill in the art (“PHOSITA”) would have been “familiar with the prior art ethanol plant processes,” like Prevost, that “includ[e] evaporation of thin stillage to reduce the moisture content before mixing it with wet distiller grains[.]” J.A. 215. The District Court explained that the Patents-in-Suit disclose dryer efficiencies that can be achieved from the removal of oil from syrup prior to any mixing with wet distiller grains. J.A. 215–16. *Compare* '858 patent col. 4 ll. 54–56, col. 5 ll. 28–30, *with* '037 patent col. 10 ll. 61–67. Because Prevost and the Patents-in-Suit disclose the drying of syrup after the oil extraction process but before it is added back to the dried distiller wet grains, we conclude that the District Court properly determined that a PHOSITA would have been motivated to lower the moisture content of the syrup, as disclosed in the '037 patent. *See Regents of Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1291 (Fed. Cir. 2018); *see also* 35 U.S.C. § 103(a).

J.A. 237. Following the bench trial, in which the Inventors and attorneys from Cantor Colburn testified, the District Court concluded that additional evidence at trial supported the District Court's previous determination that the Patents-in-Suit were ready for patenting when the Inventors provided the July 2003 Proposal to Agri-Energy. J.A. 294. The District Court concluded that CleanTech committed inequitable conduct through a "complete lack of regard for their duty to the [USPTO]." J.A. 261. Moreover, the District Court determined that "the [I]nventors made a mistake" by "offer[ing] their invention for sale to Agri-Energy" in "July/August 2003," and "[l]ater, they took affirmative steps to hide that fact from their lawyers, then, later [from] the [US]PTO when they learned that it would prevent them from profiting from the [Patents-in-Suit]." J.A. 299. The District Court stated that the Inventors "purposefully withheld the information about their dealings with Agri-Energy[.]" J.A. 263, and that they "acted to deceive the [US]PTO about the facts of the discovery process of the invention[.]" J.A. 261. In discussing the Inventors' "inten[t] to deceive the [US]PTO," the District Court stated that the conclusion was evidenced by the fact that the Inventors "allowed [Mr.] Hagerty to file the feasibility testing letter during prosecution of the [']858 patent, but [did] not tell the whole story about their 2003 successes and the [July 2003 Proposal]." J.A. 292. Moreover, "[w]ith respect to the [']516, the [']517, and the [']484 patents," the District Court determined that "the [I]nventors allowed [Mr.] Hagerty to file a false affidavit notwithstanding their knowledge that [Mr.] Barlage had practiced the method in June 2003 and they had made an offer to sell the method to Agri-Energy in July or early August of 2003." J.A. 292–93.

Additionally, the District Court concluded that Cantor Colburn either "purpose[fully] eva[ded]" disclosing or failed to seek out relevant information and so participated in the inequitable conduct, J.A. 264, "cho[o]s[ing] advocacy over candor[.]" J.A. 308. The District Court explained that Mr.

Hagerty “never asked the [I]nventors key questions about their invention or the meaning of contemporaneous documents and, after the litigation started, [Mr. Hagerty] relied on the litigation team to do all the investigation.” J.A. 296. The District Court stated that Cantor Colburn’s focus on “pre-critical date documents” “was purposefully and, in [the District] Court’s view improperly narrow.” J.A. 300 (internal quotation marks omitted). The District Court also found that “[i]n the face of [Mr.] Cantrell’s poor health, [Mr.] Winsness’[s] and Cantor Colburn’s reliance on [Mr.] Cantrell’s recollection of the events surrounding the [July 2003 Proposal] . . . , as well as their lackluster investigation of events is solid evidence of purposeful behavior.” J.A. 307. The District Court determined that Cantor Colburn “ignored the red flags [waving] before them[,]” such as the fact that Mr. Winsness “threatened Agri-Energy with legal action if it did not corroborate his and [Mr.] Cantrell’s story[,]” which Cantor Colburn supported by sending Agri-Energy a “thinly-veiled threat[.]” J.A. 307, 308.¹⁴ The District Court concluded that “[t]he only reasonable inference is that [Cantor Colburn] believed the [I]nventors had made an offer and, with the feasibility testing letter already before the [US]PTO in both

¹⁴ At the bench trial, Mr. Hagerty testified that he had learned about the Inventors’ interactions with Agri-Energy around September 2008, including, significantly, the occurrence of the July 2003 testing. J.A. 263. When asked why he failed to provide the potential CleanTech investor with that information, Mr. Hagerty “seemed perplexed that [the] request should have covered the 2003 testing because [Mr.] Hagerty had determined it was irrelevant to patentability.” J.A. 263. We conclude, as the District Court found, “[t]his conclusion is problematic in light of the fact that the written information [Mr.] Hagerty received from [Mr.] Winsness about the 2003 bench test stated that it worked[.]” J.A. 263.

prosecutions, . . . which implied a later reduction to practice date, they chose advocacy over candor.” J.A. 308. The District Court held the Patents-in-Suit unenforceable due to inequitable conduct. J.A. 313.

DISCUSSION

I. Standard of Review and Legal Standard

“Inequitable conduct is an equitable issue committed to the discretion of the trial court and is, therefore, reviewed by this court under an abuse of discretion standard.” *Energy Heating, LLC v. Heat On-The-Fly, LLC*, 889 F.3d 1291, 1299 (Fed. Cir. 2018) (citations omitted). We leave undisturbed the trial court’s inequitable conduct decision unless the appellant establishes “that the ruling is based upon clearly erroneous findings of fact or a misapplication or misinterpretation of applicable law or that the ruling evidences a clear error of judgment on the part of the [trial] court.” *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 (Fed. Cir. 1988) (citation omitted) (en banc in relevant part).

To prevail on a claim of inequitable conduct in a patent case, the accused infringer must prove by clear and convincing evidence that the patentee: (1) “knew of the reference” or prior commercial sale; (2) “knew that it was material”; and (3) “made a deliberate decision to withhold it.” *See Therasense, Inc. v. Becton, Dickinson & Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011) (en banc). “Proving that the [patentee] knew of a reference, should have known of its materiality, and decided not to submit it to the [US]PTO does not prove specific intent to deceive.” *Id.* Instead, “the specific intent to deceive must be the single most reasonable inference able to be drawn from the evidence.” *Id.* (internal quotation marks and citation omitted).

The inequitable conduct claim here relates to whether the patentee failed to disclose information that would have implicated the on-sale bar under 35 U.S.C. § 102(b). A

patent is invalid under the on-sale bar if, before the critical date, the invention was: (1) the subject of a commercial sale or offer for sale; and (2) “ready for patenting.” *Pfaff*, 525 U.S. at 67. First, whether the claimed invention was the subject of an offer for sale is an inquiry based on “contract law principles.” *Linear Tech. Corp. v. Micrel, Inc.*, 275 F.3d 1040, 1048 (Fed. Cir. 2001). “It also involves an assessment of whether the circumstances surrounding the transaction show that the transaction was not primarily for purposes of experimentation.” *Allen Eng’g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1352–53 (Fed. Cir. 2002). “A use may be experimental only if it is designed to (1) test claimed features of the invention or (2) . . . determine whether an invention will work for its intended purpose[.]” *Clock Spring, L.P. v. Wrapmaster, Inc.*, 560 F.3d 1317, 1327 (Fed. Cir. 2009) (involving a question of public use and not the on-sale bar but stating that “[t]hrough a prior commercial sale and not a prior public use was at issue in *Allen Engineering*, the factors explicated are equally relevant to an analysis of experimental use”). To determine if a transaction was conducted primarily to experiment, a district court may look to the *Allen* factors to assess the transaction’s experimental nature. *See Allen Eng’g*, 299 F.3d at 1352–53. These factors include: “(1) the necessity for public testing, . . . (3) the nature of the invention, [and] . . . (10) whether the invention reasonably requires evaluation under actual conditions of use[.]” *Id.* (citation omitted). If a prior commercial sale was primarily for purposes of experimentation, the sale will not serve as a bar. *See Clock Spring*, 560 F.3d at 1327. “In making this patentability determination, the [trial] court should apply the preponderance of the evidence standard[.]” *Therasense*, 649 F.3d at 1291–92.

Second, “[a]n invention is ‘ready for patenting’ when prior to the critical date: (1) the invention is *reduced to practice*; or (2) the invention is *depicted in drawings or described in writings* of sufficient nature to enable a

[PHOSITA] to practice the invention.” *Hamilton Beach Brands, Inc. v. Sunbeam Prods.*, 726 F.3d 1370, 1375 (Fed. Cir. 2013) (citation omitted) (emphases added).

II. The District Court Did Not Abuse Its Discretion in Determining that the Patents-in-Suit Are Unenforceable Due to Inequitable Conduct¹⁵

After a bench trial, the District Court concluded that CleanTech and its attorneys at Cantor Colburn engaged in

¹⁵ Despite CleanTech’s arguments to the contrary, *see* Appellant’s Reply Br. 4, we will address the issue of inequitable conduct without first conducting a de novo review of the District Court’s summary judgment on-sale bar determination. A finding of a reference’s or prior sale’s materiality is required for an inequitable conduct determination, *see Therasense*, 649 F.3d at 1290, which is reviewed for abuse of discretion, *see Energy Heating*, 889 F.3d at 1299. CleanTech contends that materiality may not be reviewed in the context of the inequitable conduct claim, as materiality was not properly raised before and addressed by the District Court during the inequitable conduct bench trial. Appellant’s Reply Br. 4–5. This argument is jejune. The District Court held an eight-day bench trial in which materiality was squarely before it. In addition to incorporating the evidence and findings of materiality that had been presented at the summary judgment stage, J.A. 237, the District Court admitted other relevant evidence during the trial, including documents relating to the June and July 2003 testing, J.A. 40144–45, 40153–54, and previously unheard testimony from the Inventors and attorneys with Cantor Colburn, J.A. 294, all relating to the materiality of the July 2003 Proposal. Moreover, following the bench trial, the District Court determined that “its conclusion [from the Summary Judgment Order] that [the July 2003 Proposal] evidence both elements of the on-sale bar” was “confirm[ed]” and, after incorporating “by

inequitable conduct in obtaining the Patents-in-Suit, rendering the patents unenforceable. J.A. 313. On appeal, CleanTech argues that the District Court made clearly erroneous findings of fact and misapplied the law with respect to its on-sale bar determination, as well as its conclusions regarding the parties' knowledge of materiality and their intent to deceive. Appellant's Br. 104, 109–10. We disagree with CleanTech.

A. On-Sale Bar

The District Court “conclude[d] that the undisputed contemporaneous evidence supports only one conclusion, [that] the on-sale bar applies and invalidates the [Patents-in-Suit] because” the claimed invention was the subject of an offer for commercial sale and it was ready for patenting. J.A. 167. We address each determination in turn.

1. The District Court Did Not Abuse Its Discretion in Determining the Claimed Invention Was the Subject of a Pre-Critical Date Offer for Sale

The District Court concluded that the July 2003 Proposal constituted a pre-critical-date offer for sale. J.A. 299.

reference the findings of fact and conclusions of law in the Summary Judgment Order,” the District Court determined that “[f]urther evidence at trial only buttressed the [District] Court’s earlier conclusion, particularly with respect to the ready for patenting element of the on-sale bar.” J.A. 294. Additionally, despite CleanTech’s suggestions to the contrary, *see* Appellant’s Br. 105, inequitable conduct’s materiality requirement does not provide the patentee with the right to a jury and instead must be resolved by the trial court, *see Am. Calcar, Inc. v. Am. Honda Motor Co., Inc.*, 651 F.3d 1318, 1333 (Fed. Cir. 2011) (“Inequitable conduct is equitable in nature, with no right to a jury, and the trial court has the obligation to resolve the underlying facts of materiality and intent.”).

CleanTech contends that it was not an offer as it “did not in fact perform the method for Agri-Energy, before the critical date, for a promise of future compensation.” Appellant’s Br. 37 (internal quotation marks and emphasis omitted) (citing *Plumtree Software, Inc. v. Datamize, LLC*, 473 F.3d 1152, 1162–63 (Fed. Cir. 2006)). We disagree with CleanTech.

The District Court did not abuse its discretion in determining that the claimed invention was the subject of an offer for sale in the summer of 2003. First, relying on the UCC, the District Court concluded that the July 2003 Proposal was a “sale on approval” that was made before the critical date. J.A. 169 (citing U.C.C. § 2-326); see U.C.C. § 2-326(1)(a) (“[I]f delivered goods may be returned by the buyer even though they conform to the contract, the transaction is . . . a ‘sale on approval’ if the goods are delivered primarily for use[.]”); see also *Linear*, 275 F.3d at 1052 (explaining “that the [UCC] should inform the [district court’s] analysis of the contractual issues[,]” such as the on-sale bar). The July 2003 Proposal provides an offer of “all items necessary to recover oil and the price,” J.A. 167, and the Inventors understood the offer to Agri-Energy was a “first sale” that would lead to additional sales, J.A. 170–72. Accordingly, the District Court properly concluded that the July 2003 Proposal was an “offer for sale.” *Pfaff*, 525 U.S. at 67.

CleanTech’s primary counterargument is unavailing. CleanTech contends that the District Court misconstrued the law by failing to apply *Plumtree*’s requirement that the “challenger must prove that the patentee either: (i) ‘made a commercial offer to perform the patented method[]’[;] or (ii) ‘in fact performed the patented method for a promise of future compensation.’” Appellant’s Br. 36. CleanTech, however, did not make this argument before the District Court and cited to *Plumtree* only once in its summary judgment opposition and only for the proposition that the July 2003 Proposal was not invalidating because it “did not

unambiguously require use of [CleanTech’s] patented methods[.]” J.A. 26364 (*citing Plumtree*, 473 F.3d at 1163). Because we apply the law of the regional circuit as to procedural matters, *see Info-Hold, Inc. v. Muzak LLC*, 783 F.3d 1365, 1371 (Fed. Cir. 2015), here the Seventh Circuit, we will not decide an issue for the first time on appeal, *see Scheurer v. Fromm Family Foods LLC*, 863 F.3d 748, 755 (7th Cir. 2017) (“The well-established rule in th[e Seventh] Circuit is that a plaintiff waives the right to argue an issue on appeal if she fails to raise the issue before a lower court.” (internal quotation marks and citation omitted)).

2. The District Court Did Not Abuse Its Discretion in Determining the Claimed Invention Was Ready for Patenting Before the Critical Date

The District Court determined that the claimed invention was ready for patenting prior to the critical date. J.A. 167. CleanTech contends that the District Court failed to find that the claimed invention was reduced to practice “on a claim-by-claim basis” for each of the Patents-in-Suit. Appellant’s Br. 46. We disagree with CleanTech.

The District Court did not abuse its discretion in determining the claimed invention was ready for patenting in June or July 2003. First, with respect to the reduction to practice, the District Court relied upon the two tests conducted by Mr. Barlage in the summer of 2003 to support its determination. J.A. 126–27; *see Hamilton Beach Brands*, 726 F.3d at 1375 (“An invention is ‘ready for patenting’ when prior to the critical date: . . . the invention is *reduced to practice*[.]” (emphasis added) (citation omitted)). The District Court explained that, in June 2003, Mr. Barlage tested an ethanol syrup with a pH, moisture content, and temperature within the claimed ranges recited in the Patents-in-Suit, *compare* J.A. 125–26 (describing Mr. Barlage’s testing, which heated thin stillage to a temperature of 176 °F, with a pH of “approximately 4, and moisture content between 70% and 80%”), *with* J.A. 920 (516 patent)

(Dependent Claim 6) (reciting “[a] method of recovering oil from thin stillage” with a temperature between 150 °F and 212 °F, a pH between 3 and 6, and a moisture content of greater than 30% and less than 90% by weight), and separated oil from the syrup with a centrifuge, reporting that “the oil can be taken out easily,” J.A. 125–26, 171. Indeed, the Inventors themselves made statements contemporaneous to the June and July 2003 testing that the claimed invention was reduced to practice. J.A. 127 (Mr. Cantrell stating to Agri-Energy following the July 2003 Test that “[t]he technology is available to remove the oil, and the quick payback from the new revenue stream, make this a very viable program”), 111065 (Mr. Dorisio’s Draft Clearance Opinion to the Inventors) (“Past correspondence indicates *your actual reduction to practice* of the removing oil from syrup aspect of the proposed invention *during experiments conducted in early to mid-June 2003.*” (emphases added)). Moreover, immediately following the July 2003 Test, Mr. Winsness then directed a VDT employee to prepare the Ethanol Oil Recovery System Diagram, J.A. 130–32; *see* J.A. 110044 (Ethanol Oil Recovery System Diagram), which the employee understood “was intended to become a sales drawing[.]” J.A. 132 (internal quotation marks omitted); *see* J.A. 246 (the VDT employee “understood that the drawings would be used for sales purposes by [Mr.] Cantrell and [Mr.] Winsness”). The District Court, after reviewing the evidence, did not abuse its discretion in determining that “the method of the patented invention . . . had been performed” during June and July 2003. J.A. 171.

CleanTech’s counterarguments are meritless and misleading. CleanTech disputes the District Court’s determination that the June and July 2003 testing was not experimental, arguing that there were “genuine factual disputes on [its] ‘commercial’ v[ersus] ‘experimental’” nature. Appellant’s Br. 39 (capitalization modified). Specifically, CleanTech argues that “nearly all” of the *Allen*

factors support the experimental nature of the July 2003 Proposal. *Id.* at 40. As an initial matter, CleanTech misrepresents the *Allen* factors and supports its arguments with testimony that was discredited by the District Court. *Compare id.* (“*Allen* factors [one] and [ten] ask whether the inventors ‘needed’ to experiment with the invention ‘under actual conditions of use.’” (internal brackets and emphasis omitted)), *with Allen Eng’g*, 299 F.3d at 1353 (explaining that factor one assesses whether there is “the necessity for public testing” and factor ten addresses “whether the invention reasonably requires evaluation under actual conditions of use”). CleanTech argues its testing was experimental because its claimed invention “clearly” “‘needed’ to experiment with the invention ‘under actual conditions of use.’” Appellant’s Br. 40 (quoting *Allen Eng’g*, 299 F.3d at 1353) (internal brackets omitted). The District Court did not abuse its discretion in discounting this argument, as it explained that a “reduction to practice does not require a showing that the method would work acceptably in a plant environment, unless the claims require it, and the claims here do not.” J.A. 172 (internal quotation marks and citation omitted); *see In re Cygnus Telecomms. Tech., LLC*, 536 F.3d 1343, 1355 (Fed. Cir. 2008) (explaining that a system that would not have worked on a “commercial scale[,]” but that “embodied the claims” of the “patents at issue[,]” satisfied the “‘ready for patenting’ prong” of the on-sale bar). The District Court considered the *Allen* factors and concluded that the offer to Agri-Energy was an offer for sale and not for purposes of experimentation. J.A. 167; *see Allen Eng’g*, 299 F.3d at 1352–53. For these reasons, we conclude that the District Court did not clearly err in its determination.

Second, the District Court found the claimed invention was ready for patenting because it had been depicted and described in such a way that a PHOSITA would be able to practice it. J.A. 172–73; *see Hamilton Beach Brands*, 726 F.3d at 1375 (“An invention is ‘ready for patenting’ when

prior to the critical date . . . the *invention is depicted in drawings or described in writings* of sufficient nature to enable a [PHOSITA] to practice the invention.” (emphasis added) (citation omitted)). Despite CleanTech’s argument that its expert opined the Inventors had not prepared drawings or other descriptions of the invention that were sufficiently specific to enable a PHOSITA to practice it, *see* Appellant’s Reply Br. 18 (emphasis omitted), Appellant’s Br. 47, the District Court determined that, while there was no “single reference that specifically delineate[d]” the method “disclosed by the [Patents-in-Suit], the Ethanol [Oil Recovery] System Diagram” in combination “with [Mr.] Barlage’s lab tests and results” and “communications from [Mr.] Cantrell to Agri-Energy . . . would allow a [PHOSITA] to practice the invention of the [Patents-in-Suit,]” J.A. 173. The District Court explained that “[t]here is no mystery or dispute that the pH, moisture content[,] and temperature ranges in the claims of the [Patents-in-Suit] are those that occur at the standard operating conditions of a dry mill ethanol plant.” J.A. 173. CleanTech has not shown clear error in these factual findings and we reject the invitation to reweigh the evidence. Accordingly, the District Court did not abuse its discretion in its on-sale bar determination.

B. The District Court Did Not Abuse Its Discretion in Concluding that CleanTech and Its Lawyers Made a Deliberate Decision to Withhold Material Information with the Specific Intent to Deceive the USPTO

The District Court concluded that CleanTech knew of the claimed invention’s offer for sale and reduction to practice in the summer of 2003, as well as that information’s materiality. J.A. 303, 308. The District Court “conclude[d] that the [I]nventors and the[ir] attorneys intentionally withheld material information from the [US]PTO during prosecution” of the Patents-in-Suit, thereby rendering the Patents-in-Suit unenforceable due to inequitable conduct. J.A. 312; *see Therasense*, 649 F.3d at 1290 (explaining that

inequitable conduct requires a showing of clear and convincing evidence that the patentee “knew of the reference, knew that it was material, and made a deliberate decision to withhold it”). CleanTech contends that that District Court erred in its materiality and intent to deceive findings. Appellant’s Br. 104–05. We disagree with CleanTech.

The District Court did not abuse its discretion in rendering unenforceable the Patents-in-Suit for inequitable conduct. For the reasons discussed above, *see supra* Section II.A, we conclude that the District Court did not abuse its discretion in concluding that CleanTech and its attorneys were aware that the claimed invention was ready for patenting, as evidenced by documents belatedly or not turned over to the USPTO, and that they knew of those documents’ materiality. In addition to knowledge and materiality, inequitable conduct requires a clear and convincing showing that CleanTech “made a deliberate decision to withhold” the material information. *See Therasense*, 649 F.3d at 1290. Moreover, “the specific intent to deceive must be ‘the single most reasonable inference drawn from the evidence.’” *Id.* Here, the District Court did not abuse its discretion in determining for numerous reasons that CleanTech deliberately withheld material information.

First, the District Court concluded that CleanTech knew the July 2003 Proposal to Agri-Energy threatened its chances of patenting its ethanol oil recovery method. J.A. 299 (explaining “that the [I]nventors made a mistake in July/August 2003 and offered their invention for sale to Agri-Energy” and “[I]ater . . . took affirmative steps to hide that fact from their lawyers, then, later the [US]PTO when they learned that it would prevent them from profiting from the patents”). This determination is supported by the record. In February 2004, the Inventors sought information from the USPTO website about provisional patent applications and the on-sale bar. J.A. 252. Days later, Mr. Dorisio informed the Inventors about the on-sale bar.

J.A. 252. The District Court did not clearly err in finding that CleanTech was aware of the on-sale bar and its requirements. *See Energy Heating*, 889 F.3d at 1302–03 (concluding that the district court did not abuse its discretion in finding an inventor’s knowledge that sales of the claimed invention prior to the critical date were material, and the inventor’s failure to disclose the sales was intended to deceive the USPTO).

Second, the District Court found that the Inventors and the attorneys at Cantor Colburn withheld evidence of successful testing in 2003 and made false representations by implying that the invention was not reduced to practice until 2004. J.A. 302 (“[N]ot providing information regarding the [I]nventors’ dealings with Agri-Energy or [Mr.] Barlage[s] bench-top test raises an inference that the patentees intended to deceive the [US]PTO—it was pre-critical date information that had a direct bearing on the ability of the [I]nventors to prove that their claims were patentable.”). This finding is supported by the record. Cantor Colburn began representing CleanTech in March 2008 and, by at least September 2008, were aware of Mr. Barlage’s testing in June and July 2003. J.A. 111075. Mr. Winsness informed Cantor Colburn that the “testing we did in June 2003” showed that “a sequence of evaporation followed by centrifugation allows for oil recovery[.]” J.A. 111075. Moreover, the Inventors informed Cantor Colburn that, based on the summer 2003 testing, the Inventors “believe[d] [that] the process would work on a commercial scale.” J.A. 263 (internal quotation marks omitted). Cantor Colburn was also in possession of the Ethanol Oil Recovery System Diagram and the test reports themselves. J.A. 301. Despite possessing this information, Cantor Colburn did not provide it to the USPTO during the prosecution of the Patents-in-Suit and referenced it only to assert that the claimed invention predated Prevost. J.A. 301–02, 304–06, 309. Moreover, in June 2009, Cantor Colburn filed a letter with the USPTO stating that

feasibility testing occurred in May 2004, with no mention of the documents dated a year earlier. J.A. 303. This letter was filed in the prosecutions of each of the Patents-in-Suit. J.A. 304–05. The District Court did not clearly err in its finding that CleanTech and Cantor Colburn withheld material evidence from the USPTO. *See Molins PLC v. Textron, Inc.*, 48 F.3d 1172, 1178 (Fed. Cir. 1995) (“[Patentees] who are not ‘up front’ with the [US]PTO run the risk that, years later, a fact-finder might conclude they intended to deceive. This is what appears to have happened here and we must affirm the trial court.”); *see also id.* (“Applicants for patents are required to prosecute patent applications in the [US]PTO with candor, good faith, and honesty. . . . This duty extends also to the applicant’s representatives.” (internal footnote and citations omitted)).

Third, the District Court determined that CleanTech and Cantor Colburn “threatened” Agri-Energy to coerce its support regarding the critical date for the Patents-in-Suit, after the July 2003 Proposal surfaced and during the pendency of the ’516 and ’517 patents. J.A. 308. Specifically, in June 2009, Mr. Winsness traveled to Agri-Energy and “offered Agri-Energy a royalty-free license in exchange for Agri-Energy’s willingness to admit that the pending patents were valid.” J.A. 269. In July 2009, Cantor Colburn sent Agri-Energy an email offering “a release of liability for any prior use of an extraction system” and indemnification “against any liability” in return “for cooperating with [CleanTech] and for clarifying the use of the corn oil system in 2004.” J.A. 110322. Moreover, Cantor Colburn requested a statement “confirming and clarifying” certain facts relating to the offer. J.A. 110322–23. Agri-Energy’s manager testified that he “did not accept the offer from [Cantor Colburn and CleanTech] because the statements were not true.” J.A. 271. Notably, Cantor Colburn “failed to request that Agri-Energy provide any documents” regarding its interactions with the Inventors. J.A. 271. The District Court did not abuse its discretion in concluding

that these attempts to threaten Agri-Energy spoke to CleanTech's and Cantor Colburn's intent to deceive the USPTO.

Fourth, the District Court concluded that the Inventors and Cantor Colburn made a "patently false" statement in the First Cantrell Declaration, by claiming the July 2003 Proposal was delivered to Agri-Energy after the critical date. J.A. 276; see J.A. 307 ("[T]he [I]nventors and attorneys misrepresented to the [US]PTO that the [July 2003 Proposal] was immaterial by filing the false [First] Cantrell . . . Declaration[.]"). The District Court's determination that the declaration was false is supported by the evidence. Specifically, it was not until August 2010 that Mr. Cantrell told Cantor Colburn that he recalled he had personally delivered the July 2003 Proposal to Agri-Energy on August 18, 2003. J.A. 272. The attorneys at Cantor Colburn testified that they themselves were skeptical of the veracity of the claim, as the date specified by Mr. Cantrell would alleviate all concerns about the on-sale bar. J.A. 272–73. Nonetheless, Cantor Colburn filed the First Cantrell Declaration in November 2010 for the '516 and '517 patent prosecutions, J.A. 276–77, and in the '484 patent prosecution in July 2011, J.A. 277. This was done notwithstanding the Inventors' knowledge that Mr. Barlage had practiced the claimed method in June 2003 and they had offered to sell the claimed invention to Agri-Energy in July or early August of 2003. J.A. 292–93; see *Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1571 (Fed. Cir. 1983) ("[T]here is no room to argue that submission of false affidavits is not material."). Moreover, prior to Mr. Cantrell's August 2010 statement, Cantor Colburn had prepared a detailed disclosure that included information about the June and July 2003 Tests and Report and the Ethanol Oil Recovery System Diagram, which the law firm had possessed since September 2008. J.A. 308; see J.A. 111075–104 (Email from Mr. Winsness to Mr. Hagerty Dated September 2008) (providing "some history of testing

we did in June 2003 to discover that a sequence of evaporation followed by centrifugation allows for oil recovery[.]” including the June 2003 Report). Following Mr. Cantrell’s statements, the disclosure was discarded and never filed in any patent prosecution. J.A. 308. Based on this, the District Court concluded that “[t]he *only reasonable inference* is that [Cantor Colburn] believed the [I]nventors had made an offer and, with the feasibility testing letter already before the [US]PTO in both prosecutions, . . . which implied a later reduction to practice date, *they chose advocacy over candor.*” J.A. 308 (emphases added). The District Court did not abuse its discretion in concluding that the “patently false” statement in the First Cantrell Declaration was material and supported its intent to deceive determination.

Fifth, the District Court explained that the Inventors’ and Cantor Colburn’s failure to correct the false declaration in the ’484 patent prosecution was “strong evidence of intentional deceit[.]” J.A. 309. Specifically, at Mr. Cantrell’s September 2011 deposition, where Mr. Cantrell and Cantor Colburn “*kn[e]w for certain* that [Mr.] Cantrell’s First Declaration [was] false,” no correction was made then or during the following eight months. J.A. 309 (emphasis added); see J.A. 280 (“Most disturbing is that, during this period, neither litigation counsel nor [Mr.] Hagerty did anything to alert the [US]PTO that [Mr.] Cantrell’s First Declaration was false[.]”). In July 2012, the Second Cantrell Declaration was filed with the USPTO, in which Mr. Cantrell attested that “[a]ttached is an e-mail sent from my e-mail account on August 1, 2003” and that “[t]he [July 2003 Proposal] attached to the August 1 email was unsigned.” J.A. 110274. As the District Court explained, the Second Cantrell Declaration provided “the false impressions that [Mr.] Cantrell may not have sent the [August 2003 Email] and that the unsigned letter had less significance than the ‘signed’ one he allegedly hand delivered later the same month,” it “repeats false information,” and “fails to distinctly point out and/or explain the false

information previously provided to the examiner[.]” J.A. 283. Based on this evidence, we conclude that the District Court did not abuse its discretion in concluding that, by clear and convincing evidence, the single most reasonable inference to be drawn from the record was that the Inventors and Cantor Colburn intended to deceive the USPTO. *See Energy Heating*, 889 F.3d at 1302–03.

CleanTech raises numerous counterarguments, all of which are unavailing. First, CleanTech argues that the District Court’s review of materiality “exceeded the scope of the bench trial, which was only on ‘inequitable conduct.’” Appellant’s Br. 105. Materiality is, however, an element of the inequitable conduct claim and was squarely before the District Court. *See Therasense*, 649 F.3d at 1290 (“In a case involving nondisclosure of information, clear and convincing evidence must show that the applicant made a deliberate decision to withhold *a known material reference*.” (internal quotation marks and citation omitted) (emphasis altered)). In fact, CleanTech itself raised materiality in pre-trial briefing, contending that the Appellants “will also not be able to establish that any of the alleged errors and omissions, aside from the misstatements found in [Mr.] Cantrell’s first declaration, would have been ‘but-for’ material.” J.A. 63467. Accordingly, the District Court did not err in making a materiality determination.

Second, CleanTech avers that the District Court’s materiality finding violated its right to a jury trial. Appellant’s Br. 105. Given that inequitable conduct is based in equity, there is no right to a jury trial. *See Am. Calcar*, 651 F.3d at 1333 (“Inequitable conduct is equitable in nature, with no right to a jury, and the trial court has the obligation to resolve the underlying facts of materiality and intent.”).

Third, CleanTech contends that the District Court “barred CleanTech from re-litigating materiality” by excluding some evidence involving the USPTO’s actions

permitting “a continuation in the [Patents-in-Suit]” even after the USPTO was provided with evidence of the July 2003 Proposal and related materials. Appellant’s Br. 105–06. The evidence was excluded under Federal Rule of Evidence 403, because the District Court determined that its probative value was outweighed by the likelihood that it would confuse and prolong the trial. J.A. 71952–53; *see* Fed. R. Evid. 403 (“The court may exclude relevant evidence if its probative value is substantially outweighed by a danger of one or more of the following: unfair prejudice, confusing the issues, . . . undue delay, [or] wasting time[.]”). To the extent that CleanTech is contesting the Rule 403 determination, it did not do so before the District Court and so waives the issue here. *See Scheurer*, 863 F.3d at 755. Accordingly, the District Court did not abuse its discretion in reaching its inequitable conduct determination.¹⁶

CONCLUSION

We have considered the parties’ other arguments and each of the remaining issues raised on appeal and cross-appeal and find them to be without merit. Accordingly, the judgments below are

AFFIRMED

¹⁶ As we affirm the District Court’s determination that the Patents-in-Suit are unenforceable due to the inequitable conduct, we need not address CleanTech’s additional arguments regarding the other grounds upon which the District Court ruled the Patents-in-Suit invalid. *See Energy Heating*, 889 F.3d at 1308 (concluding that, where a trial court’s judgment that a “patent is unenforceable for inequitable conduct” is affirmed, this court need “not reach the [trial] court’s summary judgment of obviousness, claim construction order, or summary judgment of no direct infringement”).

GS CLEANTECH CORP. v. ADKINS ENERGY LLC

39

COSTS

Costs to the Appellees and Cross-Appellant.

APPENDIX B

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

IN RE: METHOD OF PROCESSING)
ETHANOL BYPRODUCTS AND)
RELATED SUBSYSTEMS ('858) PATENT)
LITIGATION)

No. 1:10-ml-02181-LJM-DML

RELATED CASES:)
1:10-cv-00180-LJM-DML)
1:10-cv-08000-LJM-DML)
1:10-cv-08001-LJM-DML)
1:10-cv-08002-LJM-DML)
1:10-cv-08003-LJM-DML)
1:10-cv-08004-LJM-DML)
1:10-cv-08005-LJM-DML)
1:10-cv-08006-LJM-DML)
1:10-cv-08007-LJM-DML)
1:10-cv-08008-LJM-DML)
1:10-cv-08009-LJM-DML)
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1:13-cv-08012-LJM-DML)
1:13-cv-08013-LJM-DML)
1:13-cv-08014-LJM-DML)
1:13-cv-08015-LJM-DML)
1:13-cv-08016-LJM-DML)
1:13-cv-08017-LJM-DML)
1:13-cv-08018-LJM-DML)
1:14-cv-08019-LJM-DML)
1:14-cv-08020-LJM-DML)

CORRECTED MEMORANDUM OPINION & ORDER AFTER BENCH TRIAL

Defendants/Counterclaim Plaintiffs ACE Ethanol, LLC; GEA Mechanical Equipment US, Inc.; Al-Corn Clean Fuel; Blue Flint Ethanol, LLC; Big River Resources – Galva; Big River Resources – West Burlington, LLC; Cardinal Ethanol; Flottweig Separation Technologies; Guardian Energy, LLC; ICM, Inc.; Lincolnway Energy, LLC; LincolnLand Agri-Energy, LLC; Little Sioux Corn Processors, LLLP; Pacific Ethanol Magic

Valley, LLC; Southwest Iowa Renewable Energy, LLC; David Vander Griend; Western New York Energy, LLC; Bushmills Ethanol, Inc.; Chippewa Valley Ethanol Company, LLC; Heartland Corn Products; United Wisconsin Grain Producers; Aemetis, Inc.; Aemetis Advanced Fuels Keyes, Inc.; Pacific Ethanol Stockton; and Iroquois Bio-Energy, Co. (all Defendants, collectively, "Defendants"), and Plaintiff/Counterclaim Defendants GS CleanTech Corporation and Greenshift Corporation (collectively, "CleanTech"), appeared for a Bench Trial on October 5-9 and 12-15, 2015, on Defendants' inequitable conduct counterclaim and/or defense. The Court now enters its Findings of Fact and Conclusions of Law.¹

I. FACTS

Because the Court was familiar with the parties, third-party entities and the technology involved in this Multi-District Litigation ("MDL"), there were foundational facts that were not specifically elicited during the Bench Trial. However, in order to provide context for Defendants' inequitable conduct allegations, the facts are necessary. Therefore, some of the facts set forth in the Facts section are undisputed facts proffered during the summary judgment phase of the Multi-District Litigation. Citation to the brief that contained those facts is intended to incorporate by reference the exhibits that are cited within the brief. All citations to the Master Docket will be in this format: MDN 1589 at (ECF page number).

CleanTech is the owner of the patents-in-suit, which have been termed the "858 patent family:" U.S. Patent Nos. 7,601,858 (the "858 patent"); 8,008,516 (the "516

¹ Where appropriate or necessary, each of the following Findings of Fact shall be considered a Conclusion of Law, and each of the following Conclusions of Law shall be considered a Finding of Fact.

patent”), 8,008,517 (the “517 patent”); and 8,283,484 (the “484 patent”). GreenShift Corporation is the parent corporation of CleanTech, the plaintiff in this action; the two companies share headquarters in Alpharetta, Georgia. MDN 1028 at 25-26. GreenShift and its subsidiaries focus on developing and commercializing technologies that promote more efficient use of natural resources. *Id.* at 26. GreenShift has a track record of identifying new market opportunities in long-established industries, and of developing valuable technology for market participants to exploit those opportunities. *Id.* For example, GreenShift has developed and continues to develop innovative technologies relating to corn oil extraction, adhesives, and paper. *Id.* CleanTech holds six patents in the corn oil extraction industry, U.S. Patent No. 7,608,729 (which is not at issue in this case), the ‘858 patent family, and U.S. Patent No. 8,168,037 (the “037 patent”).² *Id.* CleanTech has six additional patent applications pending before the PTO in this area.³ *Id.* Defendants allege that inequitable conduct by the named inventors, David Cantrell (“Cantrell”) and David Winsness (“Winsness”), and their attorneys during prosecution of the ‘858 patent family should render them unenforceable.

A. BACKGROUND OF THE CLAIMED INVENTION

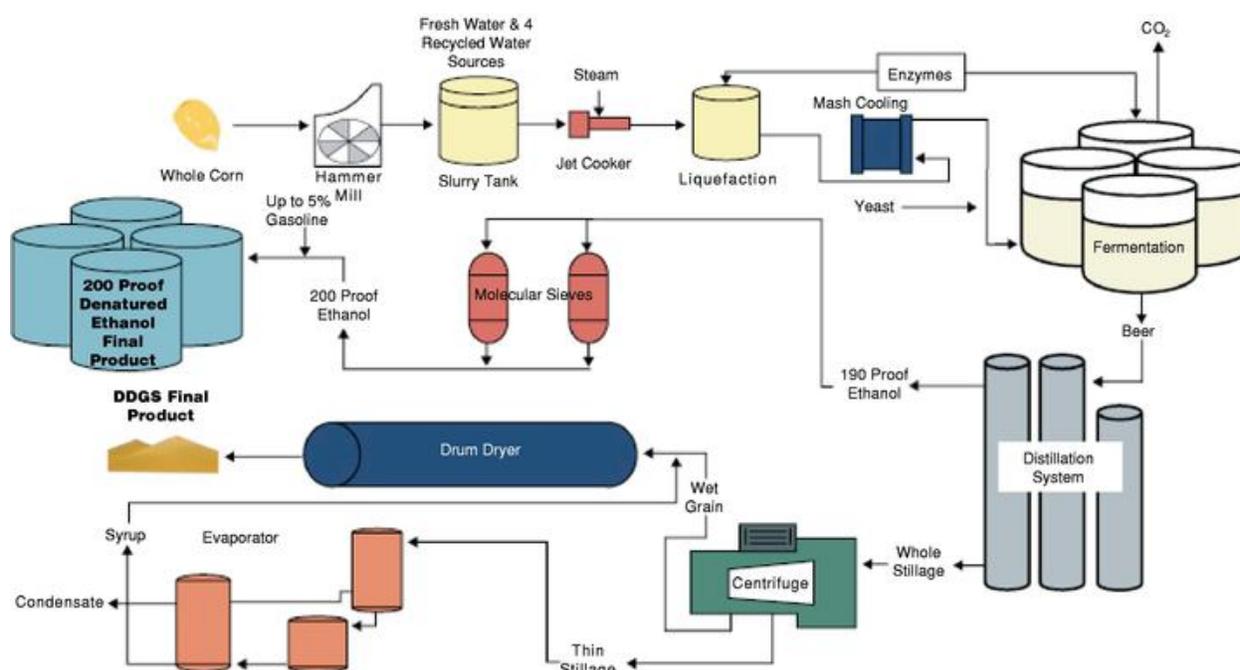
The ‘858 patent family relates to a method for recovering oil from the concentrated thin stillage (or syrup) historically produced by a conventional dry mill ethanol plant. The

² CleanTech is also the owner of a related patent, U.S. Patent No. 8,168,037 (the “037 patent”). Defendants also allege that inequitable conduct by Winsness and his attorneys during prosecution of the ‘037 patent should render that patent unenforceable; however, the Court granted CleanTech’s motion *in limine* to exclude this claim because it was never plead. See Master Docket No. 1612, Entry & Order for Thursday, September 24, 2015. As a result of that ruling, the Court did not hear evidence or argument regarding inequitable conduct as to the ‘037 patent.

³ Some of these patents may have issued since the Court published its Order on Cross Motions for Summary Judgment, but they are not asserted in this litigation.

methods involve running the syrup through a mechanical process, such as a centrifuge, to recover oil.

The “dry milling” process is the primary method of producing ethanol. MDN 1038 at 28. In this method, corn is ground and processed to release sugar that is fermented to produce ethanol. *Id.* This is the same general process used to produce beer or whiskey. The following diagram illustrates the dry milling process, focusing just on the production of ethanol:⁴



Starting in the upper right-hand corner of the diagram, the process begins with the corn being ground into meal and then mixed with hot water, recycled thin stillage, and enzymes. MDN 1173 at 16. The mixture is heated or “cooked” to form a less viscous, liquefied “mash” stream. *Id.* The mash stream is then fermented with yeast to produce

⁴ Securities & Exchange Comm’n, Form S-1, Hawkeye Holdings Inc., at 66 (May 30, 2006), <http://www.sec.gov/Archives/edgar/data/1363908/000104746906007798/a2170573zs-1.htm> (last visited February 12, 2016).

ethanol and various fermentation byproducts. *Id.* at 16-17. The ethanol is boiled off, concentrated, and processed into marketable product in a distillation system. *Id.* at 17.

After the distillation of ethanol, the remaining process stream, which is known as whole stillage, contains water, corn oil and dissolved and undissolved solids. *Id.* The corn oil is low grade and not human consumable. *Id.* The whole stillage stream exits from the bottom of the distillation or beer column and cannot be disposed of or discarded without violating environmental regulations. *Id.* However, because whole stillage includes proteins, vitamins, minerals, and fats, it can be sold as a valuable ingredient in animal feed. *Id.*

The lower portion of the diagram above also shows the typical prior art stillage treatment process. *Id.* Whole stillage that exits the distillation system contains a large amount of solid material and very large amounts of water. *Id.* The next step in the conventional ethanol plant is to process whole stillage through a decanter centrifuge, which separates into a mostly solid stream and a mostly liquid stream that contains oil, water, and solids. *Id.* See also Securities & Exchange Comm'n, Form S-1, Hawkeye Holdings Inc., at 66-67 (May 30, 2006), <http://www.sec.gov/Archives/edgar/data/1363908/000104746906007798/a2170573zs-1.htm> (last visited February 12, 2016) (describing the processing of whole stillage into "co-products" of the ethanol production process).

The mostly solids stream, known as "wet grains" has nutritional value and, historically, was sent to a dryer, then sold as feed for cattle and other livestock. MDN 1173 at 18. The dried wet grains are called Dried Distillers Grains or "DDG." *Id.* The mostly liquid stream is known as "thin stillage" and the presence of oil in this stream has

been known for many years, as described by the '858 patent family specification. *Id.* For environmental and other reasons, the prior art processing of thin stillage at dry mill ethanol plants included an evaporation step, typically consisting of an evaporator, to efficiently boil off and remove much of the water from the thin stillage. *Id.* The evaporated water is important to the functioning of the plant and is captured and recycled back into the ethanol production process. *Id.* The resulting post-evaporation stream is commonly referred to as "concentrated thin stillage," or "syrup," and is a mixture of water and dissolved and suspended solids, including corn oil. *Id.* Concentrated thin stillage or syrup was placed in an insulated storage tank to stay at a high temperature and contained enough moisture to pump it through pipes. *Id.*

Historically, ethanol plants mixed the syrup back in with the wet grains before the drying step, which increased the nutritional value of the cake and added to the product's feed value and market price. *Id.* The resulting product is known as Dried Distillers Grains with Solubles, or DDGS. *Id.* DDGS is an important revenue source for an ethanol plant. *Id.*

When run under standard operating conditions, the prior art process typically produced concentrated thin stillage within a well-known range of temperature, pH, and moisture content. *Id.* at 19. Evaporators in a conventional dry mill plant typically operate between 150°F and 212°F, because temperatures outside this range cause problems such as fouling or viscous flow. *Id.* The ultimate temperatures of the syrup may depend upon many factors, but is generally in the same range, which is described in U.S. Patent No. 4,944,954 to Strop ("Strop patent"), at column 10, lines 58 to 59. *Id.*

Further, thin stillage concentrate is typically slightly acidic (pH below 7) because it

contains acidic organic compounds and small amounts of acid added for process control purposes. *Id.* The acidity is not affected significantly by the evaporation process; therefore, the syrup at a typical dry mill ethanol plant will have a pH somewhere between 3.0 and 6.0, as described in U.S. Patent No. 5,250,182 to Bento (“Bento patent”), at column 9, lines 49 to 51. *Id.*

“Moisture content” is a measure of the amount of water contained in a mixture, made on a mass or volume basis; its inverse is the solids concentration. *Id.* The moisture content of the thin stillage stream entering the evaporation stage typically ranges from approximately 80 weight percent to 93 weight percent; the concentrated thin stillage or syrup exiting the evaporation stage typically has a moisture content ranging from approximately 55 weight percent to 80 weight percent. *Id.* at 19-20. The prior art Agri-Energy, LLC, ethanol plant already produced syrup under these conditions (pH of 4.2, moisture content of 70%-80%, temperature of 180°F) before it began dealing with Winsness and Cantrell or recovering oil from the syrup using a centrifuge. *Id.* at 20.

In summary, a typical, prior art conventional dry mill ethanol plant produces concentrated thin stillage or syrup within the following parameters: temperature - 150°F to 212°F; pH – 3.0 to 6.0; moisture content (weight percent) – 55% to 80%. *Id.*

B. RELATIONSHIP WITH AGRI-ENERGY

The Court heard testimony from the inventors regarding their relationship with Agri-Energy in 2003 and 2004. However, the Court found Cantrell’s testimony on any topic of little credible value. CleanTech introduced evidence of Cantrell’s medications and their side-effects in an apparent attempt to defuse any negative inference to be drawn from Cantrell’s inconsistent statements. PTX2248. In addition, CleanTech made much of

Cantrell's poor health, Trial T. at 31-33, again apparently to negate any negative inferences that might be drawn from Cantrell's performance on the witness stand. The Court notes that Cantrell had some difficulty staying focused. Further, although Cantrell was argumentative and unclear about facts when questioned by Defendants' counsel, he fortuitously remembered when events took place and recalled the "real" meaning of documents when questioned by CleanTech's lawyers. This difference was more than faded memory refreshed by looking at documents. Cantrell's testimony sounded carefully scripted rather than genuine and generally dismissive of the contemporaneous documentary evidence. Despite CleanTech's attorney's attempts to explain these testimonial difficulties by reference to Cantrell's health, the Court relies primarily on the documents and testimony from other witnesses about the relationship between Agri-Energy and the inventors during this period, finding Cantrell's testimony often times less than helpful.

From 1998 to 2012, Agri-Energy operated a conventional dry-mill ethanol plant in Luverne, Minnesota. MDN 1173 at 39. Luverne is located in western Minnesota, approximately 200 miles by car from Minneapolis. *Id.* In the early 2000s, Agri-Energy was researching ways to dry concentrated thin stillage and wet distillers grains and contacted Vortex Dehydration Technology ("VDT"), a business formed by Cantrell, to see if VDT's Windhexe machine could dry its mixtures. *Id.* An employee of Agri-Energy brought samples to VDT's location to test the drying process. *Id.* This test was Cantrell's first exposure to the ethanol business. *Id.* at 40. Based on that test, Cantrell knew that the byproducts contained oil and might have value. DX 359. However, he did not know whether the oil should be recovered from thin stillage before or after the standard ethanol

evaporators (after the evaporators the product is called “concentrated thin stillage” or “syrup”). *Id.*

Mark Lauderbaugh (“Lauderbaugh”) is the owner of Trident Process, Inc. (“Trident”), a company located in Bloomington, Minnesota that “provides process equipment to the chemical processing, pulp and paper, power, petroleum refining, food, pharmaceutical, and other industrial markets.” MDN 1173 at 40. Lauderbaugh signed an Independent Contractor Agreement with VDT dated January 1, 2002, that entitled him to promote the sale of the Windhexe and “Related Apparatus” for the “processing of meat and meat byproducts and waste and wastewater management and treatment for fish, livestock, and poultry production” in a certain territory. *Id.* Lauderbaugh signed an “Agreement for Confidentiality, Protection of Proprietary Information, Assignment of Inventions and Non-Solicitation” as well. MDN 1028 at 53. Lauderbaugh was a member of VDT’s “Marketing Team.” MDN 1173 at 40. Through Trident, Lauderbaugh had also been selling Alfa Laval equipment to ethanol plants since the late 1990s. *Id.* Agri-Energy was one of his long-time customers. *Id.*

In June 2003, Cantrell arranged to have Agri-Energy send Greg Barlage (“Barlage”), then of Alfa-Laval, typical samples of thin stillage and syrup. Cantrell – Direct, at 82; DX101. When Barlage received the samples, he heated them to 176°F and spun them in a centrifuge. DX133. On June 12, 2003, Barlage wrote a report of his results in which he concluded, in relevant part, “Something in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily.” DX 133. Barlage sent the report to Cantrell and Winsness.

On June 29, 2003, Cantrell sent an email to Agri-Energy stating,

We are very excited about the potential to remove the oil from your waste syrup. The available oil in your syrup is approximately 13,000,000 pounds per year. We are optimistic that we can recover over 80% of this oil. . . .

After reviewing the first testing of the product, we are considering a nozzle machine, but a nozzle machine on the concentrated liquid with 56% solids by volume in it could have a tough time handling the solids. With this, a decanter and centrifuges may be necessary. Because of the speed that the oil separated from the test product, taking the product from the top of the feed tank that feeds the dryer may be the most logical option. This is especially true since you are feeding the bottom of the tank. The oil should be rising and the solids staying closer to the bottom. We have methods of just sucking the top of the tank and centrifuging that product.

To prove this theory, I think the next logical step is to do a small spin test at your plant with a Gyro tester and fresh product. This will tell us the true quality of the product and the quantity of solids that make it to the top of the tank. If step 2 is successful, we need to start talking about the right centrifuge to bring in for a test. We see two options, a three phase nozzle machine (harder to get a test unit) or a solids discharging machine (currently available). Rental fees would be about \$5000/month and we would have someone there to help optimize the project. However, this machine selection should take place after the gyro test occurs.

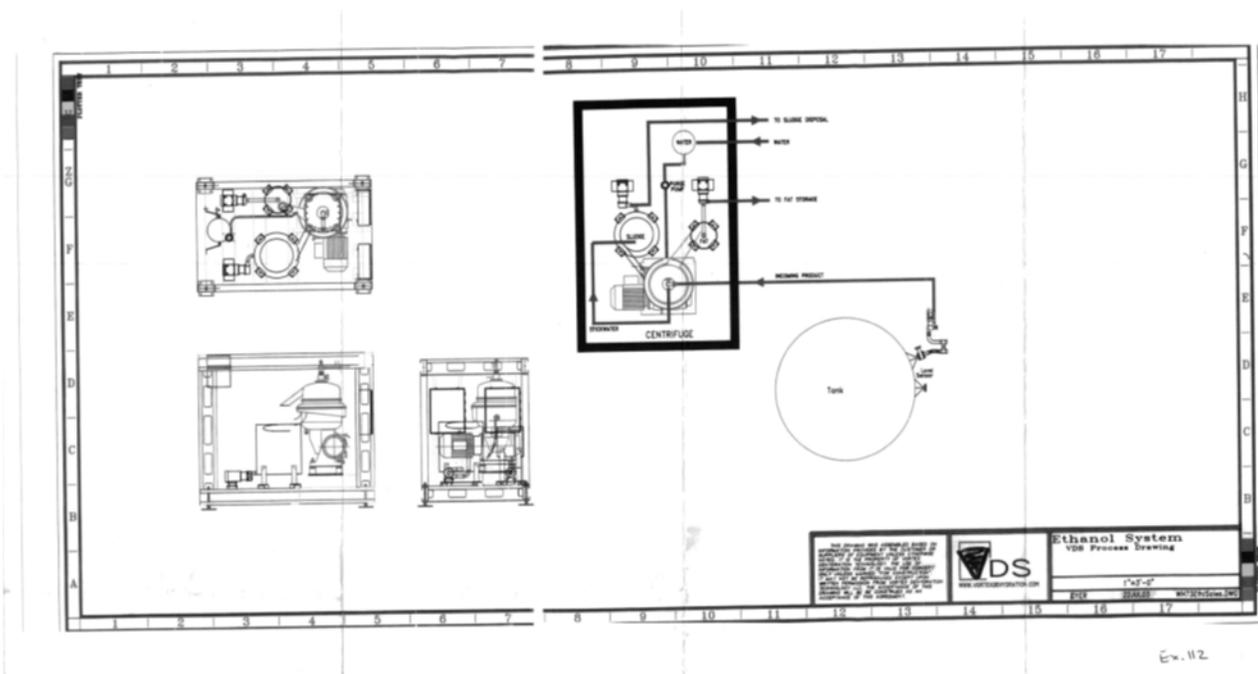
DX111. He concluded, “The technology is available to remove the oil, and the quick payback from the new revenue stream, makes this a very viable program.” *Id.*

On July 10, 2003, Barlage and Lauderbaugh traveled to Agri-Energy to perform an on-site “gyro test.” Barlage Video Testimony; Lauderbaugh Dep. Designations at 104. The test was performed with a bench-top centrifuge. *Id.* Based on that demonstration, the next day, Agri-Energy’s plant manager, Jay Sommers (“Sommers”), reported to his board of directors, “Things look promising here.” DX 214. This reflected Sommers’ view that the demonstration had proven that corn oil could be recovered from syrup using a centrifuge. Sommers Video Trial Testimony.

Even before Barlage’s and Lauderbaugh’s visit to Agri-Energy, Cantrell and Winsness began preparing a proposal to sell an oil extraction system to Agri-Energy.

DX107. The initial draft offered an oil recovery module to separate oil from “condensed sludge,” which Agri-Energy could buy for \$373,000.00 after a thirty-day performance test period. *Id.* The draft contained a picture of the module as well as estimates of productivity, operating costs and the net value to Agri-Energy. *Id.* Other drafts were similar. DX318.

On or around July 22, 2003, VDT’s employee Jerry Dyer (“Dyer”) began working on a process drawing for an ethanol oil recovery system at Winsness’ direction. Dyer Video Trial Testimony. The drawing, entitled “Ethanol System VDS Process Drawing” (“Ethanol System Diagram”) is reproduced here.



DX112. Winsness told Dyer what to include in the diagram, including a solids-ejecting disk-stack centrifuge, and was instructed to use drawings of a system sold and used in the poultry farming industry as a guide. Dyer Video Trial Testimony. Dyer understood that the drawings would be used for sales purposes by Cantrell and Winsness. Dyer

Video Trial Testimony.

Sommers testified that he believed or assumed Agri-Energy received a copy of the Ethanol System Diagram some time prior to Agri-Energy's board meeting on August 18 or 19, 2003, but could not be sure; and that he understood it to be a "ready to go" system to produce oil from the syrup at its facility. Sommers Video Trial Testimony. Sommers understood that the centrifuge in the system would be a disk stack centrifuge that would be placed as close as possible to the exit from the evaporators. *Id.*

Cantrell and Winsness went through several iterations of a proposal, and on August 1, 2003, Cantrell sent an email with a letter attached to it to Sommers at Agri-Energy copying Gerald Winter ("Winter") at Agri-Energy, Lauderbaugh, and Winsness. In the email, Cantrell asks Sommers to "review the attached proposal." DX105. The proposal, dated July 31, 2003 ("July 31 Proposal"), stated, in pertinent part,

[VDT] would like to offer Agri-Energy a No-Risk trial "Oil Recovery System". The test module is designed to process 18,000 lbs. per hour of evaporator condensate and recovers 16,000 lbs. of oil per day **adding annual profits of \$312,000 to \$530,000 per year**. The module will contain all items necessary to separate the oil, and pump the resulting oil and sludge to their respective destinations. The oil will be cleaned to an acceptable level for boiler fuel, or it can be sold as a nutritional ingredient.

No-Risk Trial:

VDS [sic] will allow Agri-Energy 60 days to operate the unit and confirm its value. At the end of the 60 days Agri-Energy will either:

- a) purchase the system (system price: \$423,000) or,
- b) return the skid to VDS (no questions asked).

Confidentiality / Non-Compete:

All discoveries resulting in the trial process shall remain the property of Vortex Dehydration Technology, LLC and is confidential information. Due to the great expense by VDT to design and fabricate the oil recovery system, Agri-Energy agrees to protect the confidential information and not to purchase a reverse-engineered system from any other

organization that infringes on the VDS [sic] process and/or process patent.

Id. (emphasis in original). The July 31 Proposal further stated that the system needed a water line for use by “the Integrated CIP System (Self-Cleaning).” *Id.* It also referenced a process patent. *Id.* No-risk trials were a sales technique frequently used by VDT, and were common in the ethanol industry. MDN 1173 at 52. However, the letter lacked payment terms, dates and terms of delivery, a list of components of the “test module” or specifications of same, and a signature block. DX105.

Sommers testified that he believed the July 31 Proposal was an offer to sell Agri-Energy an oil recovery system. Sommers Video Trial Testimony. He understood that the system would include a disk stack centrifuge that would process hot syrup and separate the oil. *Id.* Sommers testified that “[i]f the offer was accepted” he would have expected other documents to follow that would have been more specific about payment terms and dates for delivery. *Id.*

CleanTech never produced the August 1, 2003, email and the attached proposal during discovery in this litigation notwithstanding the fact that it was authored by Cantrell and copied to Winsness and Lauderbaugh; Winsness also sent an electronic copy of the July 31 Proposal to Cantrell in 2010.

On August 18, 2003, Cantrell travelled to Agri-Energy. DX106. The next day, on August 19, 2003, the following occurred:

(i) Cantrell presented his proposal to the Agri-Energy Board of Directors (the “Board”) for “a process where the corn oil is pulled off.” DX216. Cantrell told the Board that the system worked and would generate additional income for Agri-Energy. *Id.* The Board minutes from the meeting contain no reference to any further “testing” or

“experimenting” that needed to be performed. *Id.*

(ii) At 7:58 a.m., Winsness reported to VDT shareholders that Cantrell “is meeting with an ethanol plant today and expects to have an order in the near future (\$400K).” DX144. Winsness further reported “we are attempting to patent the process as an additional barrier so that we can obtain maximum market share.” *Id.*

(iii) At 10:37 p.m., Winsness updated VDT’s shareholders, reporting that Cantrell “had a great meeting with Agri-Energy for a Centrifuge System. He presented the system to the board of directors. This first sale will lead into 10 additional units as several board members of Agri-Energy sit on the board of 10 additional plants.” DX144. Dyer understood this to be a reference to a potential sale of an ethanol system by VDT. Dyer Video Trial Testimony.

On August 27, 2003, Cantrell reported to Rod Lee, VDT’s Chairman, and Winsness that “we have made an offer to Agri-Energy.” DX144. Cantrell stated, “Also, attached is the offer to Agri-Energy.” *Id.*

On September 3, 2003, Winsness emailed Winter about solutions to “the Drum Dryer Problems.” DX219. Winsness hypothesized that the “problems” may relate to the presence of corn oil in the syrup. *Id.* He reported, “We can remove the oil from the syrup.” *Id.* He further reported, “We have outlined two proven methods” . . . “using 50 year old [sic] technology.” *Id.*

Sometime early in 2004, Sommers notified VDT that Agri-Energy wanted to install a centrifuge to recovery oil; VDT informed Sommers that the one they had previously discussed was not available. Sommers Video Trial Testimony. However, in a letter dated February 9, 2004 (“February 2004 Proposal”), on letterhead for “CMC”, Cantrell proposed

the following to Agri-Energy:

CMC, in conjunction with Alfa Laval would like to enter into a research trial with Agri-Energy to determine the merits of the Ethanol Oil Recovery System.

Research Trial:

The test protocol will consist of timed runs to determine the quantity of oil produced, oil quality and the economics of the operation of the system. The research will be conducted within a 30 day period.

Confidentiality / Non-Compete:

All discoveries resulting in the trial process shall remain the property of CMC and is confidential information. Due to the great expense by CMC to design and fabricate the oil recovery system, Agri-Energy agrees to protect the confidential information and not to purchase a reverse-engineered system from any other organization that infringes on the CMC process and/or process patent.

* * *

Requirements (by Customer):

Agri-Energy agrees to pay \$5,000 toward the cost of the research trial.

* * *

Thank you for your interest in testing the Ethanol Oil Recovery system. We both agree that the opportunities are enormous and time is of the essence in making this decision.

DX148. The February 2004 Proposal included a payback and/or value analysis and included an estimate for the cost of the "Ethanol Oil Recovery System:" "\$423,000." *Id.*

On March 24, 2004, Alfa Laval's salesman, Dell Hummel ("Hummel") drafted a proposal for Agri-Energy entitled "Field Test Equipment Rental Proposal." DX222. The proposal listed an "Alfa Laval model CHPX510 solids-ejecting disc-stack centrifuge with HP motor, starter panel and control panel" as the "Field Test Equipment;" and anticipated "Test Period" of approximately one month; and a "Test Rate" of \$5,000.00, total for freight

and start up supervision. *Id.* The proposal was valid for 60 days and the terms were net 30 days. *Id.* After some non-relevant revisions in April 2004, Agri-Energy accepted the proposal and received the centrifuge.

On August 24, 2004, CleanTech offered to sell a “patent-pending” corn oil extraction system to Agri-Energy; no mention of a license was made. DX236. Similarly, on September 13, 2004, and October 18, 2004, CleanTech made additional offers to sell a “patent-pending” corn oil extraction system. DX241 & DX243. On December 21, 2004, CleanTech offered to license a corn oil extraction system to Agri-Energy. DX 250. On January 17, 2005, CleanTech offered Agri-Energy a share in a collection of companies producing corn oil using the CleanTech oil extraction system as an “early adopter.” DX245. Agri-Energy rejected all of these offers.

C. CANTRELL & WINSNESS HIRE A PATENT ATTORNEY

On February 4, 2004, Winsness sent an email to Cantrell with the subject line “Ethanol Oil Patent.” DX 147. Therein, Winsness identified the method they intended to patent: separate corn oil from concentrated thin stillage using a centrifuge. The email listed the parameters of the method: An evaporator would be used to concentrate thin stillage to a moisture content between 60% and 85%, and the concentrated thin stillage would then be mechanically processed to separate the oil from the concentrated thin stillage. *Id.* The temperature and pH of the thin stillage would be the standard values of thin stillage in an ethanol plant, *i.e.*, 150°F to 212°F; pH of 3 to 6. *Id.* Winsness wrote, “[I]t won’t work” at any other ranges. *Id.* Winsness specified that their method would use a disk stack centrifuge, Alfa Laval Model 617. *Id.*

On or about February 8, 2004, Cantrell contacted patent attorney Michael Dorisio

(“Dorisio”), of King & Schickli, PLLC, to discuss patenting the corn oil extraction technology. Dorisio Video Trial Testimony. On the same day, Cantrell or Winsness printed out a page from the PTO website that advised them that a provisional patent application could be filed up to one year following the date of the first offer for sale. DX751.

On February 9, 2004, Dorisio sent an email to Cantrell as a follow-up to the previous day’s conversation. MDN 1589, Stipulations of Fact for Bench Trial, ¶ 1 (“Stipulations ¶ 1”). Among other things, Dorisio informed Cantrell that an invention could not be patented if it had been sold, offered for sale, or publicly disclosed more than one year before filing a patent application and inquired about such events. Dorisio Video Trial Testimony. After that first contact, Cantrell testified that he relied on Winsness to work with the patent attorneys. Cantrell – Direct at 304, 312, 361 & 371; Cantrell – Cross at 406.

On May 6, 2004, U.S. Patent Publication No. 2004/0087808, the application of John Prevost and Neal Hammond published (“Prevost”), Stipulations ¶¶ 4 & 5. Prevost provides a description of the prior art dry milling process to produce ethanol, including prior art stillage processing. DX164. It describes methods for removing corn oil from a number of points during stillage processing, including from the wet distillers’ grains, from the thin stillage, from the syrup, and from dried syrup. *Id.* Figure 1 in Prevost is a diagram of the typical dry mill ethanol processing plant including the stillage treatment process including oil recovery points identified. *Id.* The stillage treatment process from Figure 1 is reproduced here with the oil recovery points circled.

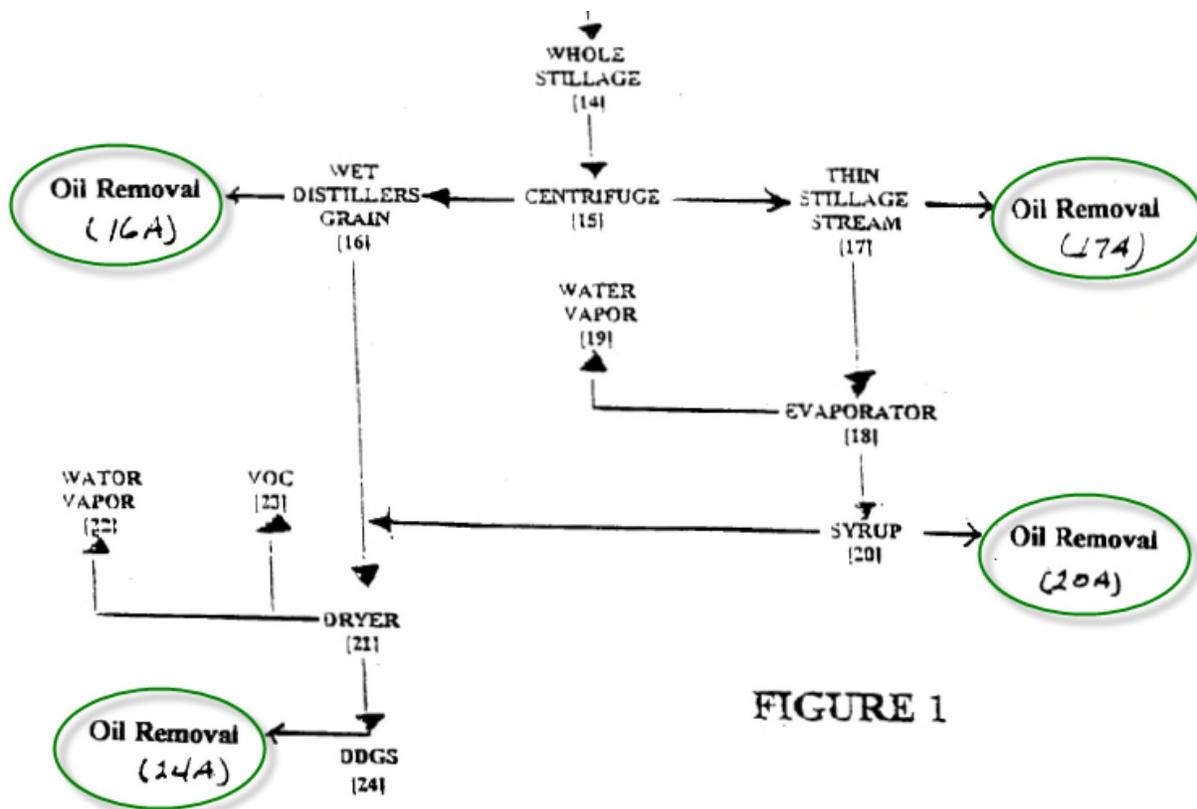


FIGURE 1

Id. The Oil Removal point labeled “20A” is from the syrup after the evaporator. *Id.*

The Prevost application discloses several methods to recover oil including centrifugation, pressing, and solvent extraction. *Id.* With respect to thin stillage and syrup, Prevost states, in relevant part:

[0013] The dried distillers grains can be subjected to an oil removal step. It is preferred that an oil removal technique be used that will remove substantially all of the oil from the dried distillers grains. Non-limiting examples of oil removal techniques that can be used include centrifugation, pressing with and without the use of a solvent, and solvent extraction without the use of pressing. The preferred solvent for solvent extraction is a normally gaseous solvent, more preferably butane, propane, or mixture thereof. By normally gaseous we mean a solvent in which the oil is soluble and being in the gas phase at atmospheric pressure and at room temperature (approximately 75°F).

[0014] The syrup can be added to the wet distillers grain prior to the drying step and be processed under the same conditions as the wet distillers grains as described above. An oil removal step can be performed on either the thin stillage before evaporation or on the syrup after evaporation. If

performed prior to evaporation, an oil removal process such as centrifugation is preferred whereas after evaporation a solvent extraction process is preferred to extract at least a portion of the oil from the syrup.

* * *

[0026] Both the thin stillage and syrup can each be individually, or a mixture thereof, conducted to an oil removal step, 17A and 20A. For example, the thin stillage can be centrifuged in a similar manner as the wet distillers grains and the resulting oil/water mixture sent to a separation zone wherein the water is separated from the oil. As mentioned previously, separation can be done by simple decanting, by distilling the water from the oil, or by passing a solvent, in which the oil is at least partially soluble or miscible, can be run counter current with the flow of mixture, which solvent will pickup [sic] the oil and carry it in the opposite direction than the water. If using solvent extraction it is preferred that the material being oil-extracted be [sic] substantially dry. For example, it is preferred to dry the syrup by any suitable means, preferably by spray drying, before subjecting it to a solvent.

DX164 at 7-8.

Prevost explicitly claims the process of using a centrifuge to remove oil from syrup in Claims 19 and 20:

19. The process of claim 12 wherein the thin stillage stream is conducted to an evaporator to produce a syrup stream containing less than about 15 wt. % water, which syrup stream is itself conducted to an oil removal stage wherein at least [sic] of the oil is removed from the syrup.

20. The process of claim 19 wherein the oil is removed from the syrup by centrifugation to produce a mixture of oil and water stream.

Id. at 11.

At the summary judgment phase, the parties disputed whether or not there is an error in Claim 19 where the reference is “a syrup stream containing less than about 15 wt. % water”: Defendants, relying upon co-applicant Neal Hammond’s (“Hammond’s”) testimony, as well as expert testimony, claimed that one of ordinary skill in the art would realize that it is an obvious error and that it should have read “about 15 wt. % *fat* or *oil*”, MDN 1173 at 25-26; CleanTech asserted that it is impossible to tell what Prevost meant

based on Hammond's or any other expert's testimony, MDN 1028 at 43-44.

In June 2004, Winsness annotated Barlage's test report from June 2003, labeling it the "original discovery of oil separation June 2003." DX792; Winsness – Direct at 543-45; Winsness – Cross at 677-78. At trial, Winsness disavowed the idea that his notation would cause an attorney, or anyone else, to believe that he and Cantrell had invented anything in June or July 2003. Winsness – Direct at 562, 564. His testimony on this point is belied by contemporaneous documents dating back to June, July and August of 2003 where Winsness himself boasted to his board of directors that the "first sale" to Agri-Energy would lead to 10 more from members of Agri-Energy's board of directors. DX144. Further, Winsness also wrote in February 2004 that the process would not work unless certain system parameters were true. DX147. He claims he was looking for validation from Cantrell, but there is simply no language in the email from which to infer that Winsness was uncertain about the parameters under which their invention would work. The only reasonable inference from the evidence is that Winsness knew they had invented a process for removing oil from concentrated thin stillage using a centrifuge in 2003.

On July 29, 2004, Winsness contacted Dorisio to arrange for filing of a provisional patent application and provided Dorisio with information about the oil recovery method and apparatus on or about the same date. MDN 1589, Stipulations ¶ 2. Included in those materials, was a copy of the Barlage test results from June 2003, with Winsness' handwritten note, "original discovery of oil separation June 2003." DX792. In the same materials, Winsness described the Barlage bench-top test as a success. *Id.* Dorisio testified that he did not believe that June 2003 was the "invention" date, because there

was no reduction to practice. Dorisio Video Trial Testimony. However, the Court found Dorisio's testimony less than credible. First, Dorisio was being coached throughout his deposition by CleanTech's lawyers, often being instructed not to answer, and at a critical point in the testimony when Dorisio had been asked to explain a draft clearance opinion, he specifically asked for a break to consult with the attorneys. Thereafter, his answers were even more carefully scripted, terse and rehearsed. Second, Dorisio's handwritten notes on the Prevost application, DX684, evidence that, at the time, he believed Cantrell's and Winsness' "invention" pre-dated anything that Prevost had done. This is substantiated by the breadth of the non-provisional application he filed on May 5, 2005, along with his letter filed the same day stating that the Prevost application "may be found to claim the same invention as at least one claim of the instant application." See DX686; Stipulations ¶ 7. The only reasonable inference is that Dorisio was attempting to swear behind the Prevost application.

It is also clear that Dorisio's firm believed that Prevost likely contained a mistake with respect to the use of a centrifuge to recover oil from thin stillage. DX684. A mistake, which if corrected, reads directly on the claims of the '858 patent family application.

On or around July 1, 2005, Dorisio's associate drafted a patentability and clearance opinion. DX679. Therein, the firm references an invention date in 2003 that coincides with the Barlage testing and the July 2003 bench-top testing at Agri-Energy. DX788. Dorisio testified that he sent this draft to Cantrell and Winsness. *Id.* However, there is no evidence that Cantrell or Winsness either corrected Dorisio's opinion, told Dorisio about the July 31 Proposal, or disclosed the Ethanol System Diagram to him.

On September 30, 2005, Dorisio filed the application that eventually led to the '516

patent. DX279. The application was published by the PTO on February 23, 2006. *Id.*

D. WINSNESS HIRES CANTOR COLBURN TO PROSECUTE THE PATENTS

According to Winsness, in March 2008, he made the decision to transfer prosecution of the '858 patent family to his neighbor, Peter Hagerty ("Hagerty") at Cantor Colburn LLC, because it was more convenient for him. Winsness – Direct at 560. In addition, Hagerty testified that the size and national reputation of Cantor Colburn persuaded Winsness to switch. Hagerty – Direct at 964-66; Hagerty – Cross at 1251-52. On or about March 18, 2008, Dorisio transferred the file to Hagerty. Stipulations ¶ 8.

Hagerty testified that his initial review of the file was fairly limited. Hagerty – Direct at 978. It was telling that, when asked about the status of the '858 patent application when he took over, Hagerty derisively commented with respect to the broadest of the claims that he had "never seen a claim in that format in all of his years in practice." Hagerty – Direct at 974. *See also id.* at 975-76. He quickly added that he would amend it, even though he considered swearing behind Prevost, but rejected it. *See* Hagerty – Direct at 980-82; *see also* Hagerty – Cross at 1259-60, 1272-74 (discussing the substantive amendments to claims in response to the first office action in the '858 patent history).

Dorisio claims that he sent all of his analysis, including his copy of the Prevost Application and handwritten notes thereon as well as his firm's patentability and clearance opinion, but Hagerty says he never received any communications regarding the Prevost Application, or the clearance opinion. Hagerty – Direct at 981-82, 1056, 1080, 1086. There is no evidence that the inventors told Hagerty about them either. Hagerty – Direct at 1075-76.

On June 13, 2008, the '858 patent application was rejected over the Prevost Application, among other references. PTX2059 at 140. In response, Hagerty "substantively" amended the claims and argued that the Winsness/Cantrell claims were different from Prevost because Prevost did not disclose or suggest processing syrup in a centrifuge to recover oil as claimed. *Id.* at 130. Hagerty admitted at trial that he was aware that Prevost claimed a process for recovering oil from syrup with a centrifuge, but that it was at a different moisture level. Hagerty – Direct at 1003-08. In fact, Hagerty thought Prevost taught centrifuging a free-flowing powder (syrup with a 15% moisture level), but he could never explain at trial how that could be done. Similarly, Hagerty could never explain how the inventors could claim centrifuging syrup at just greater than a 15% moisture level since it was insignificantly different from the range identified in claim 20 of the Prevost Application. *Id.* at 1006-10 (discussing claims 19 and 20 of the Prevost Application). Hagerty also testified that Prevost advocated solvent extraction for removing oil from syrup rather than centrifugation, which he decided taught away from the Winsness/Cantrell invention. *Id.* at 130. On or around the same time, a similar rejection and response occurred in prosecution of the '516 patent's application. DX274; DX279; Hagerty – Direct at 1023-28.

On December 22, 2008, the examiner issued a final rejection in the '858 patent's application. PTX2059 at 112. In response ("858 Final Rejection Response"), Hagerty again distinguished prior art, including Prevost. However, this time, in addition to his previous arguments, the response stated, "Applicants have discovered that its claimed processes frees a portion of the bound oil as a result of evaporating the thin stillage to remove water and form a concentrated byproduct. Removing a portion of the bound water

breaks the emulsion allowing mechanical processing to further separate and recover the oil.” PTX2059 at 101. This language tracks Barlage’s conclusion on his June 2003 test report: “Something in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily.” Compare PTX2059 at 101 (‘858 Final Rejection Response) to DX792 at GCS(PRIV)001620 (Barlage test results conclusion). Hagerty was aware of the Barlage test results in approximately September 2008, which Winsness had characterized as testing history. DX792. Hagerty was also aware that Winsness claimed that at the bench-top test in June 2003, “We poured ‘syrup’ into a continuous disk-stack centrifuge a[nd] were able to separate the oil from the water cleanly.” *Id.* at GCS(PRIV)001605. Hagerty denied that he used Barlage’s conclusion or that it meant that much to the patentability of the invention and claimed that it was merely a “theory.” Hagerty – Direct at 1029; Hagerty – Cross at 1269. This testimony was unconvincing in light of the fact that this language was presented to the patent office as a “discovery” not as a theory. DX279. On examination by his own attorney, Hagerty tried to explain that it was later proven true at the May 2004 test, but there is nothing in the record to evidence that the inventors came to this conclusion at the later date.

It seems that Winsness was Hagerty’s primary contact with respect to responses to the PTO. Hagerty – Direct at 1003. When Cantrell and Winsness were asked about who worked with Hagerty on responses and or correspondence with the PTO, Cantrell claimed it was Winsness and specifically denied seeing many of the documents upon which his name appeared and denied even keeping up with the patent prosecution process. Cantrell – Direct at 197, 304, 312, 361, 371; Cantrell – Cross at 406. Even if the Court could consider Cantrell a reliable witness, he continually undermined his

credibility when he disavowed documents upon which he was copied that related directly to the patent applications, as well as documents that were sent to the patent attorneys with his name on them; claimed that documents he wrote were wrong; claimed he never would have said something he was purported to have said; or blamed clear statements on his poor writing skills. See, e.g., Cantrell – Direct at 125-27 (disavowing anything to do with preparation of DX792, a memorandum regarding the invention to Dorisio); *id.* at 205 (claiming that DX109, a memorandum he prepared dated June 11, 2004, had misstatements about the connection between the meat industry and the ethanol industry); 206-07 (disavowing quoted statements in an article dated August 2005); *id.* at 209 (claiming that he never read the provisional application filed by Dorisio on his behalf); *id.* at 211 (claiming a VDT executive summary dated January 17, 2005, DX158, which indicates him as an author, was “written wrong in what I wrote”); *id.* at 219-21 (disavowing any knowledge of Dorisio’s patent clearance opinion, DX788).

At times, Winsness seemed to confirm that he was the primary contact with the attorneys, although he testified that Cantrell engaged Dorisio and collaborated on some correspondence. Winsness Direct at 543. But, on direct examination with respect to various pieces of written evidence he vaguely stated that the attorneys could have gotten the information from someone else, maybe Cantrell for example. Winsness - Direct at 581-83. In addition, Winsness refused to acknowledge on direct examination that he wrote key documents that Dorisio and Hagerty relied upon to draft and defend the patents or even that he discussed them with the lawyers during the drafting process. See, e.g., Winsness – Direct at 243 (discussing DX792); Winsness – Direct at 546-47 (discussing DX158); Winsness – Direct at 580-83 (discussing DX284); Winsness – Direct at 604

(discussing DX621 and stating, “I don’t know where [O’Brien] got that information from”). Winsness’ prevarications and evasions severely undermined his credibility.

In total, the Court considered Cantrell’s apparent complete avoidance and ignorance of the process and Winsness’ protestations evidence of the inventors’ complete lack of regard for their duty to the patent office. The Court cannot expect Winsness and Cantrell to understand the nuances of patent prosecution; however, it is reasonable to expect them to communicate with the person they have hired to represent their interests to the PTO to ensure that the communications are factually accurate. The only reasonable inference is that Cantrell and Winsness acted to deceive the PTO about the facts of the discovery process of the invention. “No one paid attention” cannot and does equal candor by any inferential stretch.

In April 2009, the PTO issued a notice of allowance for the application that became the ‘858 patent; Hagerty paid the issue fee in May 2009. MDN 1589, Stipulations ¶¶ 9 & 10.

In May 2009, CleanTech needed capital and Raymon Bean (“Bean”), a potential investor, was contemplating a significant investment. Winsness – Direct at 564-65; Hagerty – Direct at 1035-36. During the due diligence process, Bean’s attorney, Scott Bialecki (“Bialecki”), requested information from Hagerty regarding the defendability of the Cantrell/Winsness patents. Hagerty – Direct at 1046. Specifically, Bialecki requested the following information: (1) “any pre-filing disclosures of the inventions;” (2) “any . . . pre-filing offers for sale of these inventions by the inventors or others;” (3) “any information relating to any inventorship-related issues;” (4) “any information potentially affecting the validity and/or enforceability” of the applications, and (5) “all third party correspondence”

relating to these applications.” DX 694. Upon receiving this list, Hagerty asked Cantrell and Winsness, as well as others at CleanTech, for responsive information or documents; Cantrell and Winsness denied having any relevant information or documents. Hagerty – Direct at 1047-48. Hagerty responded to Bialecki on May 22, 2009, stating, “To the best of our knowledge, there has been no pre-filing disclosure and/or offers for sale of the subject matter as it relates to the above applications.” DX 695. He further represented that there were “no known inventorship issues” or “information that affects validity and/or enforcement” of the patents. *Id.*

On May 29, 2009, Bean’s attorney talked with Cantrell and Winsness on the telephone to discuss the patents. DX 688. Hagerty did not participate in the call. Hagerty – Direct at 1057. Apparently, not all of Bialecki’s questions were answered. On May 30, 2009, Winsness emailed Cantrell, Barlage and Whit Davis (“Davis”), also of CleanTech, with action items to address Bean’s attorney’s concerns. DX688. Among other action items, Cantrell and Winsness were to look through their files for evidence that VDT had released its invention rights to Cantrell/Winsness and to look for a non-disclosure agreement between VDT and Agri-Energy. *Id.*

In 2010, a signed version of the July 31, 2003, letter to Agri-Energy was in Cantrell’s home files and an unsigned version was on Winsness’ computer; but neither were turned over to Bean’s attorney or Hagerty in May or June of 2009 during the Bean due diligence process. It is apparent that Cantrell never looked at any of his files at this time. It is questionable as to whether or not Winsness ever looked either because in 2010, he sent an electronic version of the July 31, 2003, offer letter to Agri-Energy to Cantrell. DX659; Winsness – Direct at 612. The letter was clearly relevant and

responsive to the inquiry from Bean's attorney. After repeated inquiries from Hagerty about responsive documents and, what Hagerty testified was the "pretty clear" intent behind the request, Hagerty – Direct at 952, 1046, the only reasonable inference is that Cantrell and Winsness purposefully withheld the information about their dealings with Agri-Energy because they knew they had made an offer for sale that could kill both the deal with Bean and their opportunity to obtain a patent.

As previously mentioned, Hagerty testified that he learned about some of the inventor's dealings with Agri-Energy around the September 2008 timeframe from Winsness; in particular, the Barlage bench test. Hagerty – Direct at 1038-47. In fact, Winsness had described the bench test as a successful separation of oil from syrup, which "led [the inventors] to believe the process would work on a commercial scale." DX792 at GCS(PRIV)001605. At trial, Hagerty seemed perplexed that Bialecki's request should have covered the 2003 testing because Hagerty had determined it was irrelevant to patentability. Hagerty – Direct at 1048. This conclusion is problematic in light of the fact that the written information Hagerty received from Winsness about the 2003 bench test stated that it worked – oil was cleanly separated from syrup. DX792 at GCS(PRIV)001605. At trial, Winsness tried to deny that what he wrote was truthful, or that he expected Hagerty to rely upon the information. Winsness – Direct at 563-65. Winsness further claimed that it was "inaccurate" and that they must have discussed it at the time. Winsness – Direct at 576-77. Hagerty also tried to explain that this was not factual; his understanding of the test was different based on "data," which consisted of a conversation with Winsness. Hagerty – Direct at 1038-40, 1078-79; Hagerty – Cross at 1263-64, 1267. Winsness and Hagerty's testimony on this issue, which is critical to the

question of reduction to practice and/or ready for patenting, is belied by the fact that when he sent it to Hagerty, Winsness specifically corrected the mistake on page 12 of the disclosure and surely would have done so with the key discovery a few pages earlier if it were, in fact, "inaccurate." DX792 at GCS(PRIV)001591.

Hagerty also claimed that the 2004 testing at Agri-Energy was not disclosed to Bialecki for the same reason - it was not material to patentability. Hagerty – Direct at 1053. He specifically said that the inventors did not show the invention to Agri-Energy, they "tested it." *Id.* at 1048-50. The Court finds this to be a distinction without a difference. Like with Winsness and Cantrell, Hagerty's purposeful evasion of the plain meaning of Bialecki's request for any disclosure of the invention to a third party damaged his credibility.

On June 5, 2009, Hagerty withdrew the '858 patent application from issue and filed a new information disclosure statement. Stipulations ¶ 11. On the same day, Hagerty submitted a letter that stated, in part:

Sometime in May 2004, feasibility testing of a process and system for recovering oil from thin stillage was performed that included evaporating thin stillage to form a thin stillage concentrate having a moisture content greater than 30 and less than 90 percent by weight followed by centrifuging the thin stillage concentrate to separate the oil from the thin stillage concentrate. The recovered oil was subsequently sold. Following the feasibility testing, provisional patent application 60/602,050 was filed on August 17, 2004.

DX 284. See *also* Stipulations ¶ 12. This information had no relevance to prosecution of the '858 patent application. Hagerty – Direct at 1074. Rather, Hagerty testified that he filed this in the prosecution of all the then-pending applications to clear up what he called an inconsistency in the prior art cited to the PTO amongst the three related patent application families, the '858 patent family, the '037 patent family and the '425 application

family. Hagerty – Direct at 1060-62; Hagerty – Cross at 1284-85, 1284-91. The ‘425 application and its patents are not a part of this MDL and have to do with superheating. Hagerty – Direct at 1060-62; Hagerty – Cross at 1295. Hagerty also testified that he wanted to make sure this 2004 activity was before the examiner in the ‘858 patent file history, even though he determined it was immaterial to patentability in that patent family. Hagerty – Direct at 1063, 1074; Hagerty – Cross at 1285, 1296-97. The Court found Hagerty’s testimony about this filing canned and evasive, particularly when he claimed the 2004 testing was irrelevant to the ‘858 patent family and was not “prior art;” it simply raises a question about why he would file it in the ‘858 patent family applications when he only intended to ensure that the three patent family cited consistent prior art. It is even more perplexing because Hagerty failed to disclose information at this time about the June and July 2003 Barlage testing, the Ethanol Systems Diagram, and the Barlage test report, which he had similarly determined were immaterial to patentability of the ‘858 patent family, but possibly relevant to the ‘425 application.

The ‘858 patent issued on October 13, 2009. Stipulations ¶ 14.

Hagerty filed the same letter regarding the 2004 feasibility testing with the PTO during prosecution of the ‘516 patent on June 10, 2009; during prosecution of the ‘517 patent on September 14, 2009; and during prosecution of the ‘484 patent on July 21, 2011. DX 279A (‘516 Patent File History Excerpt), DX280A (‘517 Patent File History Excerpt), DX289 (‘484 Patent File History Excerpt).

E. THE INVENTORS HIRE CANTOR COLBURN LLC TO LITIGATE THE PATENTS

In or around September 2009, CleanTech hired litigation counsel through Hagerty’s firm, Cantor Colburn LLC. O’Brien – Direct at 721. Hagerty was the managing

partner and testified that the retention agreement between the parties was based on a contingency fee, that CleanTech could elect to pay off at any time, and the potential for CleanTech to pay an outstanding balance with stock; the latter clause was never effectuated. Hagerty – Direct at 1088.

The initial lawsuits that led to this MDL were filed in and around February 2010. See, e.g., *GS CleanTech Corp. v. Cardinal Ethanol, LLC*, 1:10-cv-00180-LJM-DML (S.D. Ind. Feb. 11, 2010), Dkt. No. 1. At the outset of the litigation, Hagerty had conversations with the litigation team, which included Charles O'Brien ("O'Brien"), Michael Rye ("Rye") and Chad Dever ("Dever"), about obtaining documents and/or information filed and/or obtained through the litigation. Hagerty – Direct at 1098-99.

On February 12, 2010, the PTO issued a notice of allowance of the '516 patent. DX279. Hagerty paid the issue fee on March 2, 2010. *Id.*

Despite being asked to search for pre-filing relevant records by Hagerty and/or Bialeski in May 2009, on March 18, 2010, Winsness travelled to Cantrell's home to collect Cantrell's files. Winsness – Direct at 584-85; Stipulations ¶ 16. At trial, as if distancing himself, Winsness testified that he never looked at the documents, he just picked them up and handed them over to a secretary to be scanned. Winsness – Direct at 584-85. But, the parties stipulated that Winsness reviewed them on the day he picked them up and found an ink-signed original of a July 31, 2003, letter to Agri-Energy, which the parties have designated as "Q1", DX650; and an ink-signed original letter dated August 19, 2003, to Agri-Energy, which the parties have designated as "Q2," DX651. Stipulations ¶ 17. If it had not questioned Winsness' veracity on other issues, the Court could certainly conclude from this that Winsness has a propensity to evade the truth. In any event, the

two letters, Q1 and Q2, have a different letterhead than the electronic versions of the same letters that Cantrell emailed to Agri-Energy; specifically, the letter “D” in the VDT logo is open in Q1 and Q2, but closed in the electronic versions. Stipulations ¶ 23. The Q1 and Q2 letters had been in Cantrell’s possession until Winsness obtained them in March 2010. Stipulations ¶ 21.

At trial, the parties presented expert testimony about whether or not Q1 and Q2 were printed and signed in 2003 or at some later time. See, *generally*, LaPorte Trial Testimony at 431-529; 1397-473. Cantrell also testified about the documents. Cantrell – Direct at 272-78. The Court finds the results of the experts’ analyses inconclusive with respect to dating the Q1 and Q2 documents. What is clear, and in fact was stipulated, is that there are differences in the VDT logo on Q1 and Q2 versus electronic versions of those documents. This fact lends some additional support to the Court’s conclusions regarding the poor credibility of Cantrell and the lackluster investigation performed by Cantor Colburn regarding the July 31 Proposal.

On March 24, 2010, someone in Winsness’ employ scanned the letters and emailed full-color, .pdf copies to CleanTech’s litigation counsel at Cantor Colburn LLC, O’Brien and Rye. Stipulations ¶ 18; Winsness Direct at 585. Attorneys Hagerty, Rye and O’Brien were not aware of the July 31, 2003, letter or any offer to Agri-Energy in 2003 prior to receiving Winsness’ email with the scanned documents on or about March 24, 2010. Stipulations ¶ 19. It was on or around this date that Hagerty learned of the July 31, 2003, letter. Stipulations ¶ 20; Hagerty – Direct at 954, 1104. At trial, Hagerty dismissed the importance of the document and its relevance to the then-pending applications of the patents-in-suit. Hagerty – Direct at 1104-10 (explaining that on his first

review, he believed the letter did not disclose anything).

Even so, it appears that Cantor Colburn began researching the on-sale bar fairly quickly thereafter. Hagerty – Direct at 1111 (mentioning an on-sale bar memorandum prepared by an associate in the litigation department); O’Brien – Direct at 759 (agreeing that an on-sale bar memorandum was generated in May 2010). From March 2010 through mid-August 2010, Hagerty, Rye and O’Brien were working under the assumption that the July 31 letter, Q1, was delivered to Agri-Energy on or about that date. Stipulations ¶ 24.

In mid-May and early-June 2010, Winsness and Ed Carroll (“Carroll”), President of then GreenShift, had a series of meetings with a competitor, Solution Recovery Services, LLC (“SRS”), to discuss a potential license for the patents. Winsness – Direct at 600-01; Czartoski Trial Video Testimony. Although the circumstances surrounding the meetings sounded odd, it was clear that at the time of the meetings, SRS believed the patents to be invalid due to an offer to sell a system. Winsness – Direct at 600-01; Czartoski Trial Video Testimony. Specifically, SRS disclosed to Winsness and Carroll that it had an opinion from an attorney that concluded that the ‘858 patent was invalid. Czartoski Trial Video Testimony. Winsness concluded that SRS may have talked with Agri-Energy because it was the only company they had talked with about the technology. Winsness – Direct at 601-02 (stating that it “led me to believe that maybe they were in discussions with Agri-Energy because we had nobody else that we, to my knowledge, talked to besides Agri-Energy”).

In June 2010, shortly after meetings with SRS, Winsness travelled to Laverne, Minnesota and met with Darryl Nelson (“Nelson”) and others at Agri-Energy. Winsness –

Direct at 602-03; Winsness – Cross at 689-90. Winsness claims he confronted Agri-Energy employees about why they were dealing with SRS. Winsness – Direct at 602-03. Nelson testified that he was surprised by Winsness' visit. Nelson Trial Video Testimony. Further, during the visit, although Winsness denied it, Nelson claimed that Winsness offered Agri-Energy a royalty-free license in exchange for Agri-Energy's willingness to admit that the pending patents were valid. Nelson Trial Video Testimony. Winsness testified that a royalty-free system was offered to Agri-Energy in 2004 and some kind of early adopter advantage was also offered at some unspecified time, but Agri-Energy declined the offers. Winsness – Direct at 602-03; Winsness – Cross at 689-90. Winsness' visit to Agri-Energy soon after his meeting with SRS evidence his concern that Agri-Energy had adverse information. Winsness testified that he wanted to "clear the air" by having Agri-Energy talk with his lawyers because "it was beyond [his] ability." Winsness – Direct at 603. Winsness' visit left Nelson with a negative impression, which supports an inference that Winsness tried to coerce or threaten Agri-Energy regarding the interaction between the inventors and Agri-Energy in 2003.

Meanwhile, between March and May 2010, Hagerty discussed the letter with the litigation team, but not with the inventors, to determine a strategy to address the letter. Hagerty – Direct at 1115-17; O'Brien – Direct at 745. In mid-May 2010, Hagerty sent O'Brien and Rye drafts of an information disclosure statement in which he dismissed the July 31, 2003, letter as irrelevant because it related to an apparatus, not a method. DX612; DX613; Hagerty – Direct at 120-21. Hagerty's versions were focused on the elements of a case, *Plumtree Software, Inc. v. Datamize, LLC*, 473 F.3d 1152 (Fed. Cir. 2006), which had been discussed in an on-sale bar memo prepared by Dever. Hagerty

– Direct at 1122. Hagerty testified that, after he presented his option, the “litigation group thought there was a different way to present it; and that’s when Mr. O’Brien got involved.” Hagerty – Direct at 1127. In fact, at this point, Hagerty relied upon O’Brien and the litigation team to investigate the circumstances surrounding the letter and to draft a submission to the PTO. Hagerty – Direct at 1110-18. Hagerty’s version was never filed.

From mid-May to late July 2010, O’Brien talked with the inventors and others at CleanTech to gather facts. O’Brien – Direct at 760-61. It appears that the lawyers did not attempt to get information from Agri-Energy until July 2010. O’Brien – Direct at 761.

On July 27, 2010, Rye sent a letter to Agri-Energy’s counsel. Stipulations ¶ 25; DX252. The letter states, in relevant part:

. . . I have spoken with my client and we have determined that GreenShift is able to provide a release of liability for any prior use of an extraction system and will indemnify Agri Energy against any liability for cooperating with GreenShift and for clarifying the use of the corn oil system in 2004.

We would like to obtain a statement from Mr. Sommers confirming and clarifying only the following matters:

With respect to the system VDT offered Agri Energy the opportunity to operate in July 2003, we would like confirmation that VDT did not provide any drawings or diagrams of the proposed system in 2003 and VDT did not describe a specific system or method for recovering the corn oil in 2003 except that Mr. Cantrell stated that system included a disc stack centrifuge. Further, the proposed use of the system was intended to be experimental and confidential, and Agri Energy understood that it had, after the ninety-day trial period, the option to then purchase the system.

As we discussed with respect to the use of the system in 2004, Agri Energy understood the use and purpose of the VDT corn oil recovery system at Agri Energy was experimental and confidential. Specifically, Agri Energy understood VDT had not proved that its corn oil method and system worked, needed to test it and Agri Energy had a history of allowing others to use its facility to experiment with processes related to ethanol production. When Agri Energy agreed to allow VDT to try the extraction method and system, it understood the method and system had not been tested an ethanol production facility and there was a need for public testing to determine

whether the concept worked. During the experimental period, Agri Energy understood it had a secrecy obligation to VDT and regularly kept and communicated the results of the oil extraction tests to VDT. VDT explained how to perform the corn oil extraction method, monitored the progress and made recommendations to tweak and improve the use of the system. The VDT corn oil extraction system was in operation at the Agri Energy facility for approximately two months in 2004. Agri Energy did not buy the system from VDT and, although Agri Energy sold the corn oil recovered by the system with the method, Agri Energy understood the purpose of the use of the system to have been for experimental purposes.

Of course, if Mr. Sommers believes any of the above is inaccurate or requires further clarification, we would welcome a discussion.

DX252.

O'Brien claimed that they presumed Agri-Energy had no issue with the statement in the letter because they never responded and it comported with conversations they had with Agri-Energy's lawyer. O'Brien – Direct at 807-08, 873-74, 884. But, Sommers testified that Agri-Energy did not accept the offer from Rye/GreenShift because the statements were not true. Sommers Trial Video Testimony. Even if Agri-Energy had accepted the offer, it appears to this Court that the offer was an empty promise because the only liability for which this letter offered a release was prior use of the system/method; there is no mention of any ongoing license or indemnification. In any event, it is striking that Rye failed to request that Agri-Energy provide any documents it might have in its possession that would shed light on the interactions between the company and his client in the relevant time frame. Further, two attempts at contact within a year is inadequate in light of the uncertainty surrounding the July 31 Proposal at this point in time, which raises an inference that counsel was avoiding the truth.

On August 12, 2010, Winsness emailed Cantrell an electronic version of the unsigned July 31, 2003, offer letter to Agri-Energy and an electronic copy of the Barlage

test results. DX 659.

Litigation counsel O'Brien prepared a first draft of a Supplemental Response for filing in the then-pending applications for the '516 and '517 patents. Stipulations ¶ 30. O'Brien's first draft stated that the July 31 Proposal was not material to the pending patent application because it was not first delivered to Agri-Energy within one year of the August 17, 2003, date. *Id.* It further stated that the letter was not prior art. *Id.* A draft circulated on August 12, 2010, discussed the bench testing performed in June 2003 and argued that the offer letter was not a binding contract. DX 618. On or about August 16, 2010, counsel provided their assessment to CleanTech regarding the inventors' interactions with Agri-Energy in the June through August 2003 time frame. DX 620. Up to and including August 20, 2010, O'Brien made further drafts, some even more detailed than the one circulated on August 12, 2010. DX619, DX621, DX622, DX624. These drafts set out such arguments such as (1) why the offer fit the experimental use exception; (2) why the invention was not ready for patenting; and (3) why the letter was not a "sales" offer. See, e.g., DX618; DX619; DX621; DX622; DX624; O'Brien – Direct at 761-63. At least with respect to the majority of these drafts, the attorneys thought that it was important to disclose the letter to the PTO because it was dated before the critical date, contained a price, and was addressed to a third party. O'Brien – Direct at 758.

Then, in late August or early September, O'Brien received a call from Carroll reporting that Cantrell recalled that he hand-delivered a signed copy of the July 31, 2003, offer letter to Agri-Energy when he attended the Board Meeting on August 18, 2003; Cantrell claimed this was the first time Agri-Energy saw the letter. O'Brien – Direct at 796. O'Brien and Hagerty testified that they were skeptical that this was true because of

the timing of Cantrell's recollection, the date on the letter, and the convenient "August 18" date that would negate any worry about an on-sale bar. O'Brien – Direct at 796-99; Hagerty – Direct at 1143-44. The litigation team talked with Cantrell and Winsness about whether or not they had any corroboration that Cantrell's recollection was true. O'Brien – Direct at 799-800. Winsness testified that it was how Cantrell conducted business, Winsness – Direct at 610, and O'Brien took that as confirmation. O'Brien – Direct at 799-800.

Also, on or about September 9, 2010, Cantrell received credit card records reflecting his credit card transactions in August 2003. Stipulations ¶ 26. It took several weeks for the credit card company to deliver the copies of his credit card records from the time Cantrell requested them. *Id.* On or about September 13, 2010, Rye and O'Brien received Cantrell's credit card records. Stipulations ¶ 27. O'Brien claimed that these records helped corroborate that Cantrell was at Agri-Energy on August 18, 2003, and that he tested Cantrell on the telephone about it, but he never visited Cantrell in person or attempted to review Cantrell's or CleanTech's files himself. O'Brien – Direct at 800-801.

Other than the letter to Agri-Energy seeking confirmation of the purpose of its interactions with the inventors in July 2003, neither Hagerty, O'Brien nor Rye sought to obtain information regarding the delivery of the July 31, 2003, offer letter from Agri-Energy. It is clear that the Rye letter did not ask for a copy of the letter or any information regarding when it was received. Further, there were multiple documents available to the litigation team that evidenced Cantrell was working with a team of people including Lauderbaugh; however, the attorneys failed to discover, or the inventors failed to disclose that fact, or both chose to ignore it, and no one obtained further corroboration.

Suspiciously absent from any submission to the Court is testimony from any witness that Cantrell's recollection of hand delivery of a signed letter dated July 31, 2003, was true. The relative ease with which Cantor Colburn could have obtained additional information reveals the insincerity of any professed concern that the lawyers had about the veracity of Cantrell's claim that August 18, 2003, was the first time Agri-Energy received the July 31 Proposal. In other words, it is evident that they rather easily suspended any disbelief in favor of keeping the Barlage test results, the Ethanol System Diagram and other VDT/CleanTech interactions with Agri-Energy from the PTO.

On October 29, 2010, the Court held an Initial Pretrial Conference in the MDL. MDN 49. On November 3, 2010, this Court issued its Case Management Order setting relevant deadlines, including a *Markman* hearing on April 25, 2011; and a preliminary injunction hearing on June 13, 2011. MDN 50; Stipulations ¶¶28. CleanTech's litigation and/or patent prosecution lawyers still did nothing to secure information from Agri-Energy, Alpha-Laval or Lauderbaugh about the inventors' interactions with Agri-Energy in the summer months of 2003. O'Brien testified that they could not have subpoenaed Agri-Energy, for example, because no Rule 26(f) conference occurred until February 2011. O'Brien – Direct at 804-05. However, with the Rule 16 initial conference behind them, and even in the face of Defendants' claims that discovery should not commence until a Rule 26(f) conference was held, this excuse rings hollow.

F. FIRST CANTRELL DECLARATION

In early November 2010, O'Brien drafted a "Declaration of Cantrell" for review and discussion with Cantrell, Rye and Hagerty. Cantrell signed the declaration on November 5, 2010 ("Cantrell's First Declaration"). Stipulations ¶¶ 29. Winsness testified that he

reviewed and discussed with the attorneys that the declaration would be filed. Winsness

– Direct at 614. Cantrell’s First Declaration states, in relevant part:

* * *

4. In 2003, I was the Executive Vice president of Vortex Dehydration Technology, LLC (“Vortex”).

* * *

6. Attached hereto as Exhibit A is a true and accurate copy of a letter dated July 31, 2003 (the “Letter”) to Agri-Energy, LLC that was signed by me in my capacity as Executive Vice President of Vortex.

7. Attached hereto as Exhibit B is a redacted copy of the relevant portion of my credit card statement for the relevant period in August 2003 (the “Statement”).

8. On August 8, 2003, I booked a flight for August 17, 2003 from Atlanta International Airport (ATL) to Minneapolis St. Paul International Airport (MSP). The primary purpose of flying to Minnesota was to attend a face-to-face meeting with Agri-Energy’s representatives on August 18, 2003. The Statement reflects that I booked this flight on August 8, 2003.

9. On August 17, 2003, I flew from Atlanta International Airport (ATL) to Minneapolis St. Paul International Airport (MSP). After landing on August 17, 2003 in Minnesota, I spent the night at the Country Inn & Suites, which is located in West Bloomington, Minnesota. The Statement reflects that I reserved a room at the Country Inn & Suites, with an arrival date of August 17, 2003.

10. On August 18, 2003, I drove approximately 200 miles from West Bloomington, Minnesota to Agri-Energy’s facility in Luverne, Minnesota.

11. On August 18, 2003, I attended a face-to-face meeting with Agri-Energy’s representatives. It was during that meeting on August 18, 2003 that I hand delivered the Letter to Agri-Energy’s representatives. My hand delivery of the Letter at this meeting on August 18, 2003 was the first time that the Letter was shown to Agri-Energy. The Letter was never mailed to Agri Energy [sic].

* * *

13. On August 19, 2003, I prepared a letter dated August 19, 2003 to address the discussion that took place at the meeting the day before at Agri-Energy on August 18, 2003.

14. On August 19, 2003, after checking out of the Luverne Comfort Inn, I drove back to the Agri-Energy facility in Luverne, Minnesota. While at the Agri-Energy facility, I met again face-to-face with Agri-Energy's representatives at which time I hand delivered the letter dated August 19, 2003 to Agri-Energy's representatives.

* * *

17. I hereby further declare that all statements and representations made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements and representations were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued therefrom.

DX104.

Cantrell's statements in paragraph 11 that he hand delivered the letter to Agri-Energy on August 19, 2003, and that this was the first time anyone at Agri-Energy saw the letter are false. Notwithstanding the extensive amount of third-party discovery that took place in this case, no signed copy of the letter dated July 31, 2003, that makes an offer to Agri-Energy has been produced, other than Q1, the one that was in Cantrell's files. Therefore, other than Cantrell's demonstrably false recollection and his testimony that it was his practice to hand deliver offer letters, there is no evidence that he did so with this letter. As previously discussed, Cantrell's testimony on any issue related to the relevant time period is not credible and the Court finds that he did not hand deliver the July 31, 2003, offer in this case. Even more importantly, Agri-Energy received an electronic, unsigned letter with the same content on August 1, 2003; therefore, Cantrell's statement that Agri-Energy first saw the July 31, 2003, offer letter on August 19, 2003, is patently false.

On November 9, 2010, Hagerty filed Cantrell's First Declaration and a

Supplemental Response with the PTO in the applications for the '516 and '517 patents. Stipulations ¶ 31. Hagerty made no changes to the documents before filing them; they were filed as drafted by O'Brien. Hagerty – Direct at 1150. A copy of Q1, the July 31, 2003, ink-signed original letter, was submitted with Cantrell's First Declaration. Stipulations ¶ 32. See also DX104. The Supplemental Response repeats the false statements in Cantrell's First Declaration: "Although the Letter is dated July 31, 2003, it was nonetheless first disclosed to Agri Energy [sic] on August 18, 2003 by David Cantrell hand delivering the Letter to Agri Energy's [sic] representatives during a face-to-face meeting that took place at Agri-Energy's facility in Luverne, Minnesota on August 18, 2003." DX 104. The Supplemental Response then reiterates paragraphs 9 through 14 and paragraph 16 from Cantrell's First Declaration. *Id.* The Supplemental Response closes stating, "As the Letter was not delivered to Agri-Energy prior to August 17, 2003, the Letter is not material to the above noted patent application because it is not prior art to the above noted patent application." *Id.*

On May 11, 2011, Hagerty filed the application that led to the '484 patent. DX288. On July 21, 2011, Hagerty filed Cantrell's First Declaration with the PTO in that application. Stipulations ¶ 34.

Despite earlier intentions to disclose the whole story to the PTO, as evidenced by O'Brien's multiple drafts of an information disclosure statement; O'Brien, Hagerty and the inventors failed to mention in any of the pending applications any work performed at Agri-Energy earlier in the summer of 2003 or disclose the Ethanol System Diagram, even though it was dated July 22, 2003. DX298.

O'Brien waited until August 26, 2011, to issue a subpoena to Agri-Energy. O'Brien

– Direct at 825; DX632. The response date was September 9, 2011. O’Brien – Direct at 826; DX632.

On August 30, 2011, the ‘516 and the ‘517 patents issued. Stipulations ¶ 35.

G. SECOND CANTRELL DECLARATION

On September 21, 2011, Defendants deposed Cantrell for the first time. O’Brien – Direct at 814. At the deposition, Defendants confronted Cantrell with a copy of his August 1, 2003, email to Agri-Energy with the July 31, 2003, letter attached to it. Cantrell – Direct at 351, 354. Initially, Cantrell claimed that Defendants fabricated the August 1, 2003, email. *Id.* at 354-55 (discussing Cantrell deposition testimony). At trial, Winsness too claimed it was “suspicious.” Winsness – Direct at 616. And, O’Brien testified that he was skeptical of its veracity when he first saw the email, although he admitted there was nothing inherent in the email from which to conclude that it had not been sent on August 1, 2003. O’Brien – Direct at 814. These statements at trial only further eroded the credibility of both Winsness and O’Brien. Eventually, CleanTech’s litigation counsel ended Cantrell’s deposition early because Cantrell became ill. O’Brien – Cross at 892.

On September 21, 2011, Hagerty learned that Cantrell emailed the July 31 letter to Agri-Energy on August 1, 2003. Stipulations ¶ 36. During his initial deposition in April of 2013, Hagerty agreed that “it sent a chill up his spine” when he learned that the letter was actually sent on August 1, 2013. MDN 949-15, Hagerty Dep. at 213. At trial, Hagerty said he was “shocked” or “surprised” to learn of the email version. Hagerty – Direct at 1155; Hagerty – Cross at 1315. However, as previously discussed, the parties stipulated that during the March 2010 to mid-August 2010 time frame, the Cantor Colburn lawyers were working under the impression that the July 31, 2003, letter was sent on or near that

date. Stipulations ¶ 24. Further, at trial, Hagerty shrugged off the significance of the July 31, 2003, letter and asserted that he was never worried because it did not disclose anything or amount to an offer. Hagerty – Direct at 1104-10; Hagerty – Cross at 1315. The contrast in Hagerty’s testimony regarding his reaction to the letter between the two time frames, when it was first discovered by Cantor Colburn in 2010, and when it was revealed in September 2011 that Cantrell had emailed it to Agri-Energy prior to the critical date, is troubling. If he had no concerns about it when he was under the impression in March of 2010 that it was sent on or around July 31, 2003, why was Hagerty getting chills up his spine in August 2011 when it was revealed that Cantrell had sent it in an email on August 1, 2003? The Court cannot believe it was because of the first Cantrell declaration because Hagerty was content to let it sit unaddressed in the prosecution of the ‘484 patent’s application while O’Brien did an investigation, which lasted over seven months. The only plausible reason for Hagerty to be concerned at all is because the story he had presented the PTO was false.

Over the next approximately seven months, O’Brien testified that Cantrell was too ill to contact about anything, much less follow up with regarding the August 1, 2003, email. O’Brien – Cross at 893. O’Brien also claimed that he and the litigation team were busy responding to motions for summary judgment that had been filed in the MDL. O’Brien – Cross at 893-94. Further, O’Brien testified that at this point, no one at Cantor Colburn thought Cantrell’s First Declaration was wrong. O’Brien – Direct at 815-16. He stated, “We needed to talk with Mr. Cantrell to understand what is this document? Is it, in fact - does he have some explanation for this to say this is just made up? We didn’t know. So we didn’t know. We wanted to talk with Mr. Cantrell.” O’Brien – Direct at 816. O’Brien

had no plausible or reasonable explanation for why it was imperative to talk with Cantrell alone about the email before taking some action to prepare an information disclosure statement to the PTO about the false information in Cantrell's First Declaration. O'Brien claimed they talked with Winsness, but "[h]e didn't know either." O'Brien – Direct at 816.

Hagerty never followed up with anyone; he claimed litigation counsel was now handling the "investigation." Hagerty – Direct at 1157. In effect, Hagerty had relinquished control over the prosecution back in May 2010 when O'Brien had a better idea and started to draft responses to the PTO regarding the July 31, 2003, offer letter. Other than the subpoena issued in August, no one from CleanTech or its counsel attempted to contact Agri-Energy between September 2011 and April 2012. Further, there is no evidence that Winsness or Lauderbaugh were asked to comb their records for the August 1, 2003, email on which they were copied. Most disturbing is that, during this period, neither litigation counsel nor Hagerty did anything to alert the PTO that Cantrell's First Declaration was false or that other testing activity had taken place at Agri-Energy prior to the August 1, 2003, email.

On December 13, 2011, the PTO issued an office action in the application for the '484 patent. DX 704; Hagerty – Direct at 1165. Under the rules, Hagerty had until May 2012 to respond. *Id.* at 1166. However, on February 10, 2012, Hagerty filed a response to that office action. DX278; Hagerty – Direct at 1166. Hagerty testified that he failed to include anything in this response to correct Cantrell's First Declaration because O'Brien had not completed the "investigation," which entailed speaking with Cantrell "to find out exactly what happened." Hagerty – Direct at 1165-68. Hagerty made no recommendation as to how to perform the investigation, he left it completely up to the

litigation team. *Id.* at 1168-69. Hagerty also asserted that he did not wait for the investigation to conclude to file a response to the office action because he usually responds to office actions within three months instead of waiting to closer to the deadline. *Id.* at 1170. Hagerty's lack of urgency and failure to engage in his own investigation raises questions about his ability to separate his responsibility to be candid with the PTO and his perceived responsibility to Cantor Colburn's litigation team.

Before April 5, 2012, Rye and O'Brien had communications with Cantrell about scheduling his second deposition. Stipulations ¶ 37. On or about that date, O'Brien met with Cantrell to prepare him for the deposition. Stipulations ¶ 38. Defendants deposed Cantrell a second time on April 10, 2012. O'Brien – Direct at 827. It was unclear from the testimony at trial whether or not O'Brien even discussed the August 1, 2003, email with Cantrell in April when O'Brien prepped Cantrell for the deposition. Cantrell – Direct at 357; O'Brien – Cross at 894. O'Brien claimed that in April, they might have talked with Cantrell and could now "kind of think this through." O'Brien – Cross at 865. But, on cross examination, O'Brien stated that he was unsure what he talked with Cantrell about in April, but he knows he talked with Cantrell in July about the August 1, 2003, email. O'Brien – Cross at 894.

Perhaps the reason for the urgency in July was that on April 13, 2012, the PTO had issued a notice of allowance for the '484 patent and the fee was due on July 13, 2012. DX706; Stipulations ¶39. In any event, on or about July 9, 2012, apparently having now thought it through, O'Brien drafted a second declaration for Cantrell ("Cantrell's Second Declaration"). DX602 at 69; DX192; O'Brien – Direct at 837-40. O'Brien testified,

[W]e wanted to be very clear with the examiner and link the two. So the examiner gets this declaration and knows this refers back to the first

declaration from November of 2010. So the examiner can go, then, look at the first declaration, look at the second one, and it's clear, all right, now I know the letter went before the critical date.

O'Brien – Direct at 841. He explained that there was a lot of discussion about Defendants' invalidity contentions and pleadings regarding the July 31 letter being an offer for sale and “we wanted to link those two declarations together and make sure the examiner understood how you kind of link these documents together and what your [Defendants'] story is.” *Id.* at 841. The litigation team gave Hagerty the declaration, “precritical date documents” he did not already have, and Defendants' contentions and pleadings that were not sealed. *Id.* at 842. O'Brien and Hagerty decided “to be very clear, very direct with the examiner” by filing a number of Defendants' documents with Cantrell's Second Declaration instead of a letter. O'Brien – Direct at 843; Hagerty – Direct at 1203-04. Many of the contentions and pleadings had significant information redacted. *See, generally,* DX707 & DX288.

On July 12, 2012, Hagerty withdrew the application from issue, filed Cantrell's Second Declaration, and filed the information disclosure statement comprised of some inventor documents and Defendants' contentions and pleadings. DX192; DX707; DX288; Stipulations ¶ 40. Cantrell's Second Declaration stated, in its entirety:

I, David F. Cantrell, declare and state:

1. Attached is an e-mail sent from my e-mail account on August 1, 2003 to Jay Sommers of Agri-Energy, LLC and copied to Mark Lauderbaugh of Trident Corporation, Gerald Winter of Agri-Energy, LLC and David Winsness, co-inventor of the present application (“the August 1st email” [sic]), which attached a version of a letter dated July 31, 2003 (the “July 31 Letter”).

2. At the time that I signed a Declaration dated November 5, 2010 that was submitted to the United States Patent and Trademark Office in the following related cases: App. Serial Nos. 12/559,136, which issued

into US Patent 8,008,517 and 11/241,231, which issued into US Patent 8,008,516, I did not recall the August 1st email [sic].

3. The July 31 Letter attached to the August 1 email [sic] was unsigned.

4. I hereby further declare that all statements and representations made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements and representations were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued therefrom.

DX192.

Despite O'Brien's claim that they wanted to be "clear," Cantrell's Second Declaration not only repeats false information, it also fails to distinctly point out and/or explain the false information previously provided to the examiner in Cantrell's First Declaration. In addition, the declaration creates the false impressions that Cantrell may not have sent the August 1, 2003, email and that the unsigned letter had less significance than the "signed" one he allegedly hand delivered later the same month. Further, Hagerty and/or the litigation attorneys, failed to provide any explanation with the declaration as had been done with Cantrell's First Declaration or as required by *Rohm & Haas Co. v. Crystal Chemical Co.*, 722 F.3d 1556 (Fed. Cir. 1983) and *Intellect Wireless, Inc. v. HTC Corp.*, 732 F.3d 1339 (Fed. Cir. 2013). Rather, Hagerty testified that he decided to provide selected, redacted filings from the MDL proceedings and three emails from 2003 that Defendants had produced in discovery and obtained from third parties because he was concerned about mischaracterizing any document. Hagerty – Direct at 1174, 1175 ("Just list the facts and then file in combination with the answers and counterclaims of all the defendants."), 1202, 1203-04. Again, no explanation for the 26 documents was

provided. DX707. In addition, no attempt to explain the significance of the arguments made in the documents or to explain the information contained in the redacted portions of the documents was made. When questioned about the propriety of providing the litigation documents rather than an explanation, Hagerty stated that no roadmap was required. Hagerty – Direct at 1239. Further, he felt compelled to provide the Defendants’ story to the examiner and that such was proper under and required by the MPEP. See, e.g., Hagerty – Cross at 1314, 1319-30, 1328. In addition, Hagerty testified that he was unaware of the following documents prior to filing the July 12, 2012, information disclosure statement: DX797, Cantor Colburn’s list of documents sent to Hagerty; DX101, Email from David Cantrell dated June 5, 2003, re: Agri-Energy - contact information; DX136, Email from David Winsness dated June 10, 2003, re: VDS – Agents; DX135, Agri-Energy Visitor Register, 12/24/03 – 3/30/05; DX108, Letter dated July 11, 2003, from VDT to Agri-Energy, re: VDS Oil Recovery System; DX107, Email chain from David Cantrell dated August 5, 2003, June 17, 2003, June 13, 2003, re: List of Ethanol Production Facilities. No one accepted responsibility for ensuring that Hagerty received all the documents from the litigation group. O’Brien – Direct at 853-54, 861 (stating that “there was no one person in charge”), 862 (admitting that he did not know whose fault it would be if Hagerty did not get relevant documents); Hagerty – Direct at 1098 (stating there was no formal procedure for requesting and/or receiving documents from the litigation team), 1157 (discussing how O’Brien did the investigation to substantiate Cantrell’s hand-delivery story), 1167-69 (discussing how he relied on O’Brien to investigate the August 1, 2003, email), 1180 (professing no knowledge of DX108, a draft offer letter to Agri-Energy dated the day after the Barlage bench-top test at the company, and no knowledge of whose fault it would be

if he did not see the document), 1193 (stating, “All I know is that I requested documents that were coming out of the litigation periodically to have them sent to me so I could review them as to whether they need to be cited to the patent office.”), 1196-97 (stating that he had no idea what other documents there might have been available).

Hagerty failed to answer in any cogent way Defendants’ questions about why un-redacted versions or the documents referenced in the litigation papers were withheld from the examiner or why he chose to provide an explanation of their relevance. Hagerty did claim that Defendants filed them under seal; therefore, he felt strongly that under the protective order in this Court, he was not allowed to file un-redacted copies with the PTO. Hagerty – Cross at 1339. The Court considers both the failure to explain the significance of the documents and the failure to provide the PTO with either an un-redacted version of the filed papers or the underlying documents themselves strong evidence of an intent to deceive. Much of the redacted information was confidential to CleanTech; therefore, as the holder of the privilege, it had the authority to waive the privilege and release the information to the PTO in an un-redacted form. Further, there is no record that CleanTech sought permission from this Court to unseal the selected documents so they could be filed with the PTO in an unadulterated form. It is this Court’s view that Hagerty and the inventors had a duty to disclose the un-redacted versions and the actual documents referenced in the filings to the PTO because the best source of the information was the documents themselves rather than Defendants’ arguments and allegations about them. Moreover, without the redacted information, there was no meaningful disclosure of some relevant information. Finally, it is not enough after *Rohm & Haas* to simply inundate the PTO with paper when the purpose of the filing is to correct a prior misrepresentation.

Such a correction requires (1) expressly advising the PTO of the existence of the misrepresentation, “stating specifically where it resides,” *Rohm & Haas*, 722 F.2d at 1572; (2) if a factual misrepresentation, advise the PTO of the actual facts, “making it clear that further examination in light thereof may be required if any PTO action has been based on the misrepresentation,” *id.*; and (3) upon the new factual record, establish patentability of the claimed subject matter. *Id.* Here, none of the requirements were met.

The ‘484 patent issued on October 9, 2012. DX288; Stipulations ¶ 41.

H. THE PATENTS-IN-SUIT AS ISSUED

Although dependent claims were at issue in this case, the Court sets forth the asserted independent claims of the patents to give context to the inequitable conduct discussion.

The asserted independent claims of the ‘858 patent family 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.

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.

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.

16. In a method for processing corn to produce ethanol and concentrated thin stillage, the improvement comprising the step of recovering a product consisting essentially of oil from the concentrated thin stillage by heating and mechanically processing the concentrated thin stillage to separate the oil from the concentrated thin stillage.

'858 Patent, col5 l.66 to col6 l.64.

The asserted independent claims of the '516 patent read:

1. A method of recovering oil from thin stillage; the method consisting essentially of, in sequence:

evaporating water from the thin stillage to form a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of greater than 30% and less than 90% by weight before the recovering step;

mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate; and

recovering the separated oil.

* * *

7. A method of processing whole stillage, comprising, in sequence:

separating distiller wet grains and thin stillage from the whole stillage, the thin stillage including oil and solids;

concentrating the thin stillage including the solids to form a concentrate having a moisture content of greater than 30% and less than 90% by weight; and

disc [sic] stack centrifuging oil from the thin stillage concentrate to form a substantially oil free concentrate.

'516 Patent, col6, l.11 to col 6, l52.

The asserted independent claim of the '517 patent reads:

1. A method of recovering oil from thin stillage, comprising:

evaporating the thin stillage to create a concentrate having a moisture content of greater than 15% by weight and less than about 90% by weight; and centrifuging the concentrate to recover oil.

'517 Patent, col 6, ll32-37.

The asserted independent claims of the '484 patent read:

1. A method of recovering oil from thin stillage; the method consisting essentially of, in sequence:

evaporating water from the thin stillage to form a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of greater than 30% and less than 90% by weight before recovering step;

mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate;

recovering separated oil; and

drying the thin stillage concentrate to reduce the moisture content in the thin stillage concentrate.

* * *

8. A method of processing whole stillage, comprising, in sequence:

separating distiller wet grains and thin stillage from the whole stillage, the thin stillage including oil and solids;

concentrating the thin stillage including the solids to form a thin stillage concentrate having a moisture content of greater than 30% and less than 90% by weight;

disc [sic] stack centrifuging oil from the thin stillage concentrate to form a substantially oil free concentrate; and

drying the thin stillage concentrate to reduce the moisture content in the thin stillage concentrate.

* * *

16. A method of recovering oil from thin stillage, comprising, in sequence:

evaporating the thin stillage to create a thin stillage concentrate having a moisture content of greater than 30% by weight and less than about 90% by

weight;

centrifuging the thin stillage concentrate to recover oil; and

drying the thin stillage concentrate to reduce a moisture content in the thin stillage concentrate.

* * *

19. 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, wherein the concentrated byproduct has a moisture content of greater than 30% and less than 90% by weight;

recovering oil from the concentrated byproduct by heating and mechanically processing the byproduct to separate the oil from the concentrated byproduct; and

drying the concentrated byproduct to reduce the moisture content in the concentrated byproduct.

* * *

30. A method of recovering oil from thin stillage; the method comprising

evaporating water from the thin stillage to form a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of greater than 30% and less than 90% by weight;

mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate; and

recovering the separated oil.

'484 Patent, col6, l. 9 to col8, l.37.

In its claim construction orders, the Court construed the claims 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"	"the Concentrate Term (as set forth above) subjected to heat and a mechanical device (or

byproduct/concentrated thin stillage to separate the oil from the concentrate/concentrated byproduct/concentrated thin stillage”	devices) to extract a product that is substantially (meaning largely or mostly) oil from the Concentrate Term (as construed above)”
“centrifuging the concentrate to recover oil”	“processing the concentrate (as set forth above) with a centrifuge to separate the oil from the concentrate so that the oil stream coming out of the centrifuge is substantially (meaning largely or mostly) oil”
“substantially oil free concentrate”	“the syrup exiting the centrifuge is largely or mostly oil free compared to the incoming thin stillage”

II. CONCLUSIONS OF LAW

The standard for inequitable conduct was enunciated by the Federal Circuit Court of Appeals in *Therasense, Inc. v. Becton Dickinson & Co.*, 649 F.3d 1276, 1287-93 (Fed. Cir. 2011) (*en banc*). In the instant case, Defendants allege that CleanTech withheld certain material references from the PTO. Therefore, Defendants must prove by clear and convincing evidence two elements: (1) specific intent to deceive the PTO and (2) “but for” materiality of the references allegedly withheld. *Id.* at 1290. Stated another way, Defendants must prove “that the applicant *made a deliberate decision* to withhold a *known* material reference.” *Id.* (quoting *Molins PLC v. Textron*, 48 F.3d 1172, 1181 (Fed. Cir. 1995) (emphasis added by *Therasense* Court)). However, “[p]roving that the applicant knew of a reference, should have known of its materiality, and decided not to submit it to the PTO does not prove intent to deceive.” *Id.* (citing *Star Sci. Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008)). Rather, “the specific intent to deceive must be ‘the single most reasonable inference drawn from the evidence.’” *Id.* (quoting *Star Sci.*, 537 F.3d at 1366). “Indeed, the evidence ‘must be sufficient to *require* a finding of deceitful intent in the light of all the circumstances.’” *Id.* (quoting *Kingsdown*

Med. Consultants, Ltd. v. Hollister Inc., 863 F.2d 867, 873 (Fed. Cir. 1988) (emphasis added by *Therasense* Court)).

Materiality is a separate and distinct inquiry. *Id.* (citing *Hoffmann-La Roche, Inc. v. Promega Corp.*, 323 F.3d 1354, 1359 (Fed. Cir. 2003)). To assess materiality, “the [C]ourt must determine whether the PTO would have allowed the claim if it had been aware of the undisclosed reference.” *Id.* at 1291. In making this determination, the Court applies “the preponderance of the evidence standard and give[s] claims their broadest reasonable construction.” *Id.* at 1291-92 (citing Manual of Patent Examining Procedure (“MPEP”) §§ 706, 2111 (8th ed. Rev. 8, July 2010)). Further, if a claim is invalidated based on a deliberately withheld reference, the reference is necessarily material. *See id.* at 1292.

There is an exception to the “but for” materiality requirement when the patentee engages in affirmative acts of egregious misconduct. *See id.* at 1292. The filing of an unmistakably false affidavit, for example, is considered egregious misconduct that supports a finding of materiality because “a patentee is unlikely to go to great lengths to deceive the PTO with a falsehood unless it believes that the falsehood will affect issuance of the patent.” *Id.* (citing *Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1571 (Fed. Cir. 1983), and *Hazel-Atlas Glass Co. v. Hartford-Empire Co.*, 322 U.S. 238, 247 (1944), *overruled on other grounds by Standard Oil Co. v. United States*, 429 U.S. 17 (1976)). Under *Rohm & Haas*, if “an applicant files a false declaration, [the Federal Circuit] requires that the applicant ‘expressly advise the PTO of [the misrepresentation’s] existence, stating specifically where it resides.’” *Intellect Wireless, Inc. v. HTC Corp.*, 732 F.3d 1339, 1343 (Fed. Cir. 2013) (quoting *Rohm & Haas*, 722 F.2d at 1572)). The *Intellect*

Wireless court affirmed that the correction must be open and do more than provide accurate facts; rather the corrective submission must call the examiner's attention "to the untrue or misleading assertions sought to be overcome." *Id.* (quoting *Rohm & Haas*, 722 F.2d at 1572)).

Defendants argue that multiple pre-critical date documents, including, but not limited to, the Ethanol System Diagram, DX112; the June 29, 2003, email from Cantrell to Agri-Energy outlining the process for oil separation using a centrifuge, DX111; the August 19, 2003, email from Winsness to VDT shareholders describing the July 31, 2003, letter and meeting with Agri-Energy as a "first sale," DX144;" Winsness' February 2004 email that outlined the parameters under which the method would work, DX147; and the Barlage test results, DX133; because, taken together, they evidence a pre-critical date offer for sale under *Pfaff v. Wells Electronics, Inc.*, 525 U.S. 55, 67 (1998). In particular, these documents compel a finding of an offer because the July 31, 2003, letter offered a system at a set price; and drawings and other descriptions existed that would allow one of ordinary skill in the art to make or practice the invention. Further, Defendants assert that all of the inventors' testimony that reduction to practice did not occur until May 2004 is contradicted by contemporaneous documents that describe the Barlage bench-top testing in June 2003 as a success and the offer to Agri-Energy dated July 31, 2003, and sent on August 1, 2003, as an offer for sale. Because the inventors knew this critical information and allowed Hagerty to file the feasibility testing letter during prosecution of the '858 patent, but not tell the whole story about their 2003 successes and the offer, they intended to deceive the PTO. With respect to the '516, the '517 and the '484 patents, the inventors allowed Hagerty to file a false affidavit notwithstanding their knowledge that

Barlage had practiced the method in June 2003 and they had made an offer to sell the method to Agri-Energy in July or early August of 2003. Finally, with respect to the '484 patent, when they had an opportunity to clean up the record during prosecution of the '484 patent, rather than following the clear dictates of *Rohm & Haas* and *Intellect Wireless*, the attorneys chose a path of obfuscation and offered diaphanous excuses by filing Cantrell's Second Declaration and an information disclosure statement that was no more than a dump of incomplete accusations without the supporting documents. All of this, according to Defendants, is clear and convincing evidence of an intent to deceive.

CleanTech contends that Defendants have failed to prove both materiality and intent to deceive. Specifically, at the time of patenting, neither the inventors nor the attorneys believed that the invention had been reduced to practice until May 2004. Therefore, the feasibility testing letter was accurate and the July 31 Proposal was not an offer for sale under *Pfaff*. Similarly, Cleantech argues there was no intent to deceive the PTO because everyone always believed that the July 31, 2003, letter was an offer to perform a test and that the May 2004 test was the first reduction to practice since it was the first time that oil was sold. CleanTech relies on Cantrell's email to his "team" after the May 2004 test, DX114, as evidence that this test was the "eureka" moment. CleanTech further relies on the Barlage test report, DX133 and DX792, as evidence that at that point, the inventors still did not know if they could remove oil from syrup in an ethanol plant because of clogging in the centrifuge. CleanTech compares Barlage's results to the Wright brother's discovery that their plane could lift two inches above the ground, but they did not know at that time whether or not it would fly. CleanTech dismisses the other contemporaneous evidence regarding testing done in 2003 and the July 31 letter as

puffery. CleanTech also asserts that the Court must believe Winsness and Cantrell when they testified that they were desperate to get a centrifuge to perform a test at Agri-Energy. In the final analysis under *Therasense*, CleanTech contends, the single most reasonable inference must be that neither the inventors nor the attorneys intended to deceive the patent office because they reasonably considered the reduction to practice to have occurred in May or June 2004 and they provided all of Defendants' arguments to the contrary to the PTO.

In its Order on Cross Motions for Summary Judgment ("Summary Judgment Order"), the Court concluded that there was no question of material fact that the contemporaneous documents written by the inventors or drawn up at the request of the inventors evidenced that the July 31, 2003, letter that was emailed to Agri-Energy on August 1, 2003, was an offer for sale and that the invention was ready for patenting by the time the letter was sent. MDN 1351 at 164-75; MDN 1359 (incorporating claim 30 of the '484 patent into the analysis). After hearing the testimony of the inventors and the attorneys at the bench trial, the Court confirms its conclusion that those documents evidence both elements of the on-sale bar. Namely, before the critical date the invention in the '858 patent family was the subject of a commercial offer for sale; and the '858 family invention was ready for patenting. The Court adopts herein by reference the findings of fact and conclusions of law in the Summary Judgment Order, and its Order on Motion for Clarification, Master Docket No. 1351, at 164 to 175, and Master Docket No. 1359. Further evidence at trial only buttresses the Court's earlier conclusion, particularly with respect to the ready for patenting element of the on-sale bar. Specifically, Winsness' discovery story, DX792, clearly evidenced that in July 2004, when he first wrote the

document, he believed that they had reduced the method to practice in July 2003 when Barlage performed the bench-top test. If it had not been a success, the inventors would not have started drafting an offer letter to Agri-Energy the very next day. See, e.g., DX107. Further, if his enthusiasm about that test had been a “mistake,” as Hagerty and Winsness testified at trial, Winsness would have corrected it in 2008 when he sent the document to Hagerty because he corrected other important information with respect to the Barlage test report at that time. That Winsness believed the invention had been reduced to practice, or that they had drawings and/or other descriptions at the time for one of ordinary skill in the art to practice the invention, is only confirmed by Winsness’ earlier email to Cantrell in February 2004 in which he lays out the parameters under which the invention would work. DX147. It was clear from the testimony at trial that Winsness was the technically-savvy member of the invention team; therefore, his testimony that in this email he was looking to Cantrell to confirm the accuracy of this detailed list of parameters is implausible. The only reasonable conclusion is that the inventors knew their invention would work after the Barlage bench test and knew the parameters under which it would work. Their later protestations to the contrary are simply not credible.

The Court also found implausible Hagerty’s testimony about documents he found either not material or “cumulative,” such as the Ethanol System Diagram and the July 31 Proposal. See, e.g., Hagerty – Direct at 1202 (discussing why the June testing was not disclosed because it was in Defendants’ allegations), 1215 (discussing why the Barlage test results were not disclosed) Hagerty – Cross at 1299-300 (discussing the July 31 Proposal). Hagerty claimed that as he looked at documents, he determined individually, but looking at them “as a whole,” whether or not they were relevant. Hagerty – Direct at

1208, 1238; Hagerty – Redirect at 1352, 1355-57; 1367. He testified that the Ethanol System Diagram did not tell him anything about the inventions or was cumulative. Hagerty – Direct at 1181-82; Hagerty – Cross at 1299-1300; Hagerty – Redirect at 1350. But, it is clear from these statements that he failed to put it in the context of the contemporaneous emails and other documents regarding the discovery. In other words, he purposefully looked at each document in isolation without reference to the total understanding of the inventors or Agri-Energy at the time. Further, Hagerty admitted that he did not ask the inventors who witnessed Barlage perform the bench-top test at Agri-Energy, or to explain the diagram to him, or to explain the equipment discussed in the July 31, 2003, offer letter. Hagerty – Direct at 1038-39; Hagerty – Redirect at 1352. Because he was the representative of the inventors in the ex parte proceedings before the PTO, it was incumbent upon Hagerty to inquire of and himself grasp the entire picture rather than focus on singular indicia of discrete ideations. Further, Hagerty testified that he never saw other documents that contradicted his view of the case until 2014. Hagerty – Direct at 1086, 1206-09; Hagerty – Cross at 1255-56; Hagerty – Redirect at 1375-76. When asked what he would have done if had seen certain documents prior to filing information disclosure statements, Hagerty said he would do an investigation. See, e.g., Hagerty –Direct at 1208. However, Hagerty never asked the inventors key questions about their invention or the meaning of contemporaneous documents and, after the litigation started, he relied on the litigation team to do all the investigation. The Court has already concluded that the litigation team investigations were inadequate.

The Court was unpersuaded by CleanTech’s argument that two statements, one by each of the inventors, completely substantiated that the inventors did not intend the

July 31 Proposal to be an offer for sale because they had not reduced the method to practice. For example, CleanTech relies on an email Cantrell wrote to his marketing team on May 31, 2004, after the commercial test at Agri-Energy, stating, in part, that it was “a very successful first test. Remember, removing the oil from the syrup has never been done before.” DX114. In addition, CleanTech relies on an email from Winsness dated May 30, 2009, in conjunction with the Raymon Bean investigation, which states, in pertinent part, “This patent was developed over ’03, 04 and filed 8-19-04 and we produced our first quote in Sept ’04 (it was important that we not quote before filing).” DX688. But, by 2004, and certainly by 2009, the inventors had talked with Dorisio (and later Hagerty) and had information from him about the consequences of offering an invention for sale more than one year prior to filing and had researched and obtained similar information from the PTO website. Dorisio Video Trial Testimony; DX788; DX751; Winsness – Direct at 560. At trial, the Court doubted Cantrell’s testimony in its entirety for the reasons already stated, but even if it had not, his testimony about the development process was contradicted by so many other contemporaneously-produced documents that it was not credible. For example, multiple documents written by or endorsed by the inventors or VDT claimed that they derived the new process by their work in the poultry industry. See, e.g., DX109; DX110; DX142; DX151, DX158. However, at trial, Cantrell completely disavowed the majority of these statements saying that he misspoke or it was not true and blamed his poor writing skills. See, e.g., Cantrell – Direct at 125-27 (disavowing anything to do with preparation of DX792, a memorandum regarding the invention to Dorisio); *id.* at 205 (claiming that DX109, a memorandum he prepared dated June 11, 2004, had misstatements about the connection between the meat industry and the

ethanol industry); 206-07 (disavowing quoted statements in DX151, an article dated August 2005); *id.* at 209 (claiming that he never read the provisional application filed by Dorisio on his behalf); *id.* at 211 (claiming a VDT executive summary dated January 17, 2005, DX158, which indicates him as an author, was “written wrong in what I wrote”). In other words, it is not reasonable to believe that all the documents that point away from an offer to sell are accurate, but all the ones that point toward such an inference are inaccurate. Further, the Court believes that the claims of the ‘858 patent family are broad enough to include a process that occurs outside of an ethanol facility, one in which the syrup is shipped to a contractor who heats it, then processes it through a centrifuge to obtain oil (a batch process) because only a few of the claims require a continuous process; as well as one on a small scale because none of the claims require a commercial process. Moreover, Cantrell’s statement can still be true, but the inventors reduced the method to practice earlier and just merely proved commercial viability in 2004. This is the only reasonable inference in light of the remaining evidence.

Similarly, and also as previously discussed, Winsness evaded giving forthright answers during Defendants’ direct examination and rarely looked the attorneys from either side in the eye when he answered. Even during points of the cross examination by CleanTech’s attorney, Winsness failed to provide straight answers. His evasive tactics left the Court with the clear impression that he knew they had made a mistake by offering a system to Agri-Energy in early August 2003; but, later, recognizing the mistake, he wanted to make it appear as if they would not make such an offer until after the provisional application was filed. In other words, the Court believes Winsness purposefully dropped this phrase to create the false impression that the July 31 Proposal meant something

other than what the inventors and VDT originally intended. Further, Winsness' credibility was severely undermined when he disavowed that the invention disclosure he wrote would be relied upon by the attorneys to help them prosecute the patent because the lawyers, including Dorisio, had no other way to get the basis of the invention story. Moreover, as to the key paragraphs of that disclosure, where he describes the bench-top testing as a success, Winsness had no good answer for why he failed to correct the statement when he sent the document to Hagerty in 2008, but corrected other information showing oil recovery in the Barlage centrifuge tests.

All in all, the Court is left with the firm impression that the inventors made a mistake in July/August 2003 and offered their invention for sale to Agri-Energy. Later, they took affirmative steps to hide that fact from their lawyers, then, later the PTO when they learned that it would prevent them from profiting from the patents.

Further, from the beginning, attorneys for CleanTech placed this patent case on a precarious platform. Counsel chose to aggressively pursue patent infringement suits in multiple forums while simultaneously prosecuting further family patents. Deciding to litigate and prosecute simultaneously, while taking a potential financial interest in the patents themselves, necessitated the creation of a litigation team and a prosecution team. The schism in the dual plan was the failure to provide for an individual responsible for coordinating these efforts so that documents discovered during litigation would be earmarked for presentation to the patent prosecution attorney. And further, no one was charged with the task of being sure that the advocacy required in litigation did not taint the candor required in the PTO.

O'Brien made it clear that no one was in charge of ensuring that Hagerty received documents that were discovered during the litigation that bore witness to the inventor's or Agri-Energy's perception of their interactions during the 2003 and 2004 timeframe. O'Brien – Direct at 861. Moreover, the lawyers' repeated statements that they concentrated on "pre-critical date documents," O'Brien – Direct at 831, 8942, 845, 847, 850, 855, 860; only heightens the notion that Hagerty's focus was purposefully and, in this Court's view improperly, narrow. The fact is, material documents related to the true invention story and the on-sale bar were never revealed to the PTO in the prosecution of any patent in the '858 patent family and the inventors allowed the false story to be told.

The '858 Patent – Looking at each patent individually, the Court must determine whether material documents were intentionally excluded when they should have been submitted. Taking the '858 patent first, when Dorisio filed the non-provisional application for the '858 patent in May 2005, he filed a letter in which he stated that Prevost "may be found to claim the same invention as at least one of the instant application." DX686; Stipulations ¶ 7. Hand-written notes on the Prevost application indicate that Dorisio, or someone in his firm working on the file, believed that the reference in Prevost Claim 19 to "15 wt. % water" was a mistake. DX684. This substantiates Dorisio's claim in the non-provisional application that Prevost may be found to claim the same invention as at least one of the claims in that application. Further, in July 2005, Dorisio's firm had prepared a patentability and clearance opinion that he shared with the inventors. DX788. Therein, the firm referenced an invention date in 2003 that coincides with the Barlage testing and July 2003 bench-top testing at Agri-Energy. There is no written record that the inventors

disagreed with the conclusions in the opinion. It is clear that the original strategy was to swear behind Prevost.

Hagerty received the patent prosecution file in March 2008, and testified that he waited to review it until the PTO issued the June 13, 2008, office action in the '858 patent prosecution, which rejected all of the claims. Hagerty – Direct at 978, 981. Hagerty claims that at this time, he did not have Dorisio's clearance opinion or Dorisio's hand-written notes regarding his view of Prevost. Hagerty – Direct at 981-82. But, to help him prepare a response to the first office action, on or around September 14, 2008, Winsness emailed Hagerty several documents including the invention story that he had told Dorisio and the Barlage test results. DX792. Therein, Winsness stated the following regarding the 2003 tests:

Discovery:

We tested the syrup in June 2003 using a bench top centrifuge (we have documentation on file).

We poured "syrup" into a continuous disk-stack centrifuge a[nd] were able to separate the oil from the water cleanly.

WHAT IS UNIQUE ABOUT THIS?

Disk-Stack Centrifuges [sic] are designed to separate oil from water. In this case, however, the product contains high levels of solids, which exceed the normal design limits of disk stack centrifuges. During the bench-top test [sic] however, it appeared that the solids would not foul the centrifuge and led us to believe that the process would work on a commercial scale.

DX792 at GCS(PRIV)001605). Winsness' email also contained the Barlage test results, which included the conclusion that something in the heating process broke the emulsion and allowed oil to be recovered from the syrup; Winsness' note to Hagerty clarified these results. See DX792 at GCS(PRIV)001591 & GCS(PRIV)001614-20. At this time, Hagerty also had a copy of the Ethanol System Diagram.

In response to the office action, Hagerty substantively amended the claims and distinguished the prior art, stating, in part, that Prevost did not teach heating of the thin stillage concentrate then mechanically processing it to remove the oil. DX273. The amendments and arguments were not enough to get the '858 patent issued; rather, on December 22, 2008, the examiner issued a final rejection. PTX2059 at 112. In response, in addition to his previous statements regarding Prevost, Hagerty claimed that the inventors had “discovered that its claimed processes frees a portion of the bound oil as a result of evaporating the thin stillage to remove water and form a concentrated byproduct. Removing a portion of the bound water breaks the emulsion allowing mechanical processing to further separate and recover the oil.” PTX2059 at 101. Hagerty’s protestations otherwise, this statement clearly has its roots in the June 2003 Barlage test results conclusion; there is simply no other part of the record from which either inventor claimed to have made this “discovery.” At this point, not providing information regarding the inventors’ dealings with Agri-Energy or the Barlage bench-top test raises an inference that the patentees intended to deceive the PTO – it was pre-critical date information that had a direct bearing on the ability of the inventors to prove that their claims were patentable. But, Hagerty made no such disclosure and the inventors said nothing either.

In April 2009, shortly after Hagerty submitted this response to the final office action, the PTO issued a notice of allowance; Hagerty paid the issue fee in May 2009. Stipulations ¶¶ 9 & 10. Based on Hagerty’s arguments that incorporated the Barlage test result conclusions, the Court concludes that the examiner would have found those results material.

On June 5, 2009, Hagerty withdrew the application from issue and filed a new information disclosure statement listing additional prior art. Also on the same date, Hagerty filed his letter that specifically pointed out feasibility testing that had occurred in May 2004, where oil was recovered using the proposed process and subsequently sold. DX284; Stipulations ¶ 12. Hagerty admitted that this had no relevance to the prosecution of the '858 patent and the Court found contrived his explanation that it had something to do with consistent disclosures of prior art amongst patent families. There was no effort made to disclose the year-earlier documents upon which Hagerty had based his arguments to overcome the final rejection by the PTO; rather, he filed an irrelevant letter, which created a false impression that the first time information existed to confirm the method was May 2004. The inventors did nothing to clear up the error. The Court can only conclude that Winsness and Cantrell intentionally allowed Hagerty to create this false impression and that Hagerty, knowing and relying on facts to the contrary, purposefully withheld the results in 2003 in favor of the new story.

The '516 and '517 Patents – With respect to prosecution of the '516 patent, on September 30, 2005, Dorisio filed the application that led to the '516 patent. DX279. There was no substantive or relevant activity on the file before Hagerty received the Winsness/Cantrell patent portfolio from Dorisio in March of 2008. *Id.*

On June 17, 2008, the examiner rejected the selected method claims in light of Prevost and a patent to Yokoyama. *Id.* In response, on September 16, 2008, Hagerty amended the claims and made substantively similar arguments as those he made in the '858 patent prosecution:

Prevost fails to teach or suggest a post-evaporation process for recovering oil from thin stillage that includes, inter alia, mechanically processing the

thin stillage concentrate to separate oil from the thin stillage concentrate (claim 1) or disc stack centrifuging oil to form a substantially oil free concentrate (claim 4).

DX274.

On December 26, 2008, the examiner again rejected the claims under 35 U.S.C. § 103(a) as being unpatentable over “Minowa *et al.* in view of Prevost *et al.*” DX279. On February 3, 2009, in response to this objection, Hagerty again amended the claims and argued, “Applicants have carefully studied Prevost and can find no teaching or suggestion of a post-evaporation process for recovering oil from the thin stillage concentrate that includes centrifuging the concentrate to recover oil.” *Id.* Hagerty also argued, as he had in the '858 prosecution, that the inventors had discovered that the heating freed up bound oil. *Id.*

On April 7, 2009, Hagerty filed an information disclosure statements in the '516 prosecution listing additional prior art. *Id.* On September 30, 2009, Hagerty filed an information disclosure statement, which again included prior art, but it also included the admittedly irrelevant statement regarding the May 2004 feasibility testing that he had also filed in the '858 prosecution. *Id.* There was no disclosure of the earlier 2003 Barlage testing, the bench-top test or the inventors' conclusions regarding the same.

On September 14, 2009, just shortly after Defendant GEA Westfalia filed its suit against CleanTech, Hagerty filed the application that led to the '517 patent. PTX2063. On the very same day, Hagerty files an information disclosure statement listing which included prior art and references the co-pending applications, but it also included the admittedly irrelevant statement regarding the May 2004 feasibility testing that he had also

filed in the '858 prosecution. *Id.* There was no disclosure of the Barlage 2003 testing, the Barlage bench-top test or the inventors' conclusions regarding the same.

In a petition to make special filed on November 12, 2009, in the '517 prosecution Hagerty uses identical language as he had in the '516 patent prosecution to distinguish Prevost. *Id.* Specifically, he states, in part: "Applicants have carefully studied Prevost and can find no teaching or suggestion of a post-evaporation process for recovering oil from the thin stillage concentrate that includes centrifuging the concentrate to recover oil." *Id.* at 251.

On February 17, 2010, the PTO issued a notice of allowance of the '516 patent. *Id.* On March 2, 2010, Cantor Colburn paid the issue fee. DX279.

As previously discussed, later in March 2010, the litigation team and Hagerty learned of the July 31, 2003, letter to Agri-Energy. Stipulations ¶¶ 19 & 20.

On May 13, 2010, Hagerty filed a Petition to Withdraw from Issue and a Request for Continued Examination in the '516 prosecution. DX279. On the same date, Hagerty submitted an information disclosure statement that contained some additional prior art as well as multiple complaints and answers and counterclaims of the parties in this MDL. *Id.* The petition was accepted by the examiner on August 2, 2010; and on August 11, 2010, the PTO issued a second notice of allowance for that application. *Id.*

On July 6, 2010, in the '517 patent prosecution, the PTO issues a rejection based on obviousness. PTX 2063 at 163. In apparent response, on November 9, 2010, Hagerty files an information disclosure statement with Cantrell's First Declaration and the Cantor Colburn litigation team's explanation of why the document is irrelevant. *Id.* at 142. Specifically, Hagerty repeats Cantrell's recollection that he hand delivered the letter on

August 18, 2003, after the critical date. *Id.* No mention of the pre-August activities at Agri-Energy, the Barlage test results or the Ethanol System Diagram are made.

Also on November 9, 2010, in the '516 patent prosecution, Hagerty submits a supplemental response, and Cantrell's First Declaration as part of an information disclosure statement, in which Cantor Colburn and Cantrell advise the PTO of the July 31, 2003, letter and Cantrell's recollection that the first time Agri-Energy saw the letter was August 18, 2003. DX279. Hagerty's supplemental response states that the letter is not material. *Id.* These documents are rejected as non-compliant by the PTO and re-submitted shortly thereafter. *Id.*

On November 23, 2010, the PTO granted the petition to withdraw. *Id.* On March 23, 2011, Hagerty filed another information disclosure statement in which he cited multiple patents and articles as potential prior art. *Id.* He also filed several Defendants' invalidity contentions. *Id.* There was no explanation with the documents nor were any of the documents underlying any of Defendants' contentions provided. *Id.*

On January 21, 2011, the PTO issued a notice of allowance for the '517 patent. PTX2063 at 125. But, in early March 2011, Hagerty filed a request to continue examination and an information disclosure statement. *Id.* at 52, 55. The information disclosure statement included invalidity contentions from many of the Defendants. *Id.* at 55. No explanation of the documents or copies of documents referenced within the contentions was made.

On April 21, 2011, in the '516 prosecution, the examiner issued another notice of allowance. *Id.* Cantor Colburn paid the issue fee on the same date. *Id.* But, on May 9, 2011, Hagerty again filed a petition to withdraw and an information disclosure statement

in which he filed additional potential prior art; the petition was granted on May 10, 2011.

Id.

On June 24, 2011, the PTO issued a notice of allowance for the '517 patent. PTX2063 at 10.

On July 22, 2011, the PTO issued another notice of allowance for the '516 patent; Cantor Colburn paid the issue fees the same day along with the issue fee for the '517 patent. DX279; PTX2063 at 5. Both the '516 patent and the '517 patent issued on August 30, 2011. DX279; PTX2063 at 1.

In prosecution of the '516 and '517 patents, the inventors and attorneys misrepresented to the PTO that the July 31 offer letter was immaterial by filing the false Cantrell First Declaration and by leaving un-rebutted the irrelevant 2004 feasibility testing letter. In the face of Cantrell's poor health, Winsness' and Cantor Colburn's reliance on Cantrell's recollection of the events surrounding the Q1, July 31, 2003, letter and the credit card receipts, as well as their lackluster investigation of events is solid evidence of purposeful behavior. It appears to the Court that the lawyers ignored the red flags waiving before them. In order to believe Cantrell, they had to ignore other evidence that the inventors thought they had a discovery in 2003, such as Winsness' invention story, the Barlage test results (which Hagerty relied upon, in part, to convince the PTO to allow the '858 and '516 patent claims), and the Ethanol System Diagram.

Moreover, the lawyers had to ignore the suspicious timing of Winsness' visit to Agri-Energy in June 2010, after he had learned that competitors had opinions of counsel that concluded the patents were invalid because they were offered for sale. Although the lawyers did not know of Winsness' visit before it occurred, they knew of it afterward,

because Rye sent his letter to Agri-Energy shortly thereafter. To the extent it has not already done so, the Court finds that Winsness threatened Agri-Energy with legal action if it did not corroborate his and Cantrell's story. In addition, the Court finds that Rye's letter was a thinly-veiled threat and was not a truth-seeking inquiry. By itself this may be perceived as an accepted tactic in patent litigation. None-the-less, this correspondence was just that, a litigation tactic, not a request for information.

Further, no one, not even Winsness who was familiar with VDT's deals in 2003 and likely drafted the very letter at issue, thought it would be prudent to talk with Lauderbaugh, the team member who accompanied Barlage to Agri-Energy in June 2003 and, as the sales representative with the relationship with Agri-Energy, to see what he remembered about Cantrell's visit in August 2003.

Finally, if Winsness and the lawyers were convinced that the July 31, 2003, offer letter was not an offer for sale and had always believed that to be true, as they all testified at trial, then why did they decide to throw away months of work by O'Brien, who spent considerable time drafting a detailed disclosure regarding the invention story (which referenced the Barlage test report and the Ethanol System Diagram) and just explain why the July 31 letter was not an offer for sale? The only reasonable inference is that they believed the inventors had made an offer and, with the feasibility testing letter already before the PTO in both prosecutions, DX279A ('516 Patent File History Excerpt), DX280A ('517 Patent File History Excerpt), which implied a later reduction to practice date, they chose advocacy over candor. This is a consequence of pursuing litigation and prosecution simultaneously. Here, these principles, very apparently, got mixed.

The '484 Patent – With respect to the '484 patent prosecution, on May 13, 2011, Hagerty filed the application. DX288. On July 21, 2011, Hagerty filed an information disclosure statement including initial pleadings in the various lawsuits that comprise the original MDL. *Id.* On the same day, he also filed the admittedly irrelevant feasibility testing letter that is identical to the one filed in the '516 and '517 patent prosecutions and Cantrell's First Declaration, which falsely states that the July 31, 2003, offer letter was hand delivered on August 18, 2003. *Id.*; Stipulations ¶ 34. No reference was made to the earlier testing at Agri-Energy or the Ethanol System Diagram.

On July 27, 2011, Hagerty filed another information disclosure statement in which he included Defendants' invalidity contentions. *Id.* Again, there was no disclosure of the 2003 testing at Agri-Energy or the Ethanol System Diagram.

On September 21, 2011, Defendants deposed Cantrell and the August 1, 2003, email with the July 31 Proposal attachment was disclosed. At this point, the inventors and Cantor Colburn know for certain that Cantrell's First Declaration is false. The Court finds strong evidence of intentional deceit in the ensuing delay by Cantor Colburn in investigating the facts and Winsness' equally nonchalant response. As previously discussed, by this time, Hagerty had relinquished control of investigating the facts with the inventors. The Court disagrees with Hagerty's claim that this was reasonable because of the ongoing litigation. Once he made that decision, objective prosecution of the patents became extremely problematic. That a shiver went down his spine upon learning about the August 1, 2003, email is the most believable statement Hagerty made – he realized they were in trouble. His and O'Brien's later testimony at trial did not

plausibly explain the delay that occurred between the discovery of the August 1, 2003, email and the preparation and filing of Cantrell's Second Declaration.

Notwithstanding the amount of time that elapsed between late summer 2003 and September 2011, Winsness most likely created the draft of the letter that was sent to Agri-Energy and knew the key players at the Agri-Energy meeting in 2003, including Lauderbaugh. Yet, even at trial, Winsness claimed that he thought the email might be fabricated. For the reasons previously stated, Winsness was not a credible witness, but this testimony strained reasonableness. SRS told him in May or June 2010 that it had an opinion of counsel that the patents were invalid and he connected that immediately to VDT's work with Agri-Energy. His visit to Agri-Energy so quickly after the SRS meetings and his failure to alert his lawyers to his impending visit there evidences his true purpose, which was to bury any notion that VDT had made an offer or that Agri-Energy perceived it as such.

On December 13, 2011, the PTO issued an office action rejecting all the claims of the '484 patent, in part, based on obviousness, citing Prevost and other references. *Id.* As previously discussed, Hagerty responded on February 10, 2012, three months prior to the deadline, without reference to the inaccuracies in Cantrell's First Declaration because he was waiting for the litigation team to finish its investigation. There is no evidence that Hagerty or anyone else was preparing any kind of information disclosure statement at this time. If the Court has not already stated it clearly, and it bears repeating if it already has so stated, Cantor Colburn's delay was unjustified. Winsness and Lauderbaugh were always available to question. Further, O'Brien's explanation for not issuing a subpoena to Agri-Energy sooner than August 2011 is more excuse than reason, and certainly the

lawyers should have had the Agri-Energy documents before February 2012. With Cantrell's health obviously in question and his memory now demonstrably faulty, O'Brien's, and by acquiesce and possible deference, Hagerty's, reliance on any more information from Cantrell about the events that occurred in 2003 demonstrates poor judgment. In their pursuit of additional pickets in the fence against competitors, it appears to the Court that the attorneys substituted advocacy for candor in the ex parte proceeding occurring before the PTO.

O'Brien finally drafted Cantrell's Second Declaration; the Court disagrees with O'Brien's characterization of it as "clear." His rambling justification for it and repeated claims that he intended for it to be "clear," in addition to the lack of drafts, evidenced a carelessness and lack of sincerity that clinches the inference that he was trying to cover up his misdeeds with compounded complexity. As previously discussed, the declaration did not distinctly point out the misrepresentations in the first declaration. Moreover, in this Court's view, inundating the PTO with arguments from the Defendants, many of them incomplete, is not the kind of candor contemplated by the Federal Circuit in *Rohm & Haas* and *Intellect Wireless*. Hagerty testified that he made the decision to file Cantrell's Second Declaration and the documents in favor of any explanation, but also claims not to have seen many documents that were introduced during Cantrell's deposition or that Defendants' relied upon in their arguments. In fact, it was not clear whether or not he even saw the un-redacted copies of pleadings he sent in. Both O'Brien and Hagerty said that letting Defendants tell their story was the best way to put the information before the examiner because it was the most bias view of the facts. O'Brien – Direct at 850, 851-52; O'Brien – Cross at 902; O'Brien – Redirect at 911-12; Hagerty – Direct at 1175, 1187,

1192, 1202-03, 1209-15, 1218; Hagerty – Cross at 1322-23, 1326, 1328-33. But the Defendants’ filings were not evidence that the Barlage tests had occurred prior to Agri-Energy’s receipt of the letter; or that the day after the bench-test the inventors prepared drafts of an offer letter and later described the test as a success; or that the inventors had prepared a drawing of a system for oil extraction, labeled with “Ethanol System” in its title, that included a disc stack centrifuge, a point that Hagerty had argued distinguished the invention from prior art. In fact, a many of the documents were redacted and never mentioned Agri-Energy.

To the extent it is necessary, the Court incorporates by reference its discussion above regarding the failure of the attorneys and the inventors to follow the dictates of the Federal Circuit in *Rohm & Haas* and *Intellect Wireless*. For those reasons, as well as the reasons outlined here, the Court concludes that the inventors and the attorneys intentionally withheld material information from the PTO during prosecution of the ‘484 patent.

III. SUMMARY

For the reasons stated herein, the Court has concluded that the '858 patent, the '516 patent, the '517 patent and the '484 patent are unenforceable because of inequitable conduct before the PTO. Judgment shall be entered accordingly.

IT IS SO ORDERED this 15th day of September, 2016.


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

Electronically distributed to all registered counsel of record via ECF.

APPENDIX C

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

IN RE: METHOD OF PROCESSING)
ETHANOL BYPRODUCTS AND)
RELATED SUBSYSTEMS ('858) PATENT) No. 1:10-ml-02181-LJM-DML
LITIGATION)
)
RELATED CASES:)
1:10-cv-00180-LJM-DML)
1:10-cv-08001-LJM-DML)
1:10-cv-08002-LJM-DML)
1:10-cv-08003-LJM-DML)
1:10-cv-08004-LJM-DML)
1:10-cv-08005-LJM-DML)
1:10-cv-08006-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)
1:10-cv-08011-LJM-DML)

REDACTED ORDER ON CROSS MOTIONS FOR SUMMARY JUDGMENT

This Order addresses all pending motions for summary judgment filed by the original parties in this cause because the briefing incorporates by reference either facts or arguments made in other pleadings and the issues are interrelated, particularly with respect to the proper construction of claim terms. More specifically, patent holder GS CleanTech Corporation ("CleanTech") has moved for summary judgment of infringement of what has been termed the "858 patent family:" U.S. Patent Nos. 7,601,858 (the "858 patent"); 8,008,516 (the "516 patent"), 8,008,517 (the "516 patent"); and 8,283,484 (the "484 patent"), collectively; against the Plant Defendants in this Multi-District Litigation ("MDL"). Specifically, CleanTech contends that no genuine issue of material fact exists with respect to infringement of the following claims of each patent in the '858 patent family as to each of these Defendants:

Defendant	'858 Patent Claims	'516 Patent Claims	'517 Patent Claims	'484 Patent Claims
Cardinal Ethanol, LLC ("Cardinal")	1, 3, 5-8, 10-16	1-6	1	1, 3, 5, 6, 16, 19, 21, 23, 24, 26, 28-30
Lincolnway Energy, LLC ("Lincolnway")	8, 9	1-4, 7-11	1, 2	1-3, 5, 6, 8, 10, 12-14, 16, 17, 27, 28, 30
Blue Flint Ethanol, LLC ("Blue Flint")	1-3, 5-16	1-11	1, 2	1, 3, 5, 6, 8, 10, 12-14, 16, 17, 19-21, 23, 24, 26-30
United Wisconsin Grain Producers ("UWGP")	1-3, 5, 7-16	1-3, 5-11	1, 2	1-3, 5, 8, 10, 12, 14, 16, 17, 19-23, 26-30
Bushmills Ethanol, Inc. ("Bushmills")	8, 9	1-4, 7-11	1, 2	1, 2, 5, 6, 8, 12-14, 16, 17, 27, 28, 30
Al-Corn Clean Fuel ("Al-Corn")	8, 9	1-3, 7-11 ¹	1, 2	1-3, 5, 8, 10, 12, 14, 16, 17, 27, 28, 30 ²
Chippewa Valley Ethanol Co. ("CVEC")	1-3, 5-16	1-11	1, 2	1, 3, 5, 6, 8, 10, 12-14, 16, 17, 19-21, 23, 24, 26-30
Heartland Corn Products ("Heartland")	8, 9	1-4, 7-11	1, 2	1, 2, 5, 6, 8, 12-14, 16, 17, 27, 28, 30
Iroquois Bio-Energy Co. ("Iroquois")	8, 9	1-4, 7-11	1, 2	1, 2, 5, 6, 8, 12-14, 16, 17, 27, 28, 30
Ace Ethanol LLC ("Ace")	1-3, 5-16	1-11	1, 2	1, 3, 5, 6, 8, 10, 12-14, 16, 17, 19-21, 23, 24, 26-30
Lincolnland Agri-Energy, LLC ("Lincolnland")	1, 3, 5-8, 10-16	1-6	1	1, 3, 5, 6, 16, 19, 21, 23, 24, 26, 28-30
Big River Resources Galva LLC ("BR-Galva")	8	1-4	1	1, 5, 16, 26, 28, 30
Big River Resources West Burlington, LLC ("BRWB")	8	1-4	1	1, 5, 16, 26, 28, 30
Adkins Energy, LLC ("Adkins")	8, 9	1-4, 7-11	1, 2	1, 2, 5, 6, 8, 12-14, 16, 17, 27, 28, 30

¹ During briefing of the summary judgment motion, CleanTech dropped its claim that Al-Corn infringed claim 4 of the '516 patent. See Master Dkt. Nos. 933 & 1025 n.1 ("MDN 933 & 1025 n.1").

² During briefing of the summary judgment motions, CleanTech dropped its claim that Al-Corn infringed claims 6 and 13 of the '484 patent. See MDN 933 & 1025 n.1. In light of this fact and that in Footnote 1, the Court **GRANTS** Al-Corn Clean Fuel's Motion for Summary Judgment of Non-Infringement of claim 4 of the '516 patent and claims 6 and 13 of the '484 patent.

The Court will refer to these Defendants, collectively, as the “Plant Defendants” throughout this Order. The Plant Defendants have moved for summary judgment of non-infringement as to the ‘858 patent family. MDN 932. As an alternative defense, the Plant Defendants assert that CleanTech lacks standing to bring any claims with respect to the patents-in-suit because it failed to establish title to them in its opening brief. MDN 932, at 49;³ MDN 1096, at 29-32.

With respect to non-infringement specifically, Defendants Ace, Adkins, Al-Corn, Blue Flint, Bushmills, Cardinal, CVEC, Heartland, Iroquois, Lincolnland, Lincolnway and UWGP claim they are entitled to summary judgment on all of CleanTech’s claims of infringement as to the ‘858 patent family either for the entire relevant period or for some relevant period because they add chemicals as an intervening, non-disclosed and disavowed step in their oil recovery processes. Independently, all the Plant Defendants claim they are entitled to summary judgment of non-infringement as to Claim 15 of the ‘858 patent; Claim 10 of the ‘516 patent; and Claims 1-3, 5, 6, 8, 10, 12-14, 16, 17, 19-24 and 26-29 of the ‘484 patent; because none of them dries thin stillage concentrate or concentrated byproduct as required by those claims. Defendants Ace, Adkins, Al-Corn, Blue Flint, Bushmills, CVEC, Heartland, Iroquois, Lincolnway, and UWGP assert that they are entitled to summary judgment of non-infringement as to Claims 7-10 of the ‘516 patent and Claims 8, 10, 12-14, and 27 of the ‘484 patent.

Further, Iroquois argues that it is entitled to summary judgment of non-infringement as to Claims 2 and 9 of the ‘516 patent, and Claim 14 of the ‘484 patent for independent reasons. MDN 923. Lincolnway joins Iroquois’ argument with respect to

³ All citations refer to the document found at the Master Docket Number (“MDN”) and the ECF page number in the upper right-hand corner of the document cited.

Claim 9 of the '516 patent. MDN 930.

In addition, Cardinal asserts that it is entitled to summary judgment on all of CleanTech's infringement claims against it because CleanTech and the Court have impermissibly broadened the scope of the term "oil" during claim construction and urges the Court to clarify the scope of that term. MDN 924. If the Court does so as Cardinal urges, Cardinal argues that its process cannot infringe the claims of the '858 patent family. *Id.*

Ace and GEA Mechanical Equipment US, Inc. ("GEA"), have moved for summary judgment on the issue of liability for inducing or contributing to infringement of the '858 patent family. MDN 934.

Adkins has also moved for summary judgment on its affirmative defense of unclean hands in which it incorporates by reference its Motion for Sanctions. MDN 809 & 925.

In a separate, but integrated brief, the Plant Defendants, along with the remaining original defendants, Flottweig Separation Technologies, Inc., Flottweig AG (collectively, "Flottweig"), GEA, ICM, Inc., and David J. VanderGrind (all original defendants, collectively, "Defendants"); have moved for summary judgment as to their affirmative defense and/or counterclaim of invalidity of the '858 patent family, as to CleanTech's request for provisional remedies and as to CleanTech's request for enhanced damages for willful infringement of the '858 patent family. MDN 940. CleanTech has cross-moved for summary judgment of no invalidity under 35 U.S.C. § 112 against these Defendants. MDN 1005, 1008-1024.

Furthermore, CleanTech has asserted that a sub-set of the Original Defendants

infringe a companion patent, U.S. Patent No. 8,168,037 (the “’037 patent”). Specifically, CleanTech alleges that each of the following Defendants infringes the listed claims of the ‘037 patent:

Defendant	’037 Patent Claims
Cardinal	1, 6, 8, 9, 13, 15
Lincolnway	1, 2, 6-11, 13, 15
Blue Flint	1, 2, 6-11, 13, 15
Lincolnland	1, 6, 8, 9, 13, 15
BR-G	1, 6, 8, 9, 13, 15
BRWB	1, 6, 8, 9, 13, 15

MDN 986 at 6. CleanTech has moved for summary judgment as to all of these asserted claims of the ‘037 patent against each of these Defendants, which the Court shall refer to, collectively, as the “’037 Plant Defendants.” MDN 980-85. The ‘037 Plant Defendants and an additional subset of the Original Defendants, ICM, VanderGrind and Flottweig (all of these Defendants, collectively, the “’037 Defendants”), have moved for summary judgment of invalidity and noninfringement of the ‘037 patent. MDN 1071. CleanTech has cross-moved for summary judgment of no invalidity under 35 U.S.C. § 102(e). MDN 1142-1159.

I. SUMMARY JUDGMENT STANDARD

On cross-motions for summary judgment, the Court must apply the ordinary standards pursuant to Rule 56 of the Federal Rules of Civil Procedure (“Rule 56”) as to each individual motion. See *McKinney v. Cadleway Props., Inc.*, 548 F.3d 496, 504 n.4 (7th Cir. 2008); *Chevron U.S.A. v. Mobil Prod. Tx. & N.M.*, 281 F.3d 1249, 1252-53 (Fed. Cir. 2002). In other words, each motion must be considered separately and the non-moving party given the benefit of favorable inferences. *Chevron*, 281 F.3d at 1253.

As stated by the Supreme Court, summary judgment is not a disfavored

procedural shortcut, but rather is an integral part of the federal rules as a whole, which are designed to secure the just, speedy, and inexpensive determination of every action. See *Celotex Corp. v. Catrett*, 477 U.S. 317, 327 (1986); see also *United Ass'n of Black Landscapers v. City of Milwaukee*, 916 F.2d 1261, 1267–68 (7th Cir. 1990). Rule 56(a) provides in relevant part: "The court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law."

Once a party has made a properly-supported motion for summary judgment, the opposing party may not simply rest upon the pleadings but must instead submit evidentiary materials showing that a fact either is or cannot be genuinely disputed. Fed. R. Civ. P. 56(c)(1). A genuine issue of material fact exists whenever "there is sufficient evidence favoring the nonmoving party for a jury to return a verdict for that party." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 249 (1986). The nonmoving party bears the burden of demonstrating that such a genuine issue of material fact exists. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586–87 (1986); *Goodman v. Nat'l Sec. Agency, Inc.*, 621 F.3d 651, 654 (7th Cir. 2010). It is not the duty of the Court to scour the record in search of evidence to defeat a motion for summary judgment; rather, the nonmoving party bears the responsibility of identifying applicable evidence. See *Goodman*, 621 F.3d at 654; *Bombard v. Fort Wayne Newspapers, Inc.*, 92 F.3d 560, 562 (7th Cir. 1996).

In evaluating a motion for summary judgment, the Court draws all reasonable inferences from undisputed facts in favor of the nonmoving party and views the disputed evidence in the light most favorable to the nonmoving party. See *Berry v. Peterman*, 60

F.3d 435, 438 (7th Cir. 2010); *Estate of Cole v. Fromm*, 94 F.3d 254, 257 (7th Cir. 1996). The mere existence of a factual dispute, by itself, is not sufficient to bar summary judgment. Only factual disputes that might affect the outcome of the suit in light of the substantive law will preclude summary judgment. See *Anderson*, 477 U.S. at 248; *JPM Inc. v. John Deere Indus. Equip. Co.*, 94 F.3d 270, 273 (7th Cir. 1996). Irrelevant or unnecessary facts do not deter summary judgment, even when in dispute. See *Clifton v. Schafer*, 969 F.2d 278, 281 (7th Cir. 1992). If the moving party does not have the ultimate burden of proof on a claim, it is sufficient for the moving party to direct the Court to the lack of evidence as to an element of that claim. See *Green v. Whiteco Indus., Inc.*, 17 F.3d 199, 201 & n.3 (7th Cir. 1994). “If the nonmoving party fails to establish the existence of an element essential to [its] case, one on which [it] would bear the burden of proof at trial, summary judgment must be granted to the moving party.” *Ortiz v. John O. Butler Co.*, 94 F.3d 1121, 1124 (7th Cir. 1996).

II. STANDING

Although the Plant Defendants claim that their lack of title defense is one in the alternative, standing is a subject matter issue; therefore, it must be addressed first. See *Henderson ex rel. Henderson v. Shinseki*, 562 U.S. ___, 131 S.Ct. 1197, 1202, 179 L.Ed.2d 159 (2011) (stating that “federal courts have an independent obligation to ensure that they do not exceed the scope of their jurisdiction”). The Plant Defendants claim that CleanTech has not established title to the patents-in-suit,⁴ which is an element of an infringement claim, and, having failed to set forth the required facts in its brief, the issue is waived and the Court must deny CleanTech summary judgment of

⁴ Reading all of the briefs together, there is no dispute that CleanTech owns the ‘037 patent by assignment. MDN 986 at 6; MDN 1072 at 14; MDN 1176 at 12-16.

infringement. MDN 932 at 49 (citing *Narducci v. Moore*, 572 F.3d 313, 324 (7th Cir. 2009); *Mars Inc. v. Kabushiki-Kaisha Nippon Conlux*, 24 F.3d 1368, 1372 (Fed. Cir. 1994); *FilmTec Corp. v. Allied-Signal, Inc.*, 939 F.2d 1568, 1571 (Fed. Cir. 1991)). But, because it is a subject matter jurisdiction requirement, standing may not be waived; therefore the Court will address the argument on its merits. See *Rodas v. Seidlin*, 656 F.3d 610, 622 (7th Cir. 2011) (citing *Union Pac. R.R. Co. v. Bhd. of Locomotive Eng'rs & Trainmen Gen. Comm. of Adjustment, C Region*, 558 U.S. 67, 81 (2009)).

With respect to the merits, the Plant Defendants argue that CleanTech's citation to the U.S. Patent and Trademark Office's ("PTO's") assignment records is insufficient because of several gaps in the chain of title. MDN 1096 at 29-30. The Plant Defendants list the following as the chain of title set forth in those records:

On June 1, 2005, [David] Winsness and [David] Cantrell assigned [their] rights "in and to any and all patents . . . issued for [the alleged] inventions" described in the provisional application to which the patents-in-suit claim priority to Ethanol Oil Recovery Systems LLC ("EORS"). On January 25, 2007, EORS assigned those rights to Cantrell Winsness Techs., LLC, which had previously changed its name to Mean Green Biofuels of Georgia, LLC ("Mean Green") on December 21, 2006, and its successors. On April 4, 2007, Mean Green then assigned the rights to GS Ethanol Techs., Inc. ("GSET"). On January 11, 2008, GSET and 16 other entities collectively executed a Security Agreement, conditionally assigning their individual property to YA Global Investments, L.P. ("YA Global"). On May 15, 2009, GSET purported to assign the patent application that led to the '858 [p]atent, and "any and all Patents that may be issued therefrom . . . , including all revivals, refilings, continuations, continuations-in-part, divisions and reissues thereof" to GS CleanTech Corp. Finally, on June 30, 2009, Greenshift Corp. (f/k/a GS CleanTech Corp.), GS CleanTech Corp. (f/k/a GSET), and 16 other entities executed an amendment to the January 11, 2008 Security Agreement, ratifying, confirming, and reaffirming the terms therein.

MDN 1096 at 30 (citing MDN 1036-1 at 6-8, 10-14, 16-17, 19-20, 25-43, 45-46, 52-61 (internal citations omitted)). According to the Plant Defendants, the first of the two holes

in the chain of title occurred when GSET made the conditional assignment to YA Global and transferred “continuing interest” and the “power of sale” to YA Global, which the Plant Defendant claim vested title to the patents-in-suit with YA Global upon recording of the Security Agreement with the PTO. *Id.* at 30-31 (citing, *inter alia*, MDN 1036-1 at 27, 30; *Waterman v. MacKenzie*, 138 U.S. 252, 256 (1891); *In re Cybernetic Servs.*, 252 F.3d 1039, 1052 (9th Cir. 2001)). Therefore, the Plant Defendants claim that GSET’s subsequent assignment to CleanTech is void. *Id.* at 32.

The second hole in the chain of title the Plant Defendants assert is that when CleanTech and its parent, Greenshift, failed to file Delaware state taxes by March 1, 2012, CleanTech’s right to maintain a legal action became inoperative unless cured. *Id.* (citing MDN 1097-1 & 1097-2; 8 Del. Code §§ 312 & 510. CleanTech asserts that the agreement between GSET and YA Global merely granted YA Global a security interest in the patents. MDN 1137, at 10-13. As such, like all security interests under Article 9 of the Uniform Commercial Code (“UCC”), the Security Agreement did not convey title to YA Global. *Id.* at 11. In addition, CleanTech argues that the Plant Defendants misstate the language of the Security Agreement: where they say that the document conveyed “a continuing interest in the patents,” *id.* (citing MDN 1096 at 30-31), the agreement actually grants YA Global “a continuing *security* interest” in the patents. *Id.* (quoting MDN 1036-1 at 27, Section 2, adding emphasis). Therefore, recording the Security Agreement did not transfer title; it only perfected YA Global’s security interest in the patents. *Id.* at 11-12. In addition, CleanTech contends that it has paid its taxes and is in good standing; but even if it was not, the inadvertent failure to pay franchise taxes under Delaware law would not divest CleanTech of standing since it would

“always continue[] as a ‘body corporate’ for purposes of this litigation.” *Id.* at 9-10 & n.9 (citing 8 Del. C. § 278; *Krapf & Son, Inc. v. Gorson*, 243 A.2d 713 (Del. 1968)).

The Court concludes that there were no breaks in the chain of custody and CleanTech holds title to the patents-in-suit. As CleanTech suggests, the Plant Defendants rely upon incomplete language from the Security Agreement. By its terms, the grantors were not conveying title to the intellectual property; they were conveying a security interest in it. MDN 1036-1 at 27. Moreover, the Plant Defendants point to nothing in the language of the Security Agreement that evidences any intent for the title of the patents to pass to the Secured Party when the security interest was recorded. Absent such language of intent, there was no transfer of title. Further, CleanTech has paid its taxes and is in good standing as of January 30, 2014. MDN 1137-1 & 1137-2. In addition, CleanTech has evidenced that under Delaware law, even if the company had been dissolved for not paying its taxes, it would still operate with respect to any litigation for at least three years. 8 Del. C. § 278. For these reasons, the Plant Defendants’ Motion for Summary Judgment as to the issue of standing is **DENIED**.

III. BACKGROUND FACTS⁵

A. THE PROCESSES IN GENERAL

Each of the Plant Defendants processes corn to produce ethanol and employs a

⁵ The Court has attempted to set out the facts that are either undisputed or, if disputed, in the light most favorable to the non-moving party. Objections are ruled upon within this Order and any usable evidence is likewise set forth in the light most favorable to the non-moving party. If a party failed to support an objection with a citation to evidence in the record, the Court considered the evidence cited by the proffering party and set forth the facts supported by the evidence. In order to streamline this Order, unless otherwise noted the Court will cite to the ECF page number or numbers where the relevant facts are set forth in a party’s brief and such citation should be presumed to include the exhibits cited therein.

corn oil extraction system to separate corn oil from evaporated thin stillage. MDN 878 at 7-9; MDN 986 at 6-7. Ace, Adkins, Al-Corn, BRWB, Cardinal, CVEC, Lincolnland and Lincolnway first began to extract corn oil from syrup or thin stillage in or around 2008; Heartland started to use its own corn oil extraction system in one plant in 2007, and in both by 2008; Blue Flint, Bushmills, BR-G, Iroquois and UWGP began to extract corn oil from syrup or thin stillage in or around 2009. MDN 878 at 9; MDN 986 at 7.

Although there are some differences in individual processes that the Court will outline as necessary, at each of the Plant Defendants' facilities, whole stillage, a byproduct of the corn to ethanol production process, is separated into a substance that is essentially solids and is known in the industry as wet distillers grains or wet cake; and a substance that is primarily fluid and is known in the industry as thin stillage, which includes water, oil and solids.⁶ MDN 878 at 10; MDN 986 at 8. At the Ace, Blue Flint, Bushmills, CVEC, Lincolnland and UWGP facilities, that separation is facilitated by the use of a decanter centrifuge. MDN 878 at 10; MDN 1037-2 (Bushmills). Bushmills and Heartland add a chemical to the portion known as thin stillage before anything else is done with the material. MDN 932 at 15 (Bushmills) & 16-17 (Heartland). Then, as to all Defendants, the portion known as thin stillage (or thin stillage plus chemical) is pumped through an evaporation system (a system that varies by Defendant), which produces a material known in the industry as syrup, which again contains water, oil and solids. MDN 878 at 11; MDN 986 at 8. Ace introduces a chemical to the syrup before it is pumped to a holding tank. MDN 932 at 6-7. Several other Plant Defendants including Adkins, Al-Corn, Blue Flint, Bushmills, Cardinal, CVEC, Iroquois, Lincolnland, Lincolnway,

⁶ The court also considered undisputed evidence of the prior art conventional dry mill ethanol plant. See Section VI.A.2, *infra*.

and UWGP, mix in a chemical with the syrup after the evaporation step. MDN 932 at 15, 37-38; MDN 949-39 (Iroquois). The Plant Defendants that use a chemical additive at some point before the pre-centrifugation (or pre-mechanical) processing step started using chemicals at different points in time to improve their oil recovery. MDN 932 at 37-38.

Next, the syrup is passed through one or more centrifuges to separate the syrup into two output streams: one is a light phase consisting of oil, water and solids, which the Court and the parties will sometimes refer to as the “oil stream”; the other one is reduced oil syrup. MDN 878 at 11-12; MDN 932 at 5; MDN 986 at 8-9; MDN 1179 at 15. The light phase stream is put into tanks where, for nearly all of the Plant Defendants, the solids and water are allowed to settle or are otherwise further separated. MDN 878 at 12-13; MDN 932 at 5, 18, 21, 23-24; MDN 881-22 (Heartland); MDN 1037-3 (UWGP); MDN 986 at 9; MDN 1179 at 15.

The parties dispute whether the evidence supports CleanTech’s assertion that the Plant Defendants’ processes run in a “continuous fashion” as required by some of the asserted claims of the ‘858 patent family. MDN 878 at 13; MDN 932 at 8, 16, 18, 20, 22, 23-24, 31; MDN 923; MDN 930. Iroquois and Lincolnway specifically argue that their systems are not continuous. MDN 932 at 22 (stating that Iroquois’ process processes a single batch of syrup at a time); *id.* at 23-24 (stating that Lincolnway’s centrifuges are not processing syrup continuously during times that solids ejections and cleanings-in-place (“CIP”) are occurring). See *also* MDN 923 (Iroquois’ Cross-Motion for Summary Judgment of Non-Infringement as to Certain Patent Claims); 930 (Lincolnway’s Joinder in Iroquois’ Motion for Summary Judgment of Non-Infringement

as to Claim 9 of the '516 Patent).

CleanTech's expert, John McKenna ("McKenna"), testified that he would not consider a mixture of thin stillage concentrate, wet distillers grains and previously dried DDGS, to be "thin stillage concentrate." MDN 1096 at 17-21. And, McKenna testified that he had not seen any of the Plant Defendants dry the concentrated thin stillage leaving a centrifuge in a dryer. *Id.* at 19.

B. PLANT SPECIFIC EVIDENCE

1. Ace

Ace installed its corn oil extraction system in 2008. MDN 878 at 33. At Ace's facility, syrup exits the evaporation stage and is pumped to a syrup balance tank; the syrup is then pumped into a heat exchanger and heated to approximately [REDACTED]°F. *Id.* at 13. The temperature of the syrup as it exits the balance tank and enters the heat exchanger is approximately [REDACTED]°F. *Id.* After the syrup exits the heat exchanger, since January 2012, Ace introduces a chemical into the syrup to increase the oil recovery from the syrup; from August 2008 through January 2012, no chemical was added on a regular basis. MDN 932 at 6-7. From there, the syrup is pumped to a raw syrup tank and then it is pumped into a heated syrup tank. MDN 878 at 13. From the heated syrup tank, the syrup is pumped to a disk-stack centrifuge for oil removal. *Id.* at 13-14. The temperature of the syrup is maintained at approximately [REDACTED]°F in both the raw and the heated syrup tanks and enters the centrifuge at a temperature approximately between [REDACTED]°F and [REDACTED]°F. *Id.* at 14. The moisture content of the syrup fed into the centrifuge is approximately [REDACTED]% to [REDACTED]% and the pH of the syrup is approximately 3.6. MDN 878 at 14.

The reduced oil syrup leaving the centrifuge is discharged into a dryer feed tank. From the dryer feed tank, the reduced oil syrup is mixed with distillers wet grains and then dried in a dryer to make dried distillers wet grains with solubles ("DDGS"). *Id.* The reduced oil syrup contains between [REDACTED]% and [REDACTED]% of the oil originally present in the input syrup. MDN 932 at 7.

On December 13, 2011, CleanTech performed a Rule 34 inspection of Ace's corn oil extraction process. MDN 878 at 29. During the inspection, samples were taken at fourteen locations (1-14). At each location, four individual samples were taken (A-D) with CleanTech retaining two of the samples (A-B) and Ace retaining the remaining two samples (C-D). *Id.* CleanTech submitted one of each of its samples (AE-1A through AE-14A) and Ace submitted one of each of its samples (AE-1C through AE-14C) for analysis to MidWest Laboratories, Inc. ("MidWest"), where each sample was tested and separate test data sheets were generated that provided the test data for each sample. *Id.* at 29-30.

Samples AE-11A and AE-11C were from the syrup stream before it enters the disk-stack centrifuge. *Id.* at 30. Samples AE-12A and AE-12C were from the reduced oil syrup stream leaving the disk-stacked centrifuge. *Id.* Samples AE-13A and AE-13C were taken from the light phase stream exiting the disk-stacked centrifuge. *Id.*; MDN 932 at 7.

The results of the MidWest tests on samples AE-11A and AE-11C of the syrup entering the centrifuge show oil concentrations of [REDACTED]% and [REDACTED]%, respectively. MDN 878 at 30. The results of the MidWest tests on samples AE-12A and AE-12C of the reduced oil syrup stream leaving the centrifuge show oil concentrations of [REDACTED]% and

█%, respectively. *Id.* at 30-31. The sample results show an oil recovery range between █% and █% of the oil removed through centrifugation. *Id.* at 30; MDN 932 at 7.

The results of the MidWest tests on samples AE-13A and AE-13C of the light phase exiting the centrifuge show an oil concentration of █% and █%, respectively. MDN 878 at 31.

The results of the MidWest tests are reflective of Ace's process, which, at the time, included the addition of a chemical. *Id.*; MDN 932 at 7.

During its inspection at the Ace facility, CleanTech took photographs of its samples of the syrup fed into the centrifuge; and of its samples of the reduced oil syrup and the light phase leaving the centrifuge. MDN 878 at 31. Although the concentration of the sample does not change, settling will occur in the samples, which allows oil to be more observable.⁷ MDN 932 at 7; MDN 1025 at 11.

2. Adkins

At the Adkins facility, the syrup is pumped to a strainer after it exits the final stage of the evaporation system. MDN 878 at 14-15. Chemicals are added to the syrup as it leaves the evaporator. MDN 932 at 12. From there it goes through a strainer that removes coarse solids from the syrup; and then the syrup is pumped to a disk-stack centrifuge. *Id.*; MDN 878 at 14-15. The moisture content of the syrup fed into the centrifuge is approximately 67% by weight. MDN 878 at 15. The pH concentration of the syrup fed into the centrifuge was measured on October 6, 2011, to be approximately

⁷ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

3.67. *Id.*; MDN 932 at 8-9. The reduced oil syrup that comes out of the centrifuge is discharged into a tank; from there it is sent to a syrup tank and then it is mixed with wet cake. MDN 878 at 15. A portion of this mixture is sent to a dryer. *Id.*

On October 11, 2011, CleanTech performed a Rule 34 inspection at the Adkins facility and took samples at various parts of Adkins' process; Adkins did not take any samples. *Id.* at 33. Adkins objected to CleanTech's Statement of Material Facts Not in Dispute ("CleanTech SOMF")⁸ numbered 123 through 130, 132 through 135, and 137 on the basis that the cited evidence did not support the statement. MDN 932 at 9-10. The Court agrees that the cited evidence does not support the statements because the Rule 30(b)(6) witness did not testify as to where any sample was taken from. MDN 882-38 & 882-39. Similarly, the MidWest results do not indicate where any sample was taken from; they just reference the sample number and the results.⁹ In response to Adkins' objection, CleanTech merely states that the MidWest results speak for themselves and that the Rule 30(b)(6) testimony establishes that the results are largely consistent with typical results Adkins observes at other times. MDN 1025 at 12, 68-69. At no point does CleanTech address Adkins' objection that there is no foundation for a

⁸ Because there are several "Statements of Material Fact" that may be referenced in this Order, the Court defines those statements as follows: (1) CleanTech's Statement of Material Facts Not in Dispute with respect to infringement of the '858 patent family: "CleanTech's SOMF;" (2) CleanTech's Statement of Material Facts Not in Dispute with respect to infringement of the '037 patent: "'037 SOMF."

⁹ In CleanTech's SOMF 133, it cites to Exhibit 72, which purports to be a Declaration of Photographer During Adkins Inspection and Exhibit A attached thereto. MDN 878 at 35. However, Exhibit 72, which is located on the Master Docket at MDN 882-40, is not that Declaration. See MDN 882-40 (entitled "Declaration of Charles F. O'Brien in Support of Greenshift Corporation and GS CleanTech Corporations' Motion to Transfer Pursuant to 28 U.S.C. § 1407 for Consolidated Pre-Trial Proceedings"). Therefore, Adkins' objection to CleanTech SOMF 133 is also **SUSTAINED** because Exhibit 72 does not authenticate the subject picture.

conclusion that the cited samples came from various parts of Adkins' process. For these reasons, the Court **SUSTAINS** Adkins' objections to the MidWest data as against it; the data will not be considered.

Adkins also objected to CleanTech SOMF 131 and 135 on the basis that the evidence cited, the Expert Report of John V. McKenna Re: Infringement by Adkins Energy, LLC, is unsworn and inadmissible. MDN 932 at 10-11; MDN 882-39. CleanTech wholly fails to address this objection. MDN 1025 at 12, 69. Expert reports are merely discovery materials, see *Blue Cross & Blue Shield United of Wis. v. Marshfield*, 152 F.3d 588, 595 (7th Cir. 1998); therefore, unless the expert authenticates the report, it is inadmissible. See *Wittmer v. Peters*, 87 F.3d 916, 917 (7th Cir. 1996) (citing Fed. R. Civ. P. 56(e); *Fowle v. C&C Cola*, 868 F.2d 59, 67 (3d Cir. 1989)); *Howmedica Osteonics Corp. v. Tranquil Prospects, Ltd.*, 482 F. Supp. 2d 1045, 1057 (N.D. Ind. 2007) (citing *Adickes v. S.H. Kress & Co.*, 398 U.S. 144, 158 n.17 (1970); *Provident Life & Acc. Ins. Co. v. Goel*, 274 F.3d 984, 1000 (5th Cir. 2001); *Fowle*, 868 F.2d at 67). The *Fowle* court suggested that some courts believe such a conclusion is hypercritical, 868 F.2d at 67 (see also *Howmedica*, 482 F. Supp. 2d at 1057 (stating that it would decide the issue on the merits rather than on a hypercritical application of the rules)); but, here, despite having the opportunity to do so, CleanTech did nothing to address Adkins' objection once it was raised and had opportunity to do so; therefore, Adkins' objection to CleanTech SOMF 131 is **SUSTAINED** and John McKenna's opinions as to Adkins are inadmissible.

For these reasons, CleanTech presented no admissible evidence on the content of the various samples or any test results for the Adkins inspection.

3. Al-Corn

At the Al-Corn facility, syrup is transferred from the seventh evaporator to a syrup buffer tank. MDN 878 at 15. The temperature of the syrup as it exits the evaporator system is approximately [REDACTED]°F, its moisture content is approximately [REDACTED]% by weight, and its pH is between approximately 4.7 and 5.0. *Id.*; MDN 932, at 12-13. The syrup that exits the evaporation system is comprised of water, corn oil and solids. MDN 878 at 38. The syrup passes through a filter screen and then is sent to a primary high speed separator (“PCOSS”) disk-stack centrifuge. *Id.* at 15. The Al-Corn centrifuge separates a portion of the oil in the syrup, along with portions of water and unsaponifiable matter into one stream (the “light stream”) and the remaining reduced oil syrup into another stream. *Id.* The reduced oil syrup that exits the centrifuge contains between [REDACTED]% and [REDACTED]% of the oil originally present in the syrup. MDN 932 at 12. The reduced oil syrup is transferred to a syrup return tank, then to a syrup storage tank. MDN 878 at 16. Ultimately, the reduced oil syrup is mixed with wet cake and sent to dryers. *Id.*

Although Al-Corn initially transferred the light stream from the centrifuge to a temporary storage tank and through a secondary corn oil separator, it has not done so since March 2009. *Id.* The light stream is discharged into a corn oil settling tank, which overflows by gravity into another settling tank and then to a bulk storage tank. *Id.*

On November 30, 2011, CleanTech performed a Rule 34 inspection of Al-Corn’s facility. *Id.* at 36. During the plant inspection, four samples (A-D) were taken at thirteen sample locations (1-13). *Id.* The four samples at each location were identified AL-1A through D, through AL-13A through D. *Id.* CleanTech submitted samples AL-1A through AL-13A and Al-Corn submitted samples AL-9C, AL-10C, AL-11C and AL-13C to

MidWest for analysis, where each sample was tested and separate test data sheets were generated providing the test data for each sample. *Id.* at 37.

MidWest's test results on samples AL-11A and C, which were taken from the oil stream leaving the centrifuge, were produced by Al-Corn bearing Bates No. AL-CORN001558 and by CleanTech bearing Bates No. GCS(AlCorn) 0000011. *Id.* MidWest's test results on samples AL-10A and C, which were taken from the reduced oil syrup leaving the centrifuge, were produced by Al-Corn bearing Bates No. AL-CORN001557 and by CleanTech bearing Bates No. GCS(AlCorn) 000010. *Id.* at 37-38. MidWest's test results on samples AL-9A and C, which were taken at the feed stream to the centrifuge after Evaporator 7, were produced by Al-Corn bearing Bates No. AL-CORN001556 and by CleanTech bearing Bates No. GCS(AlCorn) 000009. *Id.* at 38.

The MidWest test data produced by Al-Corn for samples of the syrup entering the centrifuge show an oil concentration of about [REDACTED]%; MidWest's data produced by CleanTech for samples of the same stream show an oil concentration of about [REDACTED]%. *Id.* The MidWest test data produced by Al-Corn for samples of the reduced oil syrup coming out of the centrifuge show an oil concentration of about [REDACTED]%; MidWest's data produced by CleanTech for samples of the same stream show an oil concentration of about [REDACTED]%. *Id.* at 38-39. This means there is approximately between [REDACTED]% and [REDACTED]% of the oil left in the reduced oil syrup. MDN 932 at 12. Or, approximately [REDACTED]% to [REDACTED]% of the oil in the syrup entering the centrifuge is removed during that part of the process. MDN 878 at 39.

The MidWest data produced by Al-Corn for the samples of the light stream leaving the centrifuge show an oil concentration of about 96.5%; MidWest's data

produced by CleanTech for the same samples show an oil concentration of approximately [REDACTED]%. *Id.*

CleanTech took a photograph of AL-9A (of the syrup after the evaporator and before the centrifuge), AL-10A (of the reduced oil syrup leaving the centrifuge), AL-11A (of the light stream leaving the centrifuge), AL-12A (oil in the settling tank) and AL-13A (oil in the bulk storage tank), during the November 30, 2011, inspection of Al-Corn's facility. *Id.* at 40. Although the material has settled, the compositions have not changed, but it has made the oil more observable.¹⁰ *Id.* at 40; MDN 932 at 5-6; MDN 1025 at 11.

4. Blue Flint

In the Blue Flint system, prior to November 26, 2011, the syrup was steam blasted before it entered the centrifuge, which heated the syrup to 180°F to 190°F. MDN 932 at 14. Further, after June 14, 2011, Blue Flint began injecting a chemical additive to the syrup just prior to the stream entering the centrifuge. *Id.* In Blue Flint's system, syrup, which is a mixture of water, oil and solids, is transferred from the seventh evaporator of an eight-evaporator system to a Westfalia disk-stack centrifuge where it is separated into a light stream comprised of free oil and an oil/water/solids emulsion and a heavy, reduced oil solids stream consisting of solids, moisture and a small amount of oil. MDN 878 at 16-17, 43; MDN 986 at 9. Prior to November 24, 2011, the temperature of this syrup was approximately between 200°F and 205°F, MDN 878 at 17; MDN 986 at 9; after that date, the temperature was and is between approximately

¹⁰ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

180°F and 190°F, MDN 932 at 14; MDN 1179 at 15. The moisture content of the syrup is approximately 70% by weight; and its pH level is between 3 and 6 as well as between 3.5 and 4.5. MDN 878 at 17; MDN 986 at 9. The reduced oil syrup stream that leaves the centrifuges at Blue Flint is fed back into another evaporator, then it is transferred to syrup transfer and holding tanks; then it is pumped onto wet cake or distillers grains and dried. MDN 878 at 17; MDN 986 at 10.

On October 25, 2011, CleanTech performed a Rule 34 inspection of Blue Flint's facility. MDN 878 at 41; MDN 986 at 14. During the inspection, four samples were taken (A-D) at each of fifteen sample locations (1-15) and were labelled accordingly. *Id.* CleanTech submitted samples BF-1A through BF-15A and Blue Flint submitted samples BF-1C through BF-15C for analysis to MidWest, where each sample was tested and separate test data sheets were generated providing test data for each sample. MDN 878 at 42; MDN 986 at 14-16. On January 27, 2012, Blue Flint conducted additional sampling at Evaporator 7, which is right before the syrup goes into the centrifuge; and also at the "stillage return," which is where the reduced oil syrup stream exits the centrifuge. MDN 878 at 42; MDN 986 at 15-16. These samples, duly marked, were also sent to MidWest for testing. MDN 878 at 42-43; MDN 986 at 15-16.

The MidWest test data on Blue Flint's samples for the syrup stream entering the centrifuge with and without chemical additive show an oil concentration of approximately 5.32%-5.35%; the MidWest data for CleanTech's samples of the same stream show an oil concentration of approximately 5.45%. MDN 878 at 42-44. The MidWest test data for Blue Flint's samples for the reduced oil syrup stream leaving the centrifuge, with and without chemical additive, show an oil concentration of approximately 1.76%-2.67%; the

MidWest data for CleanTech's samples of the same stream show an oil concentration of approximately 2.22%. *Id.* at 44. Based on these results, approximately 45.5%-56.5% of the corn oil is recovered. MDN 932 at 14.

The MidWest test data on Blue Flint's samples for the light stream coming out of the centrifuge show an oil concentration of approximately 97.04%; the MidWest data for CleanTech's samples of the same stream show an oil concentration of approximately 96.8%. MDN 878 at 45; MDN 986 at 16-17.

During the October 25, 2011, inspection of the Blue Flint facility, CleanTech took a photograph of BF-8A (of the syrup after Evaporator 7 and before the centrifuge), BF-10A (of the syrup before the heater and entering the centrifuge), BF-11A (of the light stream leaving the centrifuge), BF-12A (oil in the settling tank) and BF-13A (reduced oil syrup stream). MDN 878 at 45; MDN 986 at 17. Partially obscured in the photograph are BF-14A and BF-15A taken from the storage tanks. MDN 878 at 45-46; MDN 986 at 17. Although the material has settled, the compositions have not changed, but it has made the oil more observable.¹¹ MDN 878 at 46; MDN 932 at 5-6; MDN 1025 at 11; MDN 986 at 18; MDN 1179 at 15.

The data obtained from the October 25, 2011, samples, is typical for when Blue Flint's system was using the steam injection part of the process; but it is not reflective of recovery with a chemical additive. MDN 878 at 46; MDN 932 at 6; MDN 881-23, ¶ 22; MDN 986 at 18.

¹¹ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

5. Big River – West Burlington (“BRWB”)

BRWB’s corn oil extraction system has two centrifuges, the North Tricanter centrifuge and the South Tricanter centrifuge; and two 8-stage evaporation systems. MDN 878 at 17; MDN 986 at 10. The syrup in BRWB’s system exits the two evaporation systems after the fourth evaporator and is pumped to one of two head feed tanks. MDN 878 at 18; MDN 968 at 10. From the feed tank, the syrup is pumped to either the North or the South Tricanter centrifuge. *Id.* The oil stream separated by the two centrifuges is recovered and discharged into a first corn oil receiver tank, and then the corn oil flows to a second corn oil receiver tank, and then into a storage tank; it is sold from the storage tank. *Id.* The reduced oil syrup that comes out of the North or the South Tricanter centrifuge is discharged into one of two tricanter receiver syrup tanks. *Id.* From one or the other tricanter receiver syrup tanks, the reduced oil syrup is pumped back to the fifth evaporator in of the two 8-stage evaporator systems where moisture is removed as it flows through the remaining portion of the evaporator system. *Id.* This evaporated reduced oil thin stillage is then combined with wet distillers grains and wet cake and is further dried to produce dried distillers grains with solubles (“DDGS”). MDN 986 at 11.

The moisture content of the syrup fed to both the North and the South Tricanter centrifuges is between 72% and 75%.¹² MDN 878 at 18; MDN 968 at 10. The pH of the syrup fed to either of the two centrifuges is 3.2 or higher. MDN 878 at 19.

¹² BRWB disputed CleanTech SOMF 40 and ‘037 SOMF 15 on this point stating that this information conflicts with the MidWest testing data, MDN 932 at 15, MDN 1072 at 14; MDN 1179 at 15; however, BRWB failed to cite to the MidWest test data that supports its assertion. *Id.* Therefore, the Court must accept CleanTech SOMF 40 and ‘037 SOMF 15 as true. Fed. R. Civ. P. 56(e)(2); S.D. Ind. L.R. 56-1(f)(1) & (h).

On November 16, 2011, CleanTech performed a Rule 34 inspection of BRWB's facility. MDN 878 at 47; MDN 986 at 18-19. During the inspection, four (A-D) samples were taken at twenty-four (1-24) sample locations. *Id.* CleanTech retained two samples from each location (A and B); BRWB retained the remaining two (C and D). *Id.* CleanTech submitted samples WB-1A through WB-24A and BRWB submitted samples WB-1C and WB-24C for analysis to MidWest, where each sample was tested¹³ and separate data sheets were generated providing the test data for each sample. MDN 878 at 47-48; MDN 932, at 15; MDN 986 at 18-19; MDN 1179 at 15. Samples marked 20 were taken from the reduced oil syrup leaving the North Tricanter centrifuge; samples marked 21 were taken from the oil stream coming out of the same centrifuge; samples marked 22 were taken from the reduced oil stream coming of the South Tricanter centrifuge; and samples marked 23 were taken from the oil stream coming of that centrifuge. MDN 878 at 48; MDN 986 at 19-20.

The MidWest data for the three oil stream samples exiting the North Tricanter centrifuge, WB-21A, WB-21C and WB-21D, show oil concentrations of 94.14%, 93.18% and 92.79%, respectively. *Id.* at 48-49; MDN 932 at 15; MDN 986 at 20; MDN 1179 at 15. The three oil stream samples from the South Tricanter centrifuge, WB-23A, WB23C and WB-23D, show oil concentrations of 94%, 96.08% and 95.3%, respectively. MDN 878 at 49; MDN 986 at 20.

During the November 16, 2011, inspection of the BRWB facility, CleanTech took a photograph of samples taken from the North Tricanter centrifuge system, including: WB-51 (of the syrup after Evaporator 4 and before the centrifuge), WB-9A (of the syrup

¹³ BRWB's samples were tested twice. MDN 878 at 47-48; MDN 932 at 15; MDN 986 at 19; MDN 1179 at 15.

at the centrifuge feed pump), WB-20A (reduced oil syrup leaving the centrifuge), WB-21A (light stream leaving the centrifuge) and WB-24A (oil storage tank). MDN 878 at 49050; MDN 986 at 20-21. At the same plant inspection, CleanTech took a photograph of samples taken from the South Tricanter centrifuge, including: WB-14A (syrup after Evaporator 12 and before the centrifuge); WB-18A (syrup entering the centrifuge feed pump); WB-22A (reduced oil syrup leaving the centrifuge); WB-23A (light stream leaving the centrifuge); and WB-24A (oil storage tank). MDN 878 at 50-51; MDN 986 at 21-22. Although the material has settled, the compositions have not changed, but it has made the oil more observable.¹⁴ *Id.* at 46; MDN 932 at 5-6; MDN 1025 at 11.

6. Bushmills

As previously referenced, Bushmills adds a surfactant to the thin stillage before it enters the first stage of an eight-stage evaporator system, which increases the recovery of corn oil by 20-30%. MDN 932 at 15. In addition, at the last evaporator, Bushmills introduces another chemical before the thin stillage enters a disk stack centrifuge. *Id.*; MDN 932 at 19. The syrup is further fed through a strainer before it enters the centrifuge. MDN 878 at 19; MDN 1025 at 12; MDN 1037-2. The thin stillage fed into the centrifuge generally has a pH in the range of 4 to 4.8 pH.¹⁵ MDN 878 at 19. The oil

¹⁴ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

¹⁵ Bushmills objected to CleanTech SOMF 46, which sets forth a moisture range for the thin stillage of between 62% and 73%, as unsupported by the evidence because there is no indication of whether the moisture range cited for Bushmills' process was a weight or volume percentage. MDN 878 at 19; MDN 932 at 16. While Bushmills is technically correct, the evidence CleanTech cites is statements made by Bushmills, which supports a conclusion that the parties were using a common or standard measure, weight, when they were talking about the moisture content. Therefore, unlike citations made to raw

separated by the centrifuge, which contains water, solids and oil, is recovered and discharged into a corn oil transfer tank and then flows to one of two oil storage tanks; from those tanks, the oil is loaded onto trucks. *Id.* The reduced oil syrup that comes out of the centrifuge is either put onto wet cake and sold as modified wet cake, MDN 932 at 17; MDN 881-45 at 7; or sometimes it is mixed with the wet cake and then sent to a dryer. MDN 932 at 17; MDN 881-45 at 9-10.

On December 7, 2011, CleanTech performed a Rule 34 inspection of Bushmills' facility. MDN 878 at 52. During the inspection, samples were taken at several locations throughout Bushmills' corn oil extraction system. *Id.* During the inspection, Bushmills ran its corn oil extraction system with and without chemical additives and four samples (A-D) were taken at each sample location (1-14). *Id.* at 52-53. CleanTech retained two of the samples, BM-1A through BM-14B; and Bushmills retained two of the samples, BM-1C through BM-14D. *Id.* CleanTech submitted samples BM-1A through BM-14A for analysis to MidWest, where each sample was tested and separate test data sheets were generated providing the test data for each sample. *Id.* at 53. Bushmills submitted samples BM-1C through BM-14C for analysis to Minnesota Valley Testing Laboratories, Inc. ("MVTL"), where each sample was tested and separate test data sheets were generated providing the test data for each sample. *Id.*

Samples BM-11A and BM-11C were taken from the reduced oil syrup stream coming out of the centrifuge while the corn oil extraction system was run without the

data that is unidentified, this data has context; therefore, the Court **OVERRULES** Bushmills' objection.

addition of chemicals.¹⁶ *Id.* at 53. Samples BM-10A and BM-10C were taken from the oil stream coming out of the centrifuge while the corn oil extraction system was run without the addition of chemicals. *Id.* at 53-54. Samples BM-4A and BM-4C were taken from the reduced oil syrup stream leaving the centrifuge while the corn oil extraction system was run with chemicals added. *Id.* at 54. Samples BM-3A and BM-3C were taken from the oil stream coming out of the centrifuge while the corn oil extraction system was run with chemicals added. *Id.*

Test data on the reduced oil syrup samples when the extraction process is run without chemicals, BM-11A and BM-11C, show oil concentrations of 2.65% and 3%, respectively; test data on the reduced oil syrup samples when chemicals were added to the process, BM-4A and BM-4C, show oil concentrations of 1.76% and 2.29%, respectively. *Id.* at 55. Test data on the oil stream samples when the extraction process is run without chemicals, BM-10A and BM-10C, show oil concentrations of 97.3% and 95.49%, respectively; test data on the oil stream samples when the process is run with chemicals, BM-3A and BM-3C, show oil concentrations of 97.1% and 96.27%, respectively. *Id.* at 55-56.

During the December 7, 2011, inspection of the Bushmills facility, CleanTech

¹⁶ Bushmills objected to CleanTech SOMF 201, 206 & 212 stating that the cited material did not support the statement that samples marked BM-9A and BM-9C were from the concentrated thin stillage or syrup fed into the centrifuge. MDN 932 at 16. In response, CleanTech merely states that the statement is supported by substantial evidence and cites no additional evidence. MDN 1025 at 12. The Court agrees with Bushmills that the cited evidence does not support that samples BM-9A and BM-9C were taken from the syrup stream fed into the centrifuge and **SUSTAINS** Bushmills' objection; therefore, the Court will not consider CleanTech SOMF 201, 206 and 212. See Fed. R. Civ. P. 56(e) & S.D. Ind. L.R. 56-1. Consequently, the Court cannot consider CleanTech SOMF 209, which is based in part on those samples and there is no independent foundation for admission of the test results in the cited evidence. See MDN 878 at 55.

took a photograph of samples BM-9A,¹⁷ BM-3D (oil stream leaving the centrifuge when chemicals are added), BM-4A (reduced oil syrup leaving the centrifuge when chemicals are added), BM-10A (oil stream leaving the centrifuge without chemicals added), BM-11A (reduced oil syrup leaving the centrifuge without chemicals added), and BM-12A (oil in the corn oil transfer tank). *Id.* at 56. Although the material has settled, the compositions have not changed, but it has made the oil more observable.¹⁸ *Id.* at 56; MDN 932 at 5-6; MDN 1025 at 11.

The results of the samples taken during the inspection are typical for Bushmills' corn oil extraction process.¹⁹ MDN 878 at 58.

7. Cardinal

Cardinal operates two Tricanter centrifuges; each is fed syrup from the seventh evaporator of an eight-stage evaporator system. MDN 878 at 20; MDN 986 at 11. The temperature of the syrup exiting Evaporator 7 is approximately 185°F, its moisture content is approximately 68-70% and its pH is approximately 4 to 4.1. MDN 878 at 20; MDN 986 at 11. Cardinal has an in-line "pick heater" that is capable of heating the syrup stream as it leaves Evaporator 7 and before it enters the Tricanter, but it is not always used. MDN 878 at 20. Further, Cardinal adds a demulsifier to the syrup before

¹⁷ Bushmills objected to any reference to what was contained in sample vial BM-9A for the reasons discussed in footnote 16, *supra*; therefore, no information about that sample has been considered by the Court. See Fed. R. Civ. P. 56(e); S.D. Ind. L.R. 56-1.

¹⁸ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. Compare, e.g., MDN 878 at 41 and MDN 1025 at 11, 38-39, with MDN 932 at 5-6.

¹⁹ Bushmills objected to CleanTech SOMF 213, which discusses corn oil concentrations of various samples, on the basis that it lacked foundation because of its reliance on CleanTech SOMF 201. MDN 932 at 16. The Court agrees that CleanTech SOMF 213 lacks a foundation and **SUSTAINS** Bushmills' objection to CleanTech SOMF 213; therefore it will not be considered. See Fed. R. Civ. P. 56(e); S.D. Ind. L.R. 56-1.

it enters the centrifuge. *Id.*; MDN 932 at 17 & 38. The light stream that exits the centrifuge, which contains some solids, is discharged into an oil receiving tank, where the solids are allowed to settle; the overflow oil is sent to a second oil receiving tank; from there the oil is pumped to a storage tank from which it is sold. MDN 878 at 20. Any settled solids are returned to the syrup stream and fed back through the evaporator system. *Id.* The reduced oil syrup leaving the Tricanters returns to evaporator 8.²⁰ *Id.* at 21.

On October 20, 2011, CleanTech performed a Rule 34 inspection of Cardinal's corn oil extraction process. *Id.* at 58; MDN 986 at 23. During the plant inspection four samples (A-D) were taken at sixteen samples locations (1-16); the four samples at each sampling location were identified as CE-1A through D, through CE-16A through D. *Id.* CleanTech submitted samples CE-1A through CE-16A and Cardinal submitted samples CE-1C through CE-16C, for analysis to MidWest, where each sample was tested and separate data sheets were generated that provided the test data for each sample. MDN 878 at 58-59; MDN 986 at 23-24.

The MidWest test data for the samples taken of the oil stream, which is a combination of oil, water and solids, leaving Cardinal's centrifuges show an oil concentration in the range of approximately, 87.53% to 90.26%. *Id.* at 59-60; MDN 932 at 17; MDN 986 at 24-25; MDN 1179 at 15.

²⁰ Cardinal objected to CleanTech SOMF 55, which support the material referenced here, as being incomplete; however, Cardinal failed to cite to admissible evidence to support its objection. MDN 932 at 17. But, not all of the objectionable evidence is supported by the material cited by CleanTech; therefore, the Court **VERRULES in part and SUSTAINS in part** Cardinal's objection and will consider CleanTech SOMF 55, but only as supported by the cited evidence. See Fed. R. Civ. P. 56(e); S.D. Ind. L.R. 56-1.

During the October 20, 2011, inspection of the Cardinal facility, CleanTech took a photograph of samples CE-10A (syrup fed to the centrifuge), CE-12A (the reduced oil syrup exiting the centrifuges), CE-13A (oil stream leaving the centrifuge), CE-14A (oil stream leaving the centrifuge), CE-15A (oil in recovery tank) and CE-16A (oil in the corn oil transfer tank). MDN 878 at 60; MDN 986 at 25. Although the material has settled, the compositions have not changed, but it has made the oil more observable.²¹ MDN 878 at 60; MDN 932 at 5-6; MDN 1025 at 11; MDN 986 at 26.

The results of the samples taken during the inspection are typical for Cardinal's corn oil extraction process when chemicals are used in the process as set forth above. MDN 878 at 61; MDN 932 at 17; MDN 986 at 26; MDN 1179 at 15.

8. CVEC

In CVEC's corn oil extraction system, once thin stillage is separated from whole stillage and grains, the thin stillage is pumped to a thin stillage tank through a heat exchanger. MDN 878 at 21; MDN 932 at 18. After going through a third effect evaporator and a second effect evaporator, the syrup is then passed through another heat exchanger before it is fed to a retention tank. *Id.* The temperature of the thin stillage after the second effect evaporator is approximately 120°F to 140°F; after the heat exchanger, the temperature of the thin stillage is approximately 190°F. MDN 878 at 21. As the syrup enters the retention tank, a surfactant is pumped into the tank to reduce interfacial tension between the oil and the water phases of the syrup. *Id.*; MDN 932 at 18. After the retention tank (this syrup is at approximately 186°F), the syrup is

²¹ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

fed to a settling tank where it resides for 10 to 11 hours to allow the surfactant to work. *Id.* Surfactant is added again when the syrup is fed to the separator. *Id.* The syrup then passes through a strainer and then is fed to a disk stack centrifuge; at this point the syrup is still approximately 186°F, has a pH of approximately 3.5, and has a moisture content of approximately 58 to 65%.²² MDN 878 at 21-22; MDN 932 at 18.

The reduced oil syrup or remaining syrup that comes out of the centrifuge is discharged into a tank and then it is fed into a pre-mixer or paddle mixer with wet cake and syrup that may have by-passed the corn oil extraction centrifuge. *Id.* This mixture is sent to dyers and dried to make dried distillers grains with solubles (“DDGS”). MDN 878 at 21-22.

On December 7, 2011, CleanTech performed a Rule 34 inspection of CVEC’s facility. *Id.* at 61. During the plant inspection, four samples (A-D) were taken at ten sample locations (1-10); the four samples at each location were identified as CH-1A to D, through CH-10A to D. *Id.* CleanTech retained two sample sets, CH-1A and B, through CH-10A and B; CVEC retained the remaining two sample sets, CH-1C and D, through CH-10C and Ds. *Id.*

CleanTech submitted samples CH-1A through CH-10A for analysis to MidWest; CVEC submitted samples CH-1C through CH-10C for analysis to MVTL. *Id.* at 62. Each lab tested each sample and separate test data sheets were generated for each

²² CVEC objected to CleanTech SOMF 62, which sets forth the moisture content of the syrup entering the centrifuge, on the basis that there is no foundation for a conclusion that the percentage is based on weight. MDN 932, at 18; MDN 878 at 22. While CVEC is technically correct, the evidence CleanTech cites is statements made by CVEC, which supports a conclusion that the parties were using a common or standard measure, weight, when they were talking about the moisture content. Therefore, unlike citations made to raw data that is unidentified, this data has context; therefore, the Court **OVERRULES** CVEC’s objection.

sample. *Id.* Samples CH-7A and CH-7C were taken from the syrup stream that enters the centrifuge; samples CH-9A and CH-9C were taken from the reduced oil syrup that leaves the centrifuge; samples CH-8A and CH-8C were taken from the light or oil stream leaving the centrifuge. *Id.* The test data on the samples taken of the syrup entering the centrifuge, CH-7A and CH-7C, show oil concentrations of 6.92% and 6.17%, respectively. *Id.* at 63. The test data on the samples taken of the reduced oil syrup leaving the centrifuge, CH-9A and CH-9C, show oil concentrations of 2.67% and 3.15%, respectively. *Id.* Therefore, approximately 49-61% of the oil in the syrup is removed by the centrifuge. *Id.* Further, the test data on the samples taken of the oil stream leaving the centrifuge, CH-8A and CH-8C, show oil concentrations of 97.1% and 96.3%, respectively. *Id.*

During the December 7, 2011, inspection, CleanTech took a photograph of samples CH-7A (syrup fed into centrifuge); CH-8A (oil stream leaving the centrifuge); CH-9A (reduced oil syrup leaving the centrifuge); and CH-10A (the oil leaving the storage tank). *Id.* Although the material has settled, the compositions have not changed, but it has made the oil more observable.²³ *Id.* at 60; MDN 932 at 5-6; MDN 1025 at 11.

9. Big River Resources – Galva (“BR-G”)

In BR-G’s corn oil extraction process, generally, the syrup is pumped to a feed tank from the fourth evaporator in an eight-stage evaporator system and from the feed tank into a two-centrifuge system, a master and a slave. MDN 878 at 60; MDN 932 at

²³ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

19; MDN 986 at 12. The moisture content of the syrup is generally between 82% and 85% and the pH is 3.2 or higher. MDN 878 at 23; MDN 986 at 12. If the syrup is processed from the fourth evaporator, the reduced oil syrup that leaves the centrifuges is discharged into a syrup tank and from there the syrup is pumped back into evaporator 5 where additional moisture is removed as it flows through the remainder of the evaporator system. MDN 878 at 23; MDN 932 at 19; MDN 986 at 12; MDN 1179 at 15. The resulting material is then added to solids and dried. MDN 878 at 23; MDN 986 at 12.

On November 17, 2011, CleanTech performed a Rule 34 inspection of the BR-G facility. MDN 878 at 65; MDN 986 at 26. During the inspection, four samples (A-D) were taken at fifteen sample locations (1-15); each sample was duly labelled. *Id.* CleanTech retained samples labeled G1A and B, through G15A and B; BR-G retained samples labeled G1C and D, through G15C and D. *Id.* CleanTech submitted samples G1A through G15A and BR-G submitted samples G1C through G15c for analysis to MidWest, where each sample was tested and separate test data sheets were generated providing the test data for each sample. MDN 878 at 66; MDN 986 at 26-27.

Samples G11A, G11C and G11C DUP were taken from the reduced oil syrup that comes out of the two-centrifuge system; samples G12A, G12C and G12C DUP were taken from the oil stream coming out of the slave centrifuge; and samples G13A, G13C and G13C DUP were taken from the oil stream immediately out of the master centrifuge. MDN 878 at 66; MDN 986 at 27. The MidWest data for the samples of the oil coming out of the slave centrifuge (G12A, G12C and G12C DUP), show oil concentrations of 97.4%, 97.44% and 97.07%, respectively. MDN 878 at 67; MDN 986

at 27. The MidWest data for the samples of the oil coming out of the master centrifuge (G13A, G13C and G13C DUP), show oil concentrations of 97.7%, 97.48% and 98.5%, respectively. MDN 878 at 67; MDN 986 at 27-28.

During the November 17, 2011, inspection, CleanTech took a photograph of samples G9A (syrup fed into centrifuge); G11A (reduced oil syrup leaving slave centrifuge); G12A (oil stream leaving the slave centrifuge); G31A (oil stream leaving the master centrifuge); G14A (oil in storage tank, which is a mixture of the oil streams leaving the master and slave centrifuges); and G15A (oil leaving the storage tank). MDN 878 at 67; MDN 986 at 28-29. Although the material has settled, the compositions have not changed, but it has made the oil more observable.²⁴ *Id.* at 67-68; MDN 932 at 5-6; MDN 1025 at 11; MDN 986 at 29; MDN 1179 at 15.

10. Heartland

Heartland has two extraction systems, the West Plant and the East Plant. MDN 878 at 23-24. In Heartland's West Plant, sulphuric acid is added to the thin stillage prior to its entrance into the evaporator system. MDN 932 at 20. From the final evaporator in the evaporator system, Evaporator 4, the syrup is fed into a level control tank; and from there it flows through a strainer and then into a disk stack centrifuge. MDN 878 at 23-24. The moisture content of the syrup fed into the centrifuge is approximately between 68% and 76%; and the pH is between approximately 3.65 and 3.68.²⁵ *Id.* at 24. The

²⁴ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 41 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

²⁵ Heartland objected to CleanTech SOMF 75 and 80, which set forth the moisture content of the syrup entering the centrifuge for the West Plant and the East Plant, respectively, on the basis that there is no foundation for a conclusion that the percentage is based on weight. MDN 932, at 20; MDN 878 at 24-25. While Heartland

reduced oil syrup that exits the West Plant centrifuge is discharged into a heavy phase tank and then a larger storage tank. *Id.* at 23. From the storage tank it is mixed with wet cake; the mixture is then sent to a dryer to make dried distillers grains with solubles (“DDGS”). *Id.* at 23-24.

On December 8, 2011, CleanTech performed a Rule 34 inspection of Heartland’s West Plant. *Id.* at 69. During the inspection, Heartland ran its corn oil extraction system with and without any chemical additives and four samples (A-D) were taken at various sample locations in the West Plant and labeled HL-20A to D, through HL-31A to D. *Id.* at 69-70. With respect to the West Plant samples, CleanTech retained two sets, A and B; Heartland retained the remaining two samples sets, C and D. *Id.* CleanTech submitted samples HL-20A through HL-31A for analysis to MidWest; and Heartland submitted samples HL-20C through HL-31C for analysis to MVTL; where each sample was tested and separate data sheets were generated providing the test data for each sample. *Id.* at 70.

Samples HL-30A and HL-30C were taken from the reduced oil that exited the West Plant centrifuge when the system was run without chemical additives, *id.* at 70; samples HL-29A and HL-29C were taken from the oil stream that exited the West Plant centrifuge when the system was run without chemical additives, *id.* at 71; samples HL-21A and HL-21C were taken from the exit of the West Plant centrifuge when the system was run with chemical additives, *id.*; and samples HL-20A and HL-20C were taken from

is technically correct, the evidence CleanTech cites is statements made by Heartland, which supports a conclusion that the parties were using a common or standard measure, weight, when they were talking about the moisture content. Unlike citations made to raw data that is unidentified, this data has context; therefore, the Court **OVERRULES** Heartland’s objection.

the oil stream immediately out of the West Plant centrifuge when the system was run with chemical additives.²⁶ *Id.* With respect to results of the tests on samples taken when Heartland's West Plant was run without chemical additive, the data for the reduced oil syrup exiting the centrifuge, HL-30A and HL-30C, show oil concentrations of 2.89% and 3.57%, respectively; the data for the oil stream exiting the centrifuge, HL-29A and HL-29C, show oil concentrations of 93.4% and 88.32%, respectively. *Id.* at 72. With respect to the results of the tests on samples taken when Heartland's West Plant was run with chemicals, the test results for the samples of reduced oil syrup that exited the centrifuge, HL-21A and HL-21C, show oil concentrations of 3.65% and 4%, respectively; the test results for the samples of oil that exited the centrifuge, HL-20A and HL-20C, show oil concentrations of 96.5% and 96.1%, respectively. *Id.* at 72-73.

Heartland objected to CleanTech SOMF 274 and Exhibit 109 (Declaration of Photographer During the Heartland Inspection), referenced therein, because the declaration refers to a single authentic photograph, but there are two photographs. MDN 932 at 20; MDN 878 at 73; MDN 883-28. The Court agrees that the declaration does not support admissibility of the photograph because it is written in the singular and

²⁶ Heartland objected to CleanTech SOMF 263 and 268, which discuss samples HL-28A and HL-28C because the evidence cited did not identify the location from which the samples were taken. MDN 932 at 20; MDN 878 at 70 & 72. The only thing that CleanTech proffered in response to this objection was a statement that the facts were supported by substantial evidence. MDN 1025 at 12. The Court agrees with Heartland that the cited evidence does not support that samples HL-28A and HL-28C were taken from the syrup that enters the centrifuge and **SUSTAINS** Heartland's objection; therefore, the Court will not consider CleanTech SOMF 263 and 268. See Fed. R. Civ. P. 56(e) & S.D. Ind. L.R. 56-1. Consequently, the Court cannot consider CleanTech SOMF 271, which is based in part on those samples and there is no independent foundation for admission of the test results in the cited evidence. Further, Heartland also objected to CleanTech SOMF 275, which in part relies upon CleanTech SOMF 263 and 268, MDN 932 at 21; the Court **SUSTAINS** that objection for the same reason and will not consider CleanTech SOMF 275.

there are two photographs. Therefore, the Court **SUSTAINS** Heartland's objection to CleanTech SOMF 274 and will not consider the information contained in CleanTech SOMF 274. See Fed. R. Civ. P. 26(e); S.D. Ind. L.R. 56-1. Heartland also objected to CleanTech SOMF 274 because the cited evidence does not support CleanTech's assertion that the sample labeled HL28A was taken from the syrup fed into the centrifuge or that the sample labeled HL-22A was "representative" of any oil in the run down tank. MDN 932 at 20-21; MDN 878 at 73. The Court agrees that these additional objections should be **SUSTAINED**.

In the East Plant, Heartland also adds sulphuric acid to the thin stillage prior to its entrance into an evaporator system. MDN 932 at 19. From the final evaporator in this system, Evaporator 6, the syrup is fed through a strainer and into a disk stack centrifuge. MDN 878 at 24. The moisture content of the syrup at this stage is greater than 30% and less than 90% by weight; and the pH of the syrup is between approximately 3.65 and 3.68. *Id.* at 25. The reduced oil syrup that leaves the East Plant centrifuge is discharged into a heavy phase tank; and then into a syrup storage tank. *Id.* at 24. From the syrup storage tank, the heavy phase is mixed with wet cake; the mixture is sent to a dryer to make dried distillers grains with solubles ("DDGS"). *Id.*

On December 8, 2011, CleanTech also performed a Rule 34 inspection on Heartland's East Plant. MDN 878 at 75. During the plant inspection, Heartland ran the East Plant corn oil extraction system with and without chemical additives and four samples (A-D) were taken at various locations in the system; the samples were labeled HL-1A to D, through HL-12A to D. *Id.* CleanTech retained two sets of samples, HL-1A and B, through HL-12A and B; Heartland retained the remaining two sets of samples,

HL-1C and D, through HL-12C and D. *Id.* CleanTech submitted one of its samples sets, HL-1A through HL-12A, to MidWest for analysis; Heartland submitted one of its samples sets, HL-1C through HL-12C, to MVTL for analysis; each sample was tested and separate test data sheets were generated providing the test data for each sample. *Id.*

With respect to those samples from the East Plant, samples HL-11A and HL-11C were taken from the reduced oil syrup stream at the exit of centrifuge when chemical additives were not used; samples HL-10A and HL-10C were taken from the oil stream at the exit of the centrifuge also when chemical additives were not uses; samples HL-2A and HL-2C were taken from the reduced oil syrup stream at the exit of the centrifuge when chemicals were added; samples HL-1A and HL-1C were taken from the oil stream at the exit of the centrifuge when chemicals were added. *Id.* at 76-77. When the East Plant is run without chemical additives, the test data for the reduced oil syrup samples, HL-11A and HL-11C, show oil concentrations of 3.78% and 3.85% respectively; the test data for the oil stream samples, HL-10A and HL-10C, show oil concentrations of 96.8% and 96.65%, respectively. *Id.* at 77. When the East Plant is run with chemical additives, the test data for the reduced oil samples, HL-2A and HL-2C, show oil concentrations of 2.1% and 2.44%, respectively; the test data for the oil stream samples, HL-1A and HL-1C, show oil concentrations of 96.5% and 96.69%, respectively. *Id.* at 77-78.

Heartland objected to CleanTech SOMF 288 and Exhibit 109 (Declaration of Photographer During the Heartland Inspection), referenced therein, because the declaration refers to a single authentic photograph, but there are two photographs.

MDN 932 at 20; MDN 878 at 78; MDN 883-28. The Court agrees that the declaration does not support admissibility of the photograph because it is written in the singular and there are two photographs. Therefore, the Court **SUSTAINS** Heartland's objection to CleanTech SOMF 288 and will not consider the information contained in CleanTech SOMF 274. See Fed. R. Civ. P. 26(e); S.D. Ind. L.R. 56-1.

Except for the test results for Heartland sample HL-22C, which seemed "out of whack," the test results on samples HL-1C through HL-21C, are typical results for Heartland's processes.²⁷ MDN 878 at 79 (citing MDN 882-5, Ex. 3, Heartland Rule 30(b)(6) Dep. at 162-63); MDN 932 at 21.

11. Iroquois

From the final stage of the evaporator process, syrup is pumped into a syrup tank. MDN 878 at 25. The syrup then flows from the tank through a strainer and then to a disk stack centrifuge. *Id.* at 25-26; MDN 932 at 22. The moisture content of the syrup fed into the centrifuge is between about 55% and 72%; and the pH is between approximately 3.8 and 4.5. MDN 878 at 25-26; MDN 1025 at 16. The centrifuge processes a batch of syrup and then the flow from the tank is stopped so that the centrifuge can discharge accumulated solids and/or be flushed with water. MDN 932 at 22; MDN 923 at 3. The reduced oil syrup that exits the centrifuge is discharged into a syrup drop tank. MDN 878 at 25. From the syrup drop tank, the reduced oil syrup is pumped into a dryer tank; from that tank, it is fed into a dryer mixer where it is mixed

²⁷ Heartland objected to CleanTech SOMF 290 on the basis that it was unsupported by the evidence in that the statement made by Heartland's Rule 30(b)(6) witness was that the test results for the sample labeled HL-22C seemed "out of whack." MDN 932 at 21; MDN 878 at 79. The Court **SUSTAINS** that objection and will consider the statement only to the extent it is supported by CleanTech's cited evidence.

with solids from the whole stillage centrifuges and dehydrated distillers dried grains with solubles. *Id.* The mixture is then dried. *Id.*

On December 20, 2011, CleanTech performed a Rule 34 inspection of Iroquois' facility. *Id.* at 80. During the plant inspection, Iroquois ran its corn oil extraction process with and without chemical additives. *Id.* Four samples (A-D) were taken at twelve sample locations (1-12) and each sample was marked according to its location, IR-1A to D, through IR-12A to D. *Id.* CleanTech retained the two sets of samples, IR-1A and B, through IR-12A and B; Iroquois retained the two remaining sample sets, IR-1C and D, through IR-12C and D. *Id.* Samples taken when Iroquois was not adding chemicals include: IR-1A, IR-1C and IR-1D (syrup entering the centrifuge); IR-3A, IR-3C and IR-3D (reduced oil syrup exiting the centrifuge); IR-2A, IR-2C and IR-2D (oil stream exiting the centrifuge). *Id.* at 80-82. Samples taken when Iroquois was adding chemicals include: IR-6A, IR-6C and IR-6D (syrup entering the centrifuge); IR-8A and IR-8C²⁸ (reduced oil syrup exiting the centrifuge); and IR-7A, IR-7C and IR-7D (oil stream exiting the centrifuge). *Id.* at 81-82

CleanTech submitted sample set A, IR-1A through IR-12A, and Iroquois submitted both of its sample sets, IR-1C through IR-12C and IR-1D and IR-12D, for analysis to MidWest, where each sample was tested and separate data sheets were generated providing the test data for each sample. *Id.* at 80. When Iroquois' process was run without chemicals, the MidWest test data for the syrup entering the centrifuge, samples IR-1A, IR-1C and IR-1D, show oil concentrations of 5.46%, 5.06% and 5.1%, respectively; the MidWest data for the reduced oil syrup exiting the centrifuge, samples

²⁸ The parties agree that MidWest's analysis for the sample labeled IR-8D was clearly erroneous. MDN 878 at 81 n.4.

IR-3A, IR-3C and IR-3D, show oil concentrations of 1.32%, 1.35% and 1.09%, respectively; the MidWest data for the oil stream exiting the centrifuge, samples IR-2A, IR-2C and IR-2D, show oil concentrations of 97.2%, 97.52% and 97.47%, respectively. *Id.* at 82-83. Based on this data, approximately 74% to 80% of the corn oil in the syrup is removed by the centrifuge. *Id.* at 83.

When Iroquois' process was run with chemicals, the Midwest test data for the syrup entering the centrifuge, samples IR-6A, IR-6C and IR-6D, show oil concentrations of 5.28%, 4.7% and 5.22%, respectively; the MidWest test data for the reduced oil syrup exiting the centrifuge, samples IR-8A and IR-8C, show oil concentrations of 0.69% and 1.03%, respectively; the MidWest test data for the oil stream exiting the centrifuge, samples IR-7A, IR-7C and IR-7D, show oil concentrations of 97%, 97.24% and 97.12%, respectively. *Id.* at 82-83. Based on this data, approximately 78% to 87% of the corn oil in the syrup is removed by the centrifuge. *Id.* at 83. The sample IR-2A is from the oil coming immediately out of the centrifuge, prior to flowing into a day tank, and without the use of chemical additives; this data for this sample indicates that it would fit within Iroquois' product specifications and is oil that Iroquois would sell without any further settling or processing. *Id.* at 85.

During the December 20, 2011, inspection, CleanTech took a photograph of samples IR-1A (syrup fed into centrifuge, without additive); IR-2A (oil stream exiting the centrifuge, without additive); IR-3A (reduced oil stream leaving the centrifuge, without additive); IR-6A (syrup fed into centrifuge, with additive); IR-7A (oil exiting the centrifuge, with additive); IR-8A (reduced oil syrup exiting the centrifuge, with additive); and IR-4A (oil storage tank). *Id.* at 83-84. Although the material has settled, the

compositions have not changed, but it has made the oil more observable.²⁹ *Id.*; MDN 932 at 5-6; MDN 1025 at 11.

12. Lincolnland

At Lincolnland's facility, from Evaporator 6 of a seven-stage evaporation system, syrup is pumped through a tricanter feed heater, which is used only intermittently, before it enters a head feed tank and then is pumped into the centrifuge. MDN 878 at 26; MDN 932 at 23; MDN 986 at 12; MDN 1179 at 15. The temperature of the syrup fed to the centrifuge is between approximately 195°F and 200°F; the pH of the syrup is approximately 3.8 or higher. MDN 878 at 26-27; MDN 986 at 13. The oil stream, which is a mixture of oil, water and solids, separated by the centrifuge is recovered and discharged into a first oil receiver tank; then from the first oil receiver tank, the oil stream flows into a second oil receiver tank; and from that tank, it flows into corn oil storage tanks. MDN 878 at 26; MDN 986 at 13. The reduced oil syrup that exits the centrifuge is discharged into a tricanter syrup tank; from the so-called syrup drop tank, the reduced oil syrup is pumped to Evaporator 7, in the evaporation system where moisture is removed. MDN 878 at 27; MDN 986 at 13. The reduced oil syrup that exits Evaporator 7 is mixed with dried whole stillage to produce modified wet cake. *Id.* The modified wet cake can be sent to a second dryer to produce distillers dried grains with solubles ("DDGS"). *Id.*

On October 19, 2011, CleanTech performed a Rule 34 inspection of Lincolnland's facility and took four samples (A-D) at eleven sample locations (1-11);

²⁹ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 8 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

each sample was marked accordingly, 1A to D, through 11A to D. MDN 878 at 86; MDN 986 at 30. Of the four samples sets taken, CleanTech retained two, 1A and B, through 11A and B; and Lincolnland retained two, 1C and D, through 11C and D. *Id.* CleanTech submitted sample set A and Lincolnland submitted sample set C for analysis to MidWest, where each sample was tested a separate data sheet was generated with the test results. *Id.* Each Lincolnland sample was tested twice. *Id.*; MDN 932 at 23; MDN 1179 at 15.

Samples 9A, 9C and 9C (dup), were taken from reduce oil syrup stream exiting the centrifuge; samples 10A, 10C and 10C (dup), were taken from the oil stream exiting immediately out of the centrifuge. MDN 878 at 86-87; MDN 986 at 30-31. The MidWest test data on the oil stream samples, 10A, 10C and 10C (dup), show oil concentrations of 98.3%, 98.1% and 97.75%, respectively. MDN 878 at 87; MDN 986 at 31.

During the October 19, 2011, inspection, CleanTech took a photograph of samples 8A (syrup fed into centrifuge); 9A (reduced oil stream exiting the centrifuge); and 10A (oil stream exiting the centrifuge). MDN 878 at 87; MDN 986 at 31-32. Although the material has settled, the compositions have not changed, but it has made the oil more observable.³⁰ MDN 878 at 87; MDN 932 at 5-6; MDN 1025 at 11; MDN 986 at 32; MDN 1179 at 15.

The results of the tests performed on the samples taken during the inspection are typical for Lincolnland's corn oil extraction process, which includes the use of chemicals. MDN 878 at 89; MDN 932 at 23; MDN 986 at 32; MDN 1179 at 15.

³⁰ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.*, MDN 878 at 8 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6.

13. Lincolnway

In the Lincolnway plant, syrup is transferred either from the sixth, seventh or eighth evaporator (in an eight-evaporator system), and a chemical additive is pumped into that stream before the mixture is pumped into one of two Westfalia disk stack centrifuges. MDN 878 at 27; MDN 932 at 23-24; MDN 986 at 13; MDN 1179 at 15. The Westfalia centrifuges have solids ejections and cleaning-in-place ("CIP") features, during which time no syrup is processed. MDN 932 at 23-24; MDN 930 at 1-2; MDN 1025 at 16. The temperature of the syrup coming out of the evaporators is approximately 180°F; the moisture content has been measured to be approximately 71%, although this may vary; the pH of the syrup going into the centrifuge has been measured to be approximately 4.12, although this may vary.³¹ MDN 878 at 28; MDN 932 at 24-25; MDN 986 at 14; MDN 1179 at 15. The reduced oil syrup exiting the centrifuge is fed back into the evaporation stream and undergoes completion of the evaporation step of the process. MDN 878 at 28; MDN 932 at 25; MDN 986 at 14; MDN 1179 at 15. Upon completion of the evaporation process, the syrup emerging from the evaporator step flows to the syrup tank, which then is fed to the dryer units, where the syrup is sprayed onto the centrate undergoing continuous drying, with the end product being DDGS. *Id.*

On December 1, 2011, CleanTech performed a Rule 34 inspection of

³¹ Lincolnway disputes that the results of testing done on samples taken by CleanTech for the moisture level and pH of the syrup stream as reflected in CleanTech SOMF 99 and 100 are indicative of Lincolnway's process over the entire relevant timeframe. MDN 932 at 24-25; MDN 878 at 28. Lincolnway produced long term process data to CleanTech, but CleanTech failed to address any process variations shown by such data or otherwise account for such variations in its analysis. MDN 932 at 24 n.2. The Court addresses this issue later in its analysis of the parties' arguments.

Lincolnway's facility during which two samples (A and B) were taken at fifteen sample locations (1-15); the samples were identified as LW-1A and B, through LW-15A and B.³² MDN 878 at 89; MDN 986 at 33-34. CleanTech submitted sample set A for analysis to MidWest, where each sample was tested and separate test data sheets were generated that provided the test data for each sample. *Id.* Samples LW-11A and LW-12A were taken from the oil stream exiting the two Westfalia disk stack centrifuges and MidWest's test data on those samples show oil concentrations of 97.4% to 97.6%. MDN 878 at 89 & 91; MDN 986 at 33 & 34. Samples LW-13A and LW-14A were taken from the reduced oil syrup streams exiting the two Westfalia centrifuges and MidWest's data on those samples show oil concentrations of approximately 1.97% to 3.17%. MDN 878 at 90-91; MDN 986 at 33 & 34. Sample LW-10A was taken from the syrup feed line into the Westfalia centrifuges and MidWest's test data on this sample show an oil concentration of approximately 5.09%. MDN 878 at 90. Based on this data, approximately 38% to 61% of the oil in the syrup was removed by the centrifuges. *Id.* at 91.

Although Lincolnway did not retain any samples during the Rule 34 inspection, it conducts spin tests on the reduced oil syrup, the results of which are reflected in a log. MDN 878 AT 90; MDN 932 at 26-27; MDN 986 at 34; MDN 1179 at 15. Lincolnway provided such data for over four-and-one-half years; but CleanTech limited its analysis to May 28, 2009, through May 30, 2009. MDN 932 at 26-30; MDN 878 at 90; MDN 986

³² Lincolnway admits that the relevant samples were taken and where they were taken from. MDN 932 at 25-30 & 24 n.2. However, Lincolnway reiterates its objection to the use of this single data point to extrapolate results and or conclusions about its process over the entire relevant timeframe, particularly in light of the four years of process data it has provided to CleanTech. *Id.* The Court addresses this objection in its analysis of the parties' arguments.

at 34. Some of the test results CleanTech analyzed show "0" oil in the reduced oil syrup leaving the centrifuges. MDN 932 at 26; MDN 878 at 90; MDN 986 at 34. This is inconsistent with CleanTech's data for the samples it took on December 1, 2011. *Id.* CleanTech also analyzed Lincolnway's spin test data for May 28, 2009, through May 30, 2009, with respect to oil concentration in the oil stream exiting the centrifuges. MDN 878 at 91; MDN 932 at 28-29; MDN 986 at 34; MDN 1179 at 15. Lincolnway's test results for those days indicated oil concentrations in the oil stream leaving the centrifuge that ranged from approximately 89% to 95%. *Id.* Lincolnway's Laboratory Supervisor, Daniel Matlick ("Matlick"), testified that the overall process analysis indicates that the oil stream coming from the centrifuges "typically" has an oil content in the upper end of the range of 80% to 90%, with impurities (solids) representative of the remainder of the separated oil stream in the lower end of the range 10% to 20%. MDN 932 at 28-30. Lincolnway also further purifies the oil stream by using decanting tanks and oil load out procedures that reduce the level of impurities to an acceptable range of 2.0% to 3.0%. *Id.*

During the December 1, 2011, inspection, CleanTech took a photograph of samples LW-10A (syrup fed into centrifuge); LW-11A and LW-12A (oil stream exiting the two centrifuges); LW-11A and LW-12A (oil stream exiting the two centrifuges); and LW-13A and LW-14A (reduced oil streams exiting the two centrifuges). MDN 878 at 91; MDN 986 at 34-35. Although the material has settled, the compositions have not changed, but it has made the oil more observable.³³ *Id.*; MDN 932 at 5-6, 30; MDN

³³ The parties dispute the conclusions that can be drawn from a visual inspection of the samples. *Compare, e.g.,* MDN 878 at 8 and MDN 1025 at 11, 38-39, *with* MDN 932 at 5-6, 30.

1025 at 11; MDN 986 at 35; MDN 1179 at 15. Lincolnway performs other decanting and purifying activities after centrifugation to reduce impurities to no more than 2.0% to 3.0%. MDN 932 at 30.

14. United Wisconsin Grain Producers ("UWGP")

In the UWGP process, syrup from Evaporator 7, which is the eighth evaporator in an eight stage system, is pumped to a separator and a surfactant is added to assist in separating oil in the centrifuge.³⁴ MDN 932 at 31-32.

On December 11, 2011, CleanTech performed a Rule 34 inspection of UWGP's ethanol production facility and took four samples (A-D) at each of fifteen sample locations (1-15). MDN 878 at 93. CleanTech's samples labeled UW-1A through UW-15A, and UWGP's samples labeled UW-1C through UW-15C were sent for analysis to MidWest. *Id.* MidWest tested each sample and generated separate data sheets providing the test data for each sample, including the percentages of oil, moisture and other components present in the sample. *Id.* The following samples were obtained when UWGP was adding surfactant to the syrup as it entered the centrifuge: UW-1A and UW-1C, of the syrup entering the centrifuge; and UW-2A and UW-2C, of the

³⁴ At some point in time UWGP apparently used a heat exchanger to further heat the syrup before it entered the centrifuge; however, from the evidence cited by CleanTech, it is unclear what timeframe this included. MDN 878 at 28; MDN 932 at 31-32. In addition, UWGP objected to CleanTech SOMF 104, 105 and 106, which discuss the moisture content and pH of the syrup fed into the centrifuge, and part of UWGP's processing of the reduced oil syrup leaving the centrifuges, on the basis that the evidence cited did not support the statement, or there was no pinpoint citation for the information in a 202 page document. MDN 932 at 32; MDN 878 at 29. In response, CleanTech merely asserted that the statements were supported by substantial evidence without further citations. MDN 1025 at 12. The Court **SUSTAINS** UWGP's objections to CleanTech SOMF 104, 105 and 106, because the cited evidence does not contain any data about either the moisture content or the pH of the syrup and there is no pinpoint citation for the deposition testimony; the Court will not sift through the deposition itself to find it. See Fed. R. Civ. P. 56(e); S.D. Ind. L.R. 56-1.

reduced oil syrup exiting the centrifuge.³⁵ *Id.* at 94-95. The MidWest test data on the samples taken when UWGP was adding surfactant show oil concentrations of: approximately 5.78% in the syrup entering the centrifuge, sample UW-1A; and approximately 1.28% and 1.81% in the reduced oil syrup leaving the centrifuge, samples UW-2A and UW-2C, respectively. *Id.* at 94-96.

³⁵ UWGP objected to CleanTech SOMF 352, 353 and 354, which purport to identify where samples UW-3A, UW-3C, UW-15A and UW-15C, were taken, and the content of certain samples, on the basis that the evidence cited does not show where the samples were taken. MDN 932 at 32-33; MDN 878 at 95. In response, CleanTech merely states that the statements are supported by substantial evidence. MDN 1025 at 12. The Court **SUSTAINS** UWGP's objection because CleanTech SOMF 352, 353 and 354 lack a foundation for concluding that the samples were taken from the sample locations mentioned in the statement. See Fed. R. Civ. P. 56(e); S.D. Ind. L.R. 56-1. UWGP also objected to CleanTech SOMF 356, 357 and 359, which discuss the results of MidWest's tests on certain samples, namely corn oil concentrations in the syrup entering the centrifuge, the reduced oil syrup leaving the centrifuge and the oil stream leaving the centrifuge (both with and without chemical additives). MDN 932 at 33; MDN 878 at 95-96. Again, CleanTech merely states that the statements are supported by substantial evidence. MDN 1025 at 12. Although UWGP is correct that there is no citation to a specific exhibit number in CleanTech SOMF 356, at least three of the four Bates-numbered documents cited relate back to CleanTech SOMF 348 and 349, neither of which was challenged by UWGP. MDN 878 at 94-95; MDN 932 at 32-33. In those previous paragraphs, CleanTech identifies the location from which the referenced samples were taken. *Id.* With respect to the fourth document cited, however, document Bates numbered UW-1C UWGP000417, does not correspond to any samples of syrup entering the centrifuge; therefore, the Court cannot use that document to cure any deficiencies in CleanTech SOMF 356. In CleanTech SOMF 357, there are specific documents cited and the Bates numbers of those documents relate back to CleanTech SOMF 350 and 351, which identify where certain samples were taken and the results of the testing performed on those samples; again, these statements were not challenged by UWGP. MDN 878 at 96; MDN 932 at 32-33. But, to the extent that UWGP intends to dispute the combination of results from the reduced oil stream samples with and without surfactant added, the Court agrees that the statement is misleading and not supported and will sustain that objection and only use data that is supported by the cited evidence. With CleanTech SOMF 359, UWGP's objection is well taken because CleanTech did not provide sufficient foundation for admission of the samples referenced in CleanTech SOMF 352, 353 and 354, upon which CleanTech SOMF 359 relies. Therefore, UWGP's objections to CleanTech SOMF 356 and 357 are **SUSTAINED in part and OVERRULED in part**; UWGP's objection to CleanTech SOMF 359 is **SUSTAINED**.

The following samples were obtained when UWGP was not adding surfactant to the syrup as it entered the centrifuge: UW-13A and UW-13C, of the syrup entering the centrifuge; and UW-14A and UW-14C, of the syrup stream exiting the centrifuge. *Id.* at 94. The MidWest test data on the samples taken when UWGP was not adding surfactant show oil concentrations of: approximately 5.8% and 6.69% in the syrup entering the centrifuge, samples UW-13A and UW-13C, respectively; and approximately 3.65% and 3.65% in the reduced oil syrup leaving the centrifuge, samples UW-14A and UW-14C, respectively. *Id.* at 96.

Based on these sample results, approximately 69%-78% (with chemical additive) and 37% to 60% (without chemical additive) of the corn oil in the syrup stream entering the centrifuge was removed from the samples during disk stack centrifuging. *Id.*

UWGP objected to CleanTech SOMF 360 and Exhibit 129 (Declaration of Photographer During the Heartland Inspection and Exhibit A attached thereto), referenced therein, because the declaration refers to a single authentic photograph, but there are two photographs. MDN 932 at 33; MDN 878 at 97; MDN 883-48. The Court agrees that the declaration does not support admissibility of the photograph because it is written in the singular and there are two photographs. Therefore, the Court **SUSTAINS** UWGP's objection to CleanTech SOMF 360 and will not consider the information contained in CleanTech SOMF 360 or that in CleanTech SOMF 362, which relies, in part, on CleanTech SOMF 360. See Fed. R. Civ. P. 26(e); S.D. Ind. L.R. 56-1. UWGP also objected to CleanTech SOMF 361 as a statement of a legal conclusion and not supported by the evidence, MDN 932 at 33-34, MDN 878 at 97; the Court **SUSTAINS** that objection on the grounds that the statement is a legal conclusion.

C. INDUCED/CONTRIBUTORY INFRINGEMENT FACTS

GEA has been selling centrifuges for separating components of mixtures in industrial settings for over 100 years. MDN 935 at 6. In 1998, GEA was approached by a customer that was experiencing fouling in the evaporator of its plant. MDN 935 at 7. Converting an "off the shelf" centrifuge, GEA demonstrated that it would be possible to remove corn oil from a clarified (some solids removed) thin stillage before it was concentrated in the evaporator. MDN 935 at 7; MDN 1025 at 17.

After the inventors filed the '050 provisional application in 2004 that led to the '858 patent family, they began to market the corn oil extraction method. MDN 1025 at 18.

Although GEA marketed centrifuges to the ethanol industry as early as 1998, MDN 1025 at 18, in March 2005, a customer approached GEA regarding separating corn oil from concentrated thin stillage using a centrifuge. MDN 935 at 7. Although GEA conducted a spin test to demonstrate that it could be done, *id.*, GEA never successfully installed an operable oil recovery system at the customer's plant following the bench test. MDN 1025 at 17. GEA also performed another test to recover oil for which it converted its equipment to separate liquid/liquid/solids. MDN 1025 at 21. GEA's Rule 30(b)(6) witness testified that, afterward, before GEA was aware of the patents and before they published as applications, GEA began marketing its centrifuges for the purpose of recovering oil.³⁶ MDN 935 at 7. Further, GEA used centrifuges that it

³⁶ CleanTech cited GEA's Third Amended Complaint at paragraph 80 for the proposition that GEA was aware of CleanTech's oil recovery patents in February 2005; however, paragraph 80 of GEA's Third Amended Complaint does not say anything that would support that proposition and it has not been considered. MDN 1025 at 17 (citing MDN 54, ¶ 80).

had previously marketed in the vegetable oil industry for this application because they were the right size. MDN 935 at 7; MDN 938-1 at 23-24. Literature produced in this litigation suggests that GEA did not begin this marketing until it had performed in-plant tests. MDN 1025 at 17 & 19; MDN 1037-19 at 2; MDN 1085 at 9.

Before the asserted patents issued, GEA told its customers it was extremely unlikely that any such patent would ever issue. MDN 935 at 9; MDN 1025 at 21. After Notice of Allowance issued from the USPTO, executives at GEA were still skeptical of the patent's validity. *Id.*

The first of the asserted patents was published on February 23, 2006, and issued on October 13, 2009. *Id.* at 7.

In July 2009, GreenShift (predecessor to CleanTech) sent letters to specific ethanol manufacturers that GreenShift believed were practicing its corn oil extraction method. MDN 1025 at 19. In September 2009, GEA filed a lawsuit in the United States District Court for the Southern District of New York alleging unfair competition and other claims against CleanTech based on the letters. MDN 1025 at 19.

On the date the '858 patent issued, CleanTech filed a patent infringement suit against GEA and GEA amended its pending lawsuit against CleanTech to seek a declaratory judgment that the patent was invalid and not infringed. MDN 1025 at 19-20; MDN 935 at 9. In addition, GEA considered indemnifying new customers and made a few offers, but changed its mind and did not indemnify any plants. *Id.* GEA also stopped placing ad buys to market its centrifuges to the industry. *Id.* at 10. However, it continued to sell centrifuges to dry mill corn ethanol plants if they either (a) represented that it had a license to practice the asserted patents; or (b) agreed to indemnify GEA

from any patent infringement action based on the asserted patents. *Id.* For example, CleanTech asserts that GEA sold centrifuges for corn oil recovery to non-parties POET and Archer Daniels Midland. MDN 1025 at 18; MDN 935 at 10. CleanTech presents no evidence that POET or Archer Daniels Midland ("ADM") (or any other non-party) infringes the patents-in-suit. MDN 1025 at 18 & 21; MDN 935 at 10; MDN 1085 at 8.

GEA has ongoing service contracts with some of its customers in the ethanol industry (Adkins, for example), MDN 1025 at 20; but, other customers perform their own service or contract with third parties.³⁷ MDN 1025 at 20; MDN 1085 at 10 & 11. In addition, at least as to one customer, after the patents issued, GEA provided guidance on troubleshooting when the customer was concerned about efficiency of oil recovery. MDN 1025 at 20; MDN 1085 at 10-11. In July 2009, GEA was present for the start-up of one of its centrifuges at UWGP, although it had not installed the equipment. MDN 1025 at 20; MDN 1085 at 10. GEA also participated in a "two-year significant rebuild" at Iroquois, although there is no explanation for what that entails; Iroquois performs the vast majority of its own maintenance. MDN 1025 at 20; MDN 1085 at 11-12. Further, GEA sells different types of equipment to ethanol plants including, among others, pumps, control panels, and tanks. MDN 1085 at 10. It also sells different types of centrifuges to those plants for different, non-infringing purposes.³⁸ MDN 1085 at 10.

CleanTech filed its amended infringement contentions on February 11, 2013, in

³⁷ Throughout this fact section GEA raised objections to CleanTech's Statement of Facts in Opposition to GEA's Individual Brief ("CleanTech's GEA SOF") based, in part, on the evidence not supporting the statement. MDN 1085 at 10-11. The Court agrees that some of the statements are not supported by the cited evidence and has endeavored to set forth the facts here in the light most favorable to CleanTech as the non-moving party.

³⁸ Although CVEC discussed purchasing another centrifuge from GEA, it never did so. MDN 1025 at 20; MDN 1085 at 9.

which it claims that GEA infringes because it "markets, offers for sale and sells corn oil extraction systems to ethanol plants; manufactures and installs the corn oil extraction systems for ethanol plants and actively induces ethanol plants to use the systems . . . to extract corn oil" MDN 935 at 7-8. The remaining contention duplicates CleanTech's infringement contention against Ace, a GEA customer; there is no further detail as to how GEA induces infringement. *Id.* at 8.

In addition, when asked to identify "each and every alleged direct infringer" of the asserted patents whose infringement was allegedly induced by GEA, CleanTech listed Ace, Adkins, Bushmills, CVEC, Heartland, Iroquois, and UWGP. *Id.* CleanTech objected to identification of additional GEA customers that are not defendants in this litigation contending that the request was "overly broad, unduly burdensome, and neither relevant to the claims or defenses of any party nor reasonably calculated to lead to the discovery of admissible evidence." *Id.* However, CleanTech's expert, John McKenna ("McKenna"), prepared an expert report in which he opined that an additional Plant Defendant, Blue Flint, infringed the asserted patents by GEA. *Id.* But no expert proffered by CleanTech has opined that GEA induced or contributed to a Plant Defendants' alleged infringement of any of the asserted patents. *Id.* All eight of the GEA Plant Defendants identified by CleanTech purchased their centrifuges before October 13, 2009. *Id.*

CleanTech has not conducted any third-party discovery relating to allegations of infringement by any GEA customer who is not a Defendant in this MDL. MDN 935 at 10.

GEA has neither relied upon nor produced any opinions of counsel. MDN 1025

at 21.

D. THE PATENTS-IN-SUIT

1. The '858 Patent Family

The '858 patent family is directed to the recovery of oil from thin stillage. Although dependent claims are at issue as well, the Court sets forth the asserted independent claims of the patents to give context to the infringement discussion. Additional claim elements in disputed dependent claims will be set forth as necessary.

The disputed independent claims of the '858 patent family 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.

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.

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.

16. In a method for processing corn to produce ethanol and concentrated thin stillage, the improvement comprising the step of recovering a product

consisting essentially of oil from the concentrated thin stillage by heating and mechanically processing the concentrated thin stillage to separate the oil from the concentrated thin stillage.

'858 Patent, col5 l.66 to col6 l.64.

The disputed independent claims of the '516 patent read:

1. A method of recovering oil from thin stillage; the method consisting essentially of, in sequence:

evaporating water from the thin stillage to form a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of greater than 30% and less than 90% by weight before the recovering step;

mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate; and

recovering the separated oil.

* * *

7. A method of processing whole stillage, comprising, in sequence:

separating distiller wet grains and thin stillage from the whole stillage, the thin stillage including oil and solids;

concentrating the thin stillage including the solids to form a concentrate having a moisture content of greater than 30% and less than 90% by weight; and

disc [sic] stack centrifuging oil from the thin stillage concentrate to form a substantially oil free concentrate.

'516 Patent, col6, l.11 to col 6, l52.

The asserted independent claim of the '517 patent reads:

1. A method of recovering oil from thin stillage, comprising: evaporating the thin stillage to create a concentrate having a moisture content of greater than 15% by weight and less than about 90% by weight; and centrifuging the concentrate to recover oil.

'517 Patent, col 6, ll32-37.

The asserted independent claims of the '484 patent read:

1. A method of recovering oil from thin stillage; the method consisting essentially of, in sequence:

evaporating water from the thin stillage to form a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of greater than 30% and less than 90% by weight before recovering step;

mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate;

recovering separated oil; and

drying the thin stillage concentrate to reduce the moisture content in the thin stillage concentrate.

* * *

8. A method of processing whole stillage, comprising, in sequence:

separating distiller wet grains and thin stillage from the whole stillage, the thin stillage including oil and solids;

concentrating the thin stillage including the solids to form a thin stillage concentrate having a moisture content of greater than 30% and less than 90% by weight;

disc [sic] stack centrifuging oil from the thin stillage concentrate to form a substantially oil free concentrate; and

drying the thin stillage concentrate to reduce the moisture content in the thin stillage concentrate.

* * *

16. A method of recovering oil from thin stillage, comprising, in sequence:

evaporating the thin stillage to create a thin stillage concentrate having a moisture content of greater than 30% by weight and less than about 90% by weight;

centrifuging the thin stillage concentrate to recover oil; and

drying the thin stillage concentrate to reduce a moisture content in the thin stillage concentrate.

* * *

19. 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, wherein the concentrated byproduct has a moisture content of greater than 30% and less than 90% by weight;

recovering oil from the concentrated byproduct by heating and mechanically processing the byproduct to separate the oil from the concentrated byproduct; and

drying the concentrated byproduct to reduce the moisture content in the concentrated byproduct.

* * *

30. A method of recovering oil from thin stillage; the method comprising

evaporating water from the thin stillage to form a thin stillage concentrate, wherein the thin stillage concentrate has a moisture content of greater than 30% and less than 90% by weight;

mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate; and

recovering the separated oil.

'484 Patent, col6, l. 9 to col8, l.37.

In its claim construction orders, the Court construed the claims 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 set forth above) subjected to heat and a mechanical device (or devices) to extract a product that is substantially (meaning largely or mostly) oil from the Concentrate Term (as construed above)”
“centrifuging the concentrate to recover oil”	“processing the concentrate (as set forth above) with a centrifuge to separate the oil from the concentrate so that the oil stream coming out of the centrifuge is substantially (meaning largely or mostly) oil”
“substantially oil free concentrate”	“the syrup exiting the centrifuge is largely or mostly oil free compared to the incoming thin stillage”

2. The ‘037 Patent

The ‘037 patent 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 Patent 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. *Id.* at 1. The claims of the ‘037 patent appear to be directed to the invention more particularly described in Figure 5, the Summary of the Invention and the Detailed Description of the Invention at column 2, line 62 to column 3, line 12; column 7, line 11 to column 8, line 4. 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.* col10, ll47-67. The specification of the '037 patent incorporates by reference the disclosure of the '858 patent. '037 Patent, col5, ll19-23. Winsness is the sole inventor of the '037 patented technology. *Id.*, Inventor.

Although more claims are at issue, the independent claims of the '037 patent 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.

* * *

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.

* * *

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, col10, l.57 to col12, l.48.

After a *Markman* hearing, on May 8, 2013, the Court issued a claim construction order and construed the disputed 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"

IV. CLAIM SCOPE ISSUES

There are several claim scope issues raised by the parties' briefs. The Court addresses each one in turn.

A. THE "OIL" & "SUBSTANTIALLY FREE OF OIL" TERMS

As previously mentioned, Cardinal challenges the Court's construction of the so-called "oil" term where the Court has construed the term "oil" to mean "substantially (meaning largely or mostly) oil." MDN 924. The Plant Defendants also urge the Court to further refine the scope of "substantially oil free," where the Court has construed "substantially" to mean "largely or mostly," or reject CleanTech's evidence as to this term because CleanTech's expert's conclusion that 51% of the oil removed meets the definition is without a scientific foundation. MDN 932 at 44-49.

1. “Oil”

With respect to the term “oil,” Cardinal argues that the Court has improperly rewritten the scope of the claims by concluding that “oil” means “substantially oil,” which means “largely or mostly oil,” because adding “substantially” allows for greater leeway than the term “oil” alone. MDN 924 at 2-3. Cardinal contends that “[t]he patentee’s choice of language did not equivocate as to the nature of the oil recovered, or include as part of the recovery anything other than oil. The use of the term ‘substantially’ is a known claiming method to prevent exactness as to the claimed outcome. The patentee did not include such language in its claims.” *Id.* at 3-4. Further, Cardinal asserts that the specification confirms that the patentees meant what they said, “oil,” without qualification. *Id.* at 4-6. Further, without guidance in the ‘858 patent for the scope of the Court’s “substantially oil” definition, Cardinal argues that “CleanTech has taken the liberty of reading the ‘substantially oil’ limitation on a wide range of oil quan[tities] represented by CleanTech’s testing of all Defendants’ product streams exiting the centrifuge.” *Id.* at 6-7.

CleanTech asserts that there is no basis for reconsideration of the Court’s claim construction because Cardinal’s arguments are not new. MDN 1025 at 43-45 (citing, *inter alia*, MDN 120, 688, 692 and 694). Further, CleanTech argues that Cardinal is merely asking the Court to limit the term oil to the amounts and or teachings of Figure 2, which has been rejected as the proper way to interpret the “oil” term. *Id.* at 45. CleanTech also contends that the experts understood the Court’s construction to mean that the oil stream contained at least 51% oil; therefore, the term is not indefinite. *Id.* at 45. In addition, CleanTech incorporated by reference its previous arguments regarding

proper construction of the “oil” term. *Id.* at 46 (citing MDN 118, 121, 464).

The ‘037 Defendants repeat Cardinal’s argument with respect to the term “oil” in the ‘037 patent. In support of their argument, the ‘037 Defendants specifically reference the use of the term “oil” in the ‘858 patent family specification as well as similar, unmodified usages of the term in the ‘037 patent specification and claims. MDN 1072 at 35-41. They agree that the Court impermissibly broadened the scope of the claim language that was intended to be narrow. *Id.* at 40-41. In response to these arguments, CleanTech asserts that the Court has declined to re-address this term before and should do so again and states in a footnote that if the Court should decide to reconsider the issue, CleanTech would like the opportunity to brief it. MDN 1160 at 12-13 & n.1.

The Court declines Cardinal’s and the ‘037 Defendants’ invitation to reconsider construction of the term “oil.” It is true that the term “oil” in the claims of the ‘858 patent family is not preceded by a qualifier; however, that could mean anything from “any amount of oil” to “pure oil” and anything in between. In its past claim construction orders, the Court endeavored to follow the pertinent claim construction rules to identify any quantity or quality limitations on the term “oil” in the intrinsic evidence. The Court has consistently concluded that the specification identifies the invention broadly enough in too many places to limit the scope of the term “oil” to the quantity/quality delineated by the descriptions of the preferred embodiments. See MDN 169 at 20-23; MDN 784 at 20-23; MDN 118 at 14-15; MDN 121 at 17-21; MDN 464 at 17. In other words, the Court has found no principled way within the intrinsic evidence to limit the “oil” term other than to adopt CleanTech’s proffered language of “substantially,” meaning “largely

(but not wholly) or mostly.” The inventors simply did not include in the claims any efficiency or quantity/quality requirements with respect to the “oil” term.

Yes, descriptions of the preferred embodiments refer to usable oil, col3, ll53-55; col3, l59 to col4, l7; but many other aspects of the invention are more broadly written. ‘858 Patent, Abstract; col2, ll21-22, 26-27, 37; col2, ll43-44; col2, ll51, 54; col 2 l61. Further, the specification leaves open the specific parameters under which one of ordinary skill in the art can obtain the results identified in the preferred embodiment. The ‘858 patent family specification teaches:

Reference is made to FIGS. **3** and **4**, which illustrate a prophetic comparison between one processing method and the inventive method. The set-up is essentially the same as shown in FIGS. **1** and **2**, but a more effective centrifugal decanter is used than the one used in Example 1. As a result, the syrup introduced to the disk stack centrifuge **14** would have a moisture content estimated at 60% by weight. While this does not impact the product value figures, the syrup from the centrifuge **14** has a moisture content of only 66.6% by weight as compared to 82.5% by weight in Example 1. As a result, the cost per hour of drying this syrup when combined with the distillers wet grains to achieve an end product having a moisture content of less than 10% is only \$158.92, or approximately 40% less. Assuming a savings in dryer efficiency of 10%, the product value per hour (\$678.46) less the estimated dryer operating cost (\$143.03 per hour) and less the estimated evaporator operating cost (\$74.96 per hour) is \$460.46 per hour. This represents an approximate 15% increase over the corresponding value calculated for Example 1.

As should be appreciated, the above-described method and subsystem of the preferred embodiment essentially require the addition of a centrifuge downstream of the evaporator in the conventional system for processing thin stillage (which centrifuge may thus be considered a “means for” recovering thin stillage). Accordingly, instructions on how to implement the above-described method (including the optimum process variables) may be provided along with a centrifuge for use in an ethanol plant for forming the novel subsystem **10** disclosed herein. Such instructions result in the most efficient implementation of the method, as compared to the situation where the scientists or engineers at the plant must experiment with the centrifuge to determine the optimum process conditions required to achieve a favorable result.

'858 Patent, col5, ll7-41. "[T]he novel subsystem **10**" identified in the second paragraph here refers to an evaporator and the mechanical processing system. *Id.* col 3, ll6-20 & Fig. 2. The Court interprets this to mean that the inventors purposefully avoided specific qualitative and/or quantitative features in the claims because the "optimum process variables" that would "result in the most efficient implementation of the method" were not necessary to the inventive method.

There is nothing in the prosecution history that limits the term "oil" to the quantitative/qualitative amounts in the preferred embodiment either. The primary statement the inventors relied upon to distinguish their invention from prior art had nothing to do with efficiency, or the quantity or quality of the oil recovered. Rather, the patentees emphasized that their invention taught "a post evaporation process for recovering oil from the concentrated byproduct by heating and mechanically processing as in claim 1 and 16 or by centrifuging as in claim 14." MDN 120-5 at 104 (emphasis in original).

Although the consequences for arguing for and obtaining a broad construction may have unintended results, again, the Court will not import limitations from the specification into the claims when such a result is not mandated by the intrinsic evidence. For these reasons, the Court will not narrow the construction for the term "oil."

2. "Substantially Oil Free"

The term "substantially oil free" appears in independent claim 7 of the '516 patent, '516 Patent, col6, l.42; and independent claim 8 of the '484 patent, '484 Patent, col6, l.47. Although the Defendants have argued that it is a necessary limitation in all

the claims of the '858 patent family, the Court rejected that argument. MDN 784 at 10-14. In the instant motions, the Plant Defendants argue that CleanTech's expert's, John McKenna's ("McKenna's"), testimony that any process infringes the "substantially oil free" term so long as more than 50% of the oil entering the mechanical oil-recovery device is removed, MDN 932 at 45, should be rejected because it is not based on any scientific standard or analysis. *Id.* at 44-49. Specifically, McKenna testified that his opinion that the reduced oil syrup leaving the mechanical processing device is "substantially free of oil" when it contains less than 50% of the oil present in the stream entering the centrifuge is based on his "common sense" understanding of the Court's claim construction. *Id.* at 45-46. In fact, McKenna stated that he was "going basically on the verbiage that's been used which says mostly or largely, right. . . . I have arbitrarily set up that 50, 51 percent." MDN 949-8 at 3 & 5 (stating that 51% is the phrase or number he would "throw out" to describe syrup that is substantially oil free). However, in his reports, he repeatedly used the phrase "a reasonable degree of scientific certainty" to describe his opinions regarding infringement. MDN 932 at 46; MDN 949-8 at 5. Which in turn means that it is "based on chemical engineering practice, . . . the laws of physics, the laws of chemistry, the laws of organic chemistry, that you are using that knowledge to be able to . . . assist in setting up the performance of a centrifuge or a process or a system" MDN 949-8 at 5.

In addition, the Plant Defendants argue that their own expert, Professor David Rockstraw ("Rockstraw"), "opined that scientific principles require the term 'substantially oil free' to mean that at least 90% of the oil present in the incoming stream is removed." MDN 932 at 47. And, other courts have construed similar claim terms of "substantially:

or “mostly” to mean “completely or nearly so,” *id.* (quoting *Alwin Mfg. Co. v. Global Plastics*, 629 F. Supp. 2d 869, 871 (E.D. Wis. 2009)), among other similar phrases that mean “largely or mostly all.” *Id.* Further, the Plant Defendants argue that such a definition comports with the specification of the ‘858 patent family in Figure 2, which describes an oil-recovery percentage of 95%. *Id.* at 47-48.

CleanTech responds that McKenna’s testimony regarding the scope of the “substantially oil free” term is based on common sense; which is not arbitrary. MDN 1025 at 39 (citing MDN 1025 at 13). Further, CleanTech asserts that McKenna also testified that he reviewed the ‘858 patent family specification before he formed his opinion about the percentage of oil removal, including the following sentence, “Moreover, removal of the majority of the oil before the drying step makes the process more efficient, and results in an estimated energy savings of approximately 10 percent, or \$26.27 per hour.” MDN 1037-4 at 15. Apparently, McKenna construed “majority” to mean 51% of the oil is removed. CleanTech also argues that Rockstraw conceded that the Court’s construction meant that 51% removal of oil would infringe the claims; however, Rockstraw only conceded that it had been interpreted that way, not that it was a correct, scientific determination.

Contrary to the situation with the term “oil,” the Court concludes that “substantially” or “largely or mostly” with respect to the “substantially oil free” term cannot possibly mean a preponderance, as suggested by CleanTech’s expert, in the context of the ‘858 patent family. The Court has determined the reduced oil syrup stream must be “substantially free of oil” in comparison to the incoming stream. MDN 784 at 19-20. In systems where the incoming oil concentration is often near 5%, it is

nonsensical for substantially oil free to mean that 51% of the oil has been removed. This is particularly true in light of the language in the specification that CleanTech and its expert allegedly relied upon, which teaches that removal of the majority of the oil leads to efficiencies in drying the combined DDG and reduced oil thin stillage. MDN 102-5, '858 Patent, col4, ll63-66. See also MDN 1238 at 2-3 (discussing the meaning of this language in the specification with respect to enablement of the "oil" term). When the oil percentage in the incoming stream is already a very low 5%, there is no basis to conclude that any efficiency would be gained if the reduction in oil content of the thin stillage component was only 51%. Reading that statement in the specification in the context of the actual claim language, or even the Court's construction of "largely or mostly," it is clear that the requirement is more than a preponderance; it is largely or mostly all.

To the extent any clarification of the scope of the "substantially free of oil" term is necessary, the term requires the reduced oil thin stillage stream to be "largely or mostly all" free of oil.

B. THE "MECHANICAL PROCESSING" TERM

The Plant Defendants claim that the invention in the '858 patent family is limited to processes that use certain mechanical means exclusively to recover oil. MDN 932 at 34-35; MDN 1096 at 8-16. Specifically, the Plant Defendants aver that the patentees disavowed chemical processing. They argue that each of the patents in the '858 patent family specifically discloses that oil is recovered from concentrated thin stillage only through "relatively simple mechanical processing, without the prior need for multiple stages of filtration or other expensive and complicated undertakings." '858 Patent, col3,

II53-58; MDN 932 at 32. CleanTech also argued to the Patent & Trademark Office (“PTO”) examiner that:

Here, the Examiner cites to class 554, subclass 7 in characterizing the invention of claims 1021, which she contends is a “method of recovering oil.” However, this class relates to “organic compounds” and related processes including a phenolic preservative or stabilizer. Accordingly, Applicant’s “method of recovering oil” would not appear to be properly classified in this class as a subclass, since the invention in no way relates to the use of any preservative or stabilizer.”

MDN 932 at 36. The Plant Defendants contend that, here, the patentees disavowed the use of any organic compounds. MDN 1096 at 11. Initially, the Examiner had referenced U.S. Class 554/7 (designating specific phenolic preservatives or stabilizers), rather than U.S. Class 554/8 (Organic Compounds), MDN 1137 at 6-7; the latter appears in the '858 patent family specification. *Id.*

CleanTech further argued, over a prior art patent to Yokoyama, that:

. . . It is only because of the chemical reaction . . . that phase separation occurs. . . . Thus, it can be inferred by one skilled in the art that without the addition of the sodium carbonate catalyst, Yokoyama was unable to separate the oil from the stillage.

* * *

. . . One of the problems with prior processes [for recovering oil] is that because thin stillage has relatively high water content, previous attempts to recover oil prior to evaporation have generally been unsuccessful or economically impractical. For example, pre-evaporation processes that utilize centrifugation by itself results in formation of an undesirable emulsion, which would require additional processing to separate the oil. . . . With regard to post evaporation oil recovery processes, prior art processes have been limited to solvent extraction as discussed above and microfiltration. . . . Applicant’s claimed processes provide a novel solution that is efficient and economical for recovering oil from thin stillage.

* * *

There is no heating of thin stillage and thus no evaporation to form a thin stillage concentrate. This is a critical feature because it is believed that

the formation of thin stillage concentrate by evaporation frees some of the bound oil within the thin stillage. The “freed” oil breaks the emulsion of the thin stillage to permit mechanical processing.

MDN 932, at 36; MDN 1096 at 11-12 (emphasis in original). The Plant Defendants contend that this is a clear disavowal of the use of chemicals to break the emulsion or otherwise prepare the thin stillage prior to mechanical processing. MDN 1096 at 10-11; *id.* at 14-15.

In addition, CleanTech distinguished its claims over a prior art application of Prevost stating:

. . . A solvent extraction process is not the same as mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate Applicants have carefully studied Prevost and can find no teaching or suggestion of a post evaporation process for recovering oil from the concentrated byproduct by mechanical processing as in claim 31

MDN 932 at 36-37 (emphasis in original). Again, the Plant Defendants assert that this is a clear disavowal of any chemical processing or “other expensive and complicated undertakings.” *Id.* at 36-38. MDN 1096 at 8-11.

Moreover, the Plant Defendants argue that, having disavowed the use of chemical processing or any other undertaking, other than mechanical processing, CleanTech cannot reclaim chemical processes using “consisting essentially of” language in the preamble. MDN 932 at 38-41. The Plant Defendants explain that the use of the partially open claim language “signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention.” *Id.* at 39 (quoting *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1343 (Fed. Cir. 2009); citing, *inter alia*, MPEP § 2111.03 (8th ed. Rev. 9, Aug. 2012)). See *also* MDN 1096 at 13.

In addition, Adkins, Al-Corn and Iroquois claim that CleanTech has disavowed processes that screen solids from the thin stillage prior to centrifugation. MDN 1096 at 8-9; MDN 1100. Specifically, in distinguishing U.S. Patent 2,615,029 issued to Maurice M. Rosten in 1952 (the "Rosten patent" or "Rosten"), which is directed to separating oil from "distillers' slops" created during the production of beverage grade ethyl alcohol from corn, CleanTech has stated: "Unlike the method in the patents-in-suit, which extract oil from concentrated thin stillage including the solids, the oil/water emulsion stream from which Rosten extracts oil does not contain solids, and is not concentrated thin stillage." MDN 1096 at 8-9 (citing MDN 1028 at 106 (citing, *inter alia*, Rosten Patent, col2, ll28-33; col 2, l.50 to col3, l.3)).

CleanTech asserts that there is no clear disavowal of claim scope; therefore the additional processes, either chemical or mechanical, are irrelevant to the infringement analysis. MDN 1025 at 29-31. Specifically, CleanTech argues that the Court has already concluded that the mechanical processing step is not limited to centrifugation. *Id.* at 31 (citing MDN 169 at 15, 18). Further, there is no "clear disavowal of claim scope" as required by the law. *Id.* at 31 (quoting *Aquatex Indus., Inc. v. Techniche Solutions*, 419 F.3d 1374, 1381 (Fed. Cir. 2005); citing *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1357 (Fed. Cir. 2004)). First, although the specification recites that the patented inventions are unique because "[a]dvantageously, usable oil is then easily recovered from this concentrated form of the byproduct through relatively simple mechanical processing, without the prior need for multiple stages of filtration or other expensive and complicated undertakings," '858 Patent, col3, ll53-58, there is nothing in this language that excludes other steps. MDN 1025 at 32. Rather, this

language just states those types of steps “are not *needed* to practice the patented process (nor are they required or excluded by the claims).” *Id.* (emphasis in original). In addition, CleanTech avers that the patentees’ statements differentiating their process from one that relies exclusively on preservatives or stabilizers does not mean that the use of such in a process that otherwise infringes is disavowed. *Id.* at 33. Moreover, CleanTech asserts that the remaining quotes from the prosecution history of the ‘858 patent either discuss a different process altogether, *id.* at 34 (discussing the “prior processes” statement); emphasize the required element of evaporation, *id.* at 34-35 (distinguishing Prevost); or distinguish pure solvent extraction processes, *id.* at 35.

Also, CleanTech asserts that the claims using the “consisting essentially of” language can include chemical or filtration steps because those steps “do not materially affect the basic and novel properties of the invention—that is, to recover oil.” *Id.* at 36. CleanTech further claims that the “basic and novel properties of the patents-in-suit are that they provide the recovery of oil from the back-end of an operating ethanol plant by centrifugation or other mechanical processing of concentrated thin stillage.” *Id.* at 37 (citing MDN 1028 (CleanTech’s opposition to Defendants’ motion for summary judgment regarding invalidity)). CleanTech states, “The basic and novel property of recovering oil from concentrated thin stillage by using mechanical processing is unchanged by the addition of a chemical surfactant or filter.” *Id.*

Finally, CleanTech argues that Adkins, Al-Corn and Iroquois misunderstand Rosten as teaching separation of oil from a slurry stream (that contains 12.7% solids) using a second centrifuge. MDN 1137 at 3-4. To the contrary, CleanTech asserts that Rosten teaches separation of oil from a different stream, the one that is an emulsion of

oil and water, which is made clear when the entire relevant passage from Rosten is considered. *Id.* at 4-5 (citing Rosten Patent, col3, ll30-39 & *id.* col2, ll43-45). In addition, CleanTech avers that the inventors did not disavow using a filter as an extra step, just methods that recover oil using only a filter. *Id.* at 5.

The Court concludes that there was no clear disavowal of claim scope; therefore, the inventions in the '858 patent family claims are broad enough to include processes with other steps including filtration, or the additional of chemical additives or surfactants that aid in oil removal. Adding elements to a process does not prevent a finding of infringement unless the claims are specific as to the number of elements and adding elements eliminates an inherent feature of the claims. *See Insituform Technologies, Inc. v. CAT Contracting*, 99 F.3d 1098, 1106 (Fed. Cir. 1996). Phrased another way, if all of the elements of the patent claims have been adopted, the addition of other elements does not avoid infringement unless there is a clear disavowal of claim scope. *See N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1296-97 (Fed. Cir. 2000); *see also Aquatex Indus., Inc. v. Techniche Solutions*, 419 F.3d 1374, 1380-83 (discussing proper methods of claim construction when claim scope is at issue). With regards to filtration, as the Court had concluded before, there is nothing in the claims that limits mechanical processing to a specific mechanism or even a single mechanism to perform separation. MDN 169 at 14-15. As the Court pointed out in its Order on Claim Construction, the specification of the '858 patent family supports such a construction because it specifically references other oil separation devices suited for materials with suspended solids, which would include a filtration-type device. '858 Patent, col5, ll54-55. Although the patent specification teaches that the invention does not need "multiple stages of

filtration,” *id.* col3 ll56-57, this is not a complete rejection of that process.

The Plant Defendants point to this same passage as evidence that the inventors rejected all chemical processing. The specification states, “Advantageously, usable oil is then easily recovered from this concentrated form of the byproduct through relatively simple mechanical processing, without the prior need for multiple stages of filtration or other expensive and complicated undertakings.” *id.* col3, ll53-58. Again, this is not a complete rejection of “other expensive and complicated undertakings,” just a statement that in the patented process they are not needed.

The Court also concludes that the patentees never clearly disavowed filtration or addition of chemicals during prosecution. First, with respect the patentees’ statements regarding the patent examiner’s classification of the invention, there is no disavowal of anything other than being sub-classified as a “phenolic preservative or stabilizer” when the invention does not require or need such stabilizer. See MDN 120-5 at 72. Second, the patentees’ statement describing Yokoyama and describing other prior art systems that used solvent extraction or microfiltration, then describing the patented process, MDN 120-5 at 106-07, 128, 129, are no more than that: descriptions of prior art as contrasted with the patented process. There is no clear disclaimer of those prior art methods as potential added elements to the patented invention as required by the case law. See, e.g., *Aquatex Indus*, 419 F.3d at 1382 (discussing the standard for prosecution history estoppel and requiring evidence of “a clear and unmistakable surrender of subject matter” (quoting *Pharmacia & Upjohn Co. v. Mylan Pharm., Inc.*, 170 F.3d 1373, 1376-77 (Fed. Cir. 1999))); *Home Diagnostics, Inc. v. Lifescan, Inc.*, 381 F.3d 1352, 1357 (Fed. Cir. 2004) (stating that “[t]o overcome the presumption biasing

claim construction in favor of the accustomed usage of a term in the relevant community at the relevant time, [a party] must show a clear disavowal of such scope in the specification, prosecution history or both”); *Insituform Techs., Inc. v. CAT Contracting, Inc.*, 99 F.3d 1098, 1108-09 (Fed. Cir. 1996) (discussing the difference between “unmistakable assertions” and equivocal statements made to the patent office). Further, “solvent extraction,” “microfiltration,” or “thermochemical liquefaction” alone, as discussed by the patentees as the prior art, even if disclaimed, is not the issue here where the claim language “comprising” or even “consisting essentially of” contemplates the addition of steps in the process, not the exclusive use of either the prior art or the patented invention. See *Solvay S.A. v. Honeywell Intern. Inc.*, 742 F.3d 998, 1005 (Fed. Cir. 2014) (stating that “[t]he well-established meaning of “comprising” in a method claim indicates that the claim is open-ended and allows for additional steps” (quoting *Invitrogen Crop. V. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1368 (Fed. Cir. 2003))); *Ecolab, Inc. v. FMC Corp.*, 569 F.3d 1335, 1343-44 (Fed. Cir. 2009) (stating that “consisting essentially of” usual ‘signals that the invention necessarily includes the listed ingredients and is open to unlisted ingredients that do not materially affect the basic and novel properties of the invention” (quoting *PPG Indus. V. Guardian Indus. Corp.*, 156 F.3d 1351, 1354 (Fed. Cir. 1998))). Third, as the Federal Circuit has noted, “Statements simply noting a distinction between A and B are [] unhelpful: what matters is not that the patent describes A and B as different, but whether, according to the patent, A and B must be mutually exclusive.” *N. Telecom*, 215 F.3d at 1297. The statements in the prosecution history that the Plant Defendants rely upon fall into this category because there is no clear evidence that solvent extraction, filtration, or

chemical additive processing and mechanical processing “must be mutually exclusive.”

Finally, in response to Defendants’ motion for summary judgment on invalidity, CleanTech distinguished Rosten stating, “Unlike the method in the patents-in-suit, which extract oil from concentrated thin stillage including the solids, the oil/water emulsion stream from which Rosten extracts oil does not contain solids, and is not concentrated thin stillage.” MDN 1028 at 106 (citing, *inter alia*, Rosten Patent, col2, ll28-33; col 2, l.50 to col3, l.3). This comment is not part of the intrinsic record and, therefore, is not particularly probative of any limitation found in the claims or the intrinsic record. *N. Telecom*, 215 F.3d at 1295. Although this statement distinguishes the method disclosed in Rosten, it does not assert that filtration of thin stillage prior to centrifugation would be excluded from the claims of the ‘858 patent family. *See id.* at 1296 (discussing application of extrinsic statements distinguishing prior art and concluding that such statements must exclude the presence of the prior art in the patented process to act as a limitation).

For the foregoing reasons, the Court declines to limit the scope of the “mechanical processing” term to exclude additional processing, including the addition of chemical additives or surfactants, or filtration; other any of those in combination.

**C. THE ‘037 PATENT
“POST OIL RECOVERY THIN STILLAGE CONCENTRATE” TERM**

The ‘037 Defendants also request that the Court clarify construction of the term “post oil recovery thin stillage concentrate” in the ‘037 patent, which has been used to define the material that is subjected to further evaporation in that patent. MDN 1072 at 41-46. Specifically, the ‘037 Defendants contend that during prosecution of this patent, inventor “Winsness clearly defined the invention to require a unique type of

concentrated thin stillage with a reduced amount of solids as the concentrated thin stillage that is further processed in the evaporator system.” *Id.* at 43. The ‘037 Defendants assert that CleanTech has admitted that the claims of the ‘037 patent are described in the embodiment of Figure 5, which identifies exactly this type of reduced-solids syrup stream leaving the centrifuge that is subject to further evaporation. *Id.* Further, the patentee expressly touted the advantages removing the suspended solids. *Id.* at 43-44 (citing ‘037 Patent, col 7, ll61-64). Therefore, the ‘037 Defendants advocate a different definition for the term “post oil recovery thin stillage concentrate” that is further evaporated in this patent: “a syrup containing water, oil and solids resulting from the concentrating or evaporating process and a suspended solids removal process.” *Id.* at 45.

CleanTech asserts that there is nothing new in this argument and that pointing to claims 3 and 4 of the ‘037 patent does not help to change the plain meaning of the term as the Court has previously construed it. MDN 1160 at 12-13 & n.2.

As it did after the *Markman* hearing regarding the ‘037 patent, the Court concludes that the post oil recovery thin stillage concentrate has the same meaning it did in the ‘858 patent family. Although the Court agrees that the description of Figure 5 in the specification contemplates removal of solids as well as production of oil and reduced oil thin stillage, the same description makes clear that this is only “one aspect of the invention.” ‘037 Patent, col7, ll11-33. Claim 1, for example, is not limited to a separation process that results in three streams: oil, reduced oil thin stillage and suspended solids. *Id.* col10, ll57-67. The type of separation advocated by the ‘037 Defendants is represented in Claims 3 and 4; however, those are dependent claims and

are necessarily more narrow than Claim 1. *Id.* col11, ll4-11. Further, although Figure 5 is representative of the claimed method and depicts the invention of Claim 4, the Court will not limit the remainder of the claims to what the inventor termed “one aspect of the invention,” even if it is a preferred embodiment of the invention. See *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1325 (Fed. Cir. 2013) (stating that “[i]n the absence of exclusionary language, the term’s ordinary meaning---read to give full effect to the claim language” applies); *Varco, L.P. v. Pason Sys. USA Corp.*, 436 F.3d 1368, 1375 (Fed. Cir. 2006) (citing multiple cases for the proposition that references to preferred embodiments or specific examples in the specification are not claim limitations).

For these reasons, the Court concludes that the ‘037 patented invention does not limit the scope of the claims to require that the post oil recovery thin stillage be subjected to a suspended solids removal process as advocated by the ‘037 Defendants.

V. INFRINGEMENT/NON-INFRINGEMENT

A. INFRINGEMENT STANDARD

Under 35 U.S.C. ' 271(a) , Awhoever without authority makes, uses, offers to sell, or sells any patented invention . . . within the United States . . . infringes the patent.® Reviewing whether a particular method infringes a patent is a two-step process. See *CAE Screenplates v. Heinrich Fiedler GMBH*, 224 F.3d 1308, 1316 (Fed. Cir. 2000); *K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1362 (Fed. Cir. 1999). First, the Court must interpret the disputed claims, Afrom a study of all relevant documents,® to determine their scope and meaning. *K-2 Corp.*, 191 F.3d at 1362; see also *Dolly, Inc. v. Spalding & Evenflo Cos., Inc.*, 16 F.3d 394, 397 (Fed. Cir. 1994). Second, the Court must

determine if the accused process comes within the scope of the properly construed claims, either literally or by a substantial equivalent. See *K-2 Corp.*, 191 F.3d at 1362; *Dolly*, 16 F.3d at 397; *SmithKline Diagnostics v. Helena Labs. Corp.*, 859 F.2d 878, 889 (Fed. Cir. 1988). In this case, claim construction mostly occurred prior to the instant Motions, see MDN 169; MDN 784; MDN 835; however, the scope of certain claims or terms was clarified and/or decided herein. The remainder of the Court's inquiry focuses on the second phase of the infringement analysis.

The patent owner bears the burden of proving infringement. See *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1273 (Fed. Cir. 2004). For method claims, like the ones at issue in this case, all the steps of the claims must be carried out to find infringement. See *Limelight Networks, Inc. v. Akamai Techs., Inc.*, 572 U.S. ___, 134 S.Ct. 2111, 2117 (2014) (citing *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 344 (1961)); *Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 709 F.3d 1348, 1362 (Fed. Cir. 2013). Therefore, "for a party to be liable for direct infringement under 35 U.S.C. § 271(a), that party must commit all the acts necessary to infringe the patent, either personally or vicariously." *Aristocrat Techs.*, 709 F.3d at 1362 (quoting *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, (Fed. Cir. 2012), *rev'd on other grounds, sub nom* 134 S.Ct. at 2115).

Indirect infringement is also at issue in this matter. MDN 934 (GEA's Motion for Summary Judgment on the Issue of Liability for Inducing or Contributing Infringement). There are two types of indirect infringement: inducement and contributory. Both types of indirect infringement require an underlying act of direct infringement attributable to a single entity. See *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir.

2008). See also *Limelight Networks*, 134 S.Ct. at 2117-18; *Deepsouth Packing Co. v. Laitram Corp.*, 406 U.S. 518, 526 (1972), *superceded on other grds by* 35 U.S.C. § 271(f); *Aro Mfg.*, 365 U.S. at 341. To show that a defendant is liable for inducing infringement, CleanTech must establish “that the alleged infringer’s action induced infringing acts and that [the entitiy] knew or should have known [the] actions would induce infringement.” *DSU Med. Corp. v. JMS Co., Ltd.*, 471 F.3d 1293, 1306 (Fed. Cir. 2006) (quoting *Manville*, 917 F.2d 544, 553 (Fed. Cir. 1990)). “[I]nducement requires evidence of culpable conduct, directed to encouraging another’s infringement, not merely that the inducer had knowledge of the direct infringer’s activities.” *Id.*, 471 F.3d at 1306.

Contributory infringement occurs when a party sells an “apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use.” 35 U.S.C. § 271(c). To succeed on a claim of contributory infringement, CleanTech must prove that a defendant “knew that the combination for which its components were especially made was both patented and infringing” and that defendant’s components have “no substantially non-infringing use.” *Lucent Techs., Inc. v. Gateway, Inc.*, 580 F.3d 1301, 1320 (Fed. Cir. 2009) (quoting *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1312 (Fed. Cir. 2005) (quoting *Golden Blount, Inc. v. Roberth H. Peterson Co.*, 365 F.3d 1054, 1061 (Fed. Cir. 2004))).

B. THE '858 PATENT FAMILY

Having clarified the disputed scope of certain claim terms, the Court first turns to the competing argument regarding infringement by the Plant Defendants.

1. Additional Process Steps

First, the Plant Defendants allege that if they use chemicals or a filter or any other additional step besides “mechanically processing,” they do not infringe any of the claims of the ‘858 patent family. MDN 932 at 34-41; MDN 1096 at 7-16. The Court considered the entirety of these arguments in the context of the proper scope of the claim term “mechanical processing” and has determined that a process may infringe the claims of the ‘858 patent family even if the process includes extra steps such as adding chemicals or surfactants, or filtering the concentrated thin stillage. *See, supra*, Part IV.B. Therefore, the Plant Defendants are not entitled to summary judgment on this ground.

2. Claims that Require “Drying” of the “Thin Stillage Concentrate”

The Plant Defendants contend that none of them infringe any claims of the ‘858 patent family that require drying of the post oil recovery step thin stillage concentrate. MDN 932 at 41-44; MDN 1096 at 16-21. Specifically, the Plant Defendants assert that CleanTech’s expert admitted that the product they dry is uniformly considered DDGS, not “thin stillage concentrate” as required by the claims. MDN 932 at 41; MDN 1096 at 16-21. The unconverted evidence, according to the Plant Defendants, is that evaporating and drying are different: evaporators are generally closed systems that permit recovery of water; dryers are generally open systems using hot air to dry out a material. MDN 932 at 43; MDN 1096 at 16.

CleanTech argues that the Plant Defendants are relying upon “a logically-inconsistent construction of the claim terms related to drying, an issue that Defendants never raised during claim construction.” MDN 1025 at 37. Further, CleanTech states that McKenna opined that “whenever concentrated thin stillage is sent to a dryer, whether alone or in combination with other materials, such as wet grains,” the drying claims are satisfied. *Id.* at 38.

The relevant claims of the ‘858 patent, the ‘516 patent and the ‘484 patent state, respectively, and in pertinent part: “including the step of drying the concentrate after the step of recovering the oil,” ‘858 Patent, col6, ll57-58; “including the step of drying the concentrate after the step of recovering the oil,” ‘516 Patent, col6, ll48-49; and “drying the thin stillage concentrate to reduce the moisture content in the thin stillage concentrate.” ‘484 Patent, col6, ll18-19 & ll48-49. CleanTech’s expert, McKenna, admitted that he would call a mixture of wet distillers grains, sprayed-on concentrated thin stillage and previously-dried DDGS: DDGS with solubles. MDN 1096 at 18.

The plain meaning of “drying the concentrate” in patent in the ‘858 patent family is just that: the reduced oil syrup leaving the oil recovery process is dried and it is implicit in this simple phrase that it is not mixed with anything else first – it is dried, then it is either used alone or something else is done with it. The claims of the ‘484 patent are even more explicit because the entire phrase requires that the thin stillage concentrate be dried to reduce the moisture content in the thin stillage concentrate alone, not to reduce the moisture content of some mixture. ‘484 Patent, col6, ll18-19 & ll48-49. Furthermore, McKenna’s testimony on the subject is telling in that when asked to name a mixture of wet distillers grains, previously-dried DDGS and thin stillage

concentrate, he unequivocally said “[t]hat combination would be consistent with what was called DDGS with solubles” and to him, “that material is DDGS.” MDN 1210 at 55-56. There is no question then, that a process that mixes the reduced oil thin stillage concentrate before drying the mixture is not practicing the “drying” claims of patent in the ‘858 patent family. The Court also notes that CleanTech has carefully avoided any argument that sending the reduced oil thin stillage concentrate back through the evaporators is “drying” within the meaning of that term in any patents in the ‘858 patent family because to do so would be inconsistent with its arguments on the validity of the ‘037 patent, which specifically claims further evaporation of the post oil recovery thin stillage concentrate to reduce its moisture content. ‘037 Patent, col10, ll61-62; *id.* col11, ll37-38; *id.* col12, ll13-14 & ll26-27 & ll43-44; MDN 1160 at 14-15 (stating that the ‘858 patent discloses redirecting the de-oiled syrup stream through the evaporators for additional oil recovery and further, that “[t]he ‘037 patent represents an improvement in the process downstream of the oil recovery . . . the post oil-recovery de-oiled syrup that exist the centrifuge is further evaporated to reduce the moisture content before it is combined with distillers wet grains”); *id.* at 17 (stating that “[t]he ‘858 patent contemplates repeated iterations within the oil recovery step; while the ‘037 patent is directed to further reducing the moisture in the de-oiled syrup and then combining the de-oiled syrup with wet distillers grains to improve drying efficiency”).

For these reasons, summary judgment in favor of the Plant Defendants is proper on CleanTech’s claims that they infringe Claim 15 of the ‘858 patent, Claim 10 of the ‘516 patent; and Claims 1-3, 5, 6, 8, 10, 12-14, 16, 17, 19-24 and 26-29 of the ‘484 patent.

3. “Substantially Oil Free” Claims

Plant Defendants Ace, Adkins, Al-Corn, Blue Flint, Bushmills, CVEC, Heartland, Iroquois, Lincolnway Energy, and UWGP (collectively, “SOF Defendants”)³⁹ assert that their processes do not infringe Claims 7-10 of the ‘516 patent and Claims 8, 10, 12-14 and 27 of the ‘484 patent because the reduced-oil syrup is not “substantially oil free.” MDN 932 at 41-42 & n.5. The SOF Defendants argue that CleanTech’s expert testimony that “substantially oil free” should be rejected, *id.* at 46, and that the Court should adopt their expert’s now uncontroverted opinion that in applying scientific principles at least 90% of the oil must be removed before the reduced-oil syrup is “substantially free of oil.” *Id.* at 47-49. The SOF Defendants also claim that testing results show that Heartland, Blue Flint, Lincolnway and UWGP do not always even exceed a 50% threshold and CleanTech has admitted that its sampling method was flawed, MDN 932 at 48; therefore, this is an additional reason to grant the SOF Defendants summary judgment on the “substantially oil free” claims. *Id.* at 48-49.

CleanTech asserts that a visual inspection of the samples taken from the SOF Defendants’ plants evidence that the concentration exiting the oil recovery process are “largely or mostly” oil free. MDN 1025 at 38-39. Further, CleanTech asserts that both parties’ experts agree that the Court’s “claim construction means that any process that removes more than 50% of the oil in the incoming concentrated thin stillage stream meets this claim limitation,” and the test results indicate that all of the SOF Defendants’ streams remove more than 50% of the oil. *Id.* at 39-40.

The Court concludes that McKenna’s opinion regarding the “substantially oil free”

³⁹ CleanTech has not asserted the “substantially oil free” claims against Plant Defendants Cardinal, Lincolnland, BR-G or BRWB. See, *supra* at 2.

limitations lacks a scientific foundation on this issue and should be excluded. McKenna's approach does not pass muster pursuant to Rule 702 of the Federal Rules of Civil Procedure ('Rule 702'). McKenna referred to his approach to understanding the term as "common sense," see MDN 949-8 at 3, McKenna Dep. at 146; or that he "arbitrarily set up that 50, 51 percent", *id.*, McKenna Dep. at 147. Neither of these statements have a foundation in scientific principles nor grounding in the claim language. MDN 1037-4 at 4-6. Only when pressed did McKenna claim that the reference in the specification to removal of the "majority" of the oil provided a basis for his conclusion that removal of 51% of the oil from the thin stillage concentrate infringed the relevant claims. *Id.* at 15. This single statement, which he acknowledged by saying "I think the percentage thrown out was 51 percent of the oil has been removed from the concentrated thin stillage" is simply not enough to ground McKenna's opinions in scientific principles. Further, the "majority" of the oil language in the specification refers to the oil in the combination of DDG and the reduced oil syrup, which would generally only occur if well over 51% of the oil has been removed from the thin stillage concentrate. MDN 120-2, '858 Patent, col4, ll64-66. See also MDN 1238 at 2-3.

Therefore, the uncontested admissible evidence on this issue is a comparison of some of the samples taken by CleanTech; and Rockstraw's opinion that, to a person of ordinary skill in the art, 90% oil removal meets the definition of "substantially [or largely or mostly all] oil free." None of the test results show that any SOF Defendant's process produced a post oil recovery step thin stillage concentrate that is "substantially oil free" as the Court has construed the term. The test results showed that each of the SOF Defendants removed the following amounts of oil: Ace – ██████% - ██████% (MDN 882-35 &

MDN 882-36); Al-Corn – █████%–█████% (MDN 882-43 & MDN 882-44); Blue Flint – MDN 45.5%-56.5% (MDN 882-30 & MDN 882-49); CVEC – 54.5-56.7% (MDN 882-31 & MDN 882-32); Iroquois – 74%-80% without additives, 78%-87% with additives (MDN 883-33 & MDN 883-34); Lincolnway – 37.7%-61.3% (MDN 882-13); and UWGP – 45.5%-78.0% (MDN 883-45 & MDN 883-46). Based on this evidence, the Court concludes that no reasonable jury could decide that Ace, Al-Corn, Blue Flint, CVEC, Heartland, Iroquois, Lincolnway or UWGP infringe the “substantially oil free” claims of the ‘858 patent family. None of these plants remove largely or mostly all of the oil from the incoming stream. Adkins, Bushmills and Heartland successfully challenged the admissibility of CleanTech’s test results on their processes that it relied upon to assert infringement of the “substantially oil free” claims. See *supra* Sections III.B.2, III.B.6. & n.14, III.B.10 & n.24. Therefore, in the absence of evidence to support its claim of infringement, after being challenged by Adkins, Bushmills and Heartland to produce such evidence, summary judgment is appropriate as to these defendants on the “substantially oil free” claims as well. Even if the Court considered the data and accepted it as true, the evidence shows that Adkins’, Bushmills’ and Heartland’s processes do not infringe the “substantially oil free” limitation because those Plant Defendants do not remove largely or mostly all of the oil: Adkins – 76% (MDN 882-29); Bushmills – 52.3%-69% (MDN 883-8); Heartland – 26.6%, 28.2%, 45% and 44.1% (MDN 883-24 & 883-25). The Court notes that CleanTech’s evidence against Heartland does not even meet its own expert’s definition that the majority of the oil is removed.

For these reasons, summary judgment is appropriate in favor of Ace, Adkins, Al-Corn, Blue Flint, Bushmills, CVEC, Heartland, Iroquois, Lincolnway Energy, and UWGP

on CleanTech's claims that they infringe Claims 7-10 of the '516 patent and Claims 8, 10, 12-14 and 27 of the '484 patent.

4. Iroquois & Lincolnway Arguments

Iroquois and Lincolnway (collectively, the "Claim 9 Defendants") assert that their processes do not infringe Claim 9 of the '516 patent. Claim 9 of the '516 patent requires that "the recovering and concentrating steps are performed in a continuous fashion." '516 Patent, col6, ll46-47. Iroquois asserts that McKenna admitted that he did not know if Iroquois' centrifuge operated continuously. MDN 923 at 2-3. Further, Iroquois' Supplemental Answer to Plaintiffs' Interrogatory No. 13 explained that syrup (concentrated thin stillage) does not flow to the centrifuge continuously because the syrup is processed in batches where the flow of syrup going into the centrifuge is stopped so that accumulated solids can be flushed from the system. *Id.* at 3. Similarly, Lincolnway asserts that in its supplemental interrogatory responses it explained that its solids discharging centrifuges are designed to stop periodically to discharge solids that collect in the separation bowl and, additionally, each centrifuge is subjected to periodic clean in place procedures. MDN 930 at 1-2. During these times, flow of syrup or thin stillage concentrate is stopped. *Id.* CleanTech's expert, McKenna, admitted during his deposition that when the feed to the centrifuge is stopped while solids are ejected, the process is not continuous. MDN 1088 at 1-7.

CleanTech claims that both Iroquois and Lincolnway admitted that their processes are continuous in their initial responses to CleanTech's interrogatories and creative attorney arguments regarding periodic cleaning should be rejected. MDN 1025 at 15, 46-47. Most importantly, CleanTech asserts that Iroquois' witnesses testified that

the system is continuous and only shut down for cleaning or emergencies. *Id.* at 49-51. Likewise, Lincolnway's witnesses testified that the system is continuous except for shut downs from scheduled maintenance. *Id.* at 51-52.

Given the unrefuted evidence that McKenna testified that a system is not continuous if there is no feed to the centrifuge, the Court concludes that there is no material question of fact on whether or not either Iroquois or Lincolnway infringe Claim 9 of the '516 patent: the processes are not continuous because CleanTech has not proffered proof that, during normal processing, the feed to the centrifuge is continuous. For these reasons, the Claim 9 Defendants' motion for summary judgment must be **GRANTED**.

Iroquois also asserts that partial summary judgment is appropriate on CleanTech's claims that it infringes Claim 2 of the '516 patent and Claim 14 of the '484 patent because the test data for Iroquois shows that the moisture content of the syrup fed to the centrifuge is between 55% and 72%, whereas the relevant claims require the moisture range to be between 60% and 85% by weight. MDN 923 at 4. As a result, Iroquois argues, when Iroquois' system is run with a syrup having moisture content of 55% to less than 60%, there is no infringement. *Id.* CleanTech does not refute this statement other than to say that "an accused produce that sometimes, but not always, embodies a claimed method nonetheless infringes." MDN 1025 at 54 (quoting *Bell Commc'ns Research, Inc. v. Vitalink Commc'ns Corp.*, 55 F.3d 615, 622-23 (Fed. Cir. 1995)).

In the absence of evidence that Iroquois always meets the moisture content requirements of Claim 2 of the '516 patent and Claim 14 of the '484 patent, partial

summary judgment in favor of Iroquois is appropriate. See *Limelight Networks*, 134 S.Ct. at 2117 (“A method patent claims a number of steps; under this Court’s case law, the patent is not infringed unless all the steps are carried out.”).

5. “Oil” Claims

Cardinal asserts that under the proper scope for the term “oil,” its process does not infringe and claims of the ‘858 patent family that require the recovery of “oil” because the oil stream that leaves its centrifuge has up to 12.47% contaminants, despite the use of chemicals. MDN 924 at 1. In addition to stating that Cardinal’s claim construction argument should not be considered, as discussed above, CleanTech alleges that the undisputed facts show that the oil stream exiting Cardinal’s centrifuge contained between 87.53% and 90.26% oil; therefore, it is largely or mostly oil. Further, relying upon its single set of data points from each of the plants, CleanTech asserts that summary judgment is appropriate as to the remaining Plant Defendants on all of the remaining claims. MDN 878 at 101-03; MDN 1025 at 41. CleanTech avers that there is no question of material fact that the Plant Defendants sometimes infringe because they all produce an oil stream that is greater than 50% oil; therefore, summary judgment is appropriate. MDN 878 at 102-03 (relying heavily on the visual inspection of settled samples); MDN 1025 at 41-42.

To the contrary, the Plant Defendants contend that a material question of fact precludes summary judgment in favor of CleanTech because there is significant process variability in each plant, which is the reason a number of plants have installed settling tanks or other similar systems to remove solids and moisture before storing or selling the recovered oil. MDN 932 at 50-51. In addition, the Plant Defendants point to

CleanTech's own expert's admission that the samples that were taken are not reliable because they should have been taken over a 24-hour period, then averaged. MDN 1096 at 29. Moreover, the Plant Defendants argue that neither CleanTech nor its expert tried to account for this process variability in the infringement analysis or accounted for industry specifications for acceptable levels of contaminants; therefore, material questions of fact exist on infringement. MDN 932 at 51-52. Finally, because CleanTech has proffered no proof that the samples taken are representative of other process parameters on other dates, summary judgment should be granted in the Plant Defendants' favor for lack of proof. MDN 1096 at 29.

With respect to Adkins and UWGP, CleanTech has no admissible evidence that Adkins' or UWGP's process meets the "oil" limitation of the claims. *See, supra* Section III.B.2; *supra* Section III.B.14 & n.33. The Plant Defendants' own Motion for Summary Judgment of Non-Infringement clearly put CleanTech on notice that it needed evidence to support its claims of infringement. Yet in response to Adkins' and UWGP's challenge to the admissibility of any test data (Adkins) or oil concentration test data (UWGP), CleanTech merely responded that the Midwest results speak for themselves and/or that the Rule 30(b)(6) testimony establishes that the results are largely consistent with typical results Adkins or UWGP observes at other times. MDN 1025 at 12, 68-69; MDN 1025 at 13. As stated previously, CleanTech never addressed Adkins' or UWGP's objection that there was no foundation for admission of the test results. *See, supra* Section III.B.2; Section III.B.14. Therefore, CleanTech has failed to meet its burden on summary judgment and there is no material question of fact on its claims that Adkins or UWGP infringe any of the asserted claims. *See Minkin v. Gibbons, P.C.*, 680 F.3d

1341, 1352 (Fed. Cir. 2012) (stating that a “movant may prevail under Rule 56 by exposing ‘the absence of evidence to support the nonmoving party’s case;’” (quoting *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986))). For this reason, Adkins’ and UWGP’s motions for summary judgment of non-infringement are **GRANTED**.

Turning to the remaining Plant Defendants, the Court concludes that CleanTech has not produced admissible evidence that the Plant Defendants infringe the “oil” limitation of all the claims of the ‘858 patent family. CleanTech relies upon three things to prove infringement of the oil limitations: (1) sample data; (2) expert testimony; and (3) Rule 30(b)(6) testimony of some Plant Defendants that the sample data is consistent with other data taken by that Defendant of its own process. However, CleanTech’s expert’s testimony about the sample data is inherently unreliable under *Daubert* and its progeny because he admitted that a proper analysis, at a minimum, would have taken an average of readings over a 24-hour period. MDN 1210 at 38, 68-69. Therefore, even if there is admissible data reflecting the amount of oil in samples taken during inspections at the Plant Defendants’ facilities, there is no reliable expert testimony about whether or not the data supports a conclusion that the Plant Defendants infringe the “oil” limitation of the ‘858 patent family. Because the “oil” limitation appears in all the claims in the ‘858 patent family, see Claims 1-3, 5-16 of the ‘858 Patent; Claims 1-11 of the ‘516 Patent; Claims 1 and 2 of the ‘517 Patent; and Claims 1-3, 5, 6, 8, 10, 12-14, 16, 17, 19-24, 26-30; this conclusion is dispositive of all of CleanTech’s allegations as to all of the Plant Defendants and summary judgment in favor of the Plant Defendants is warranted on CleanTech’s allegations of infringement of all claims of the ‘858 patent family.

C. THE '037 PATENT

Further, for the reasons discussed in the previous Section, *supra* Section V.B.5., CleanTech has no admissible evidence and/or testimony that the '037 Defendants infringe the "oil" limitation of the '037 patent. Therefore, summary judgment in favor of the '037 Defendants is appropriate on CleanTech's allegations of infringement of the '037 patent.

D. INDUCEMENT &/OR CONTRIBUTORY INFRINGEMENT

GEA and Ace have moved for summary judgment on the issue of liability pursuant to 35 U.S.C. §§ 271(b) and (c), for inducement and contributory infringement, respectively. MDN 934. GEA asserts that summary judgment is appropriate because CleanTech cannot establish that GEA induced infringement with specific intent or that GEA's centrifuges have no other use besides infringing the patents-in-suit. MDN 935 at 4. Specifically, GEA states that the actions it took to sell centrifuges to the Plant Defendants or other ethanol producers occurred prior to issuance of the patents, which is not actionable *id.* at 13-15; MDN 1085 at 6-7. In addition, GEA claims that it is not liable for inducement because there is no evidence of a specific intent to cause infringement of a valid patent because GEA has always asserted that the patents were invalid. MDN 935 at 15-16. Further, GEA avers that evidence of service contracts cannot form the basis for an induced infringement claim. MDN 1085 at 9-11. GEA also argues that it is not liable under the contributory infringement prong of § 271 because its centrifuges are pre-existing models that were not designed exclusively for use in corn oil extraction. MDN 935 at 17.

CleanTech asserts that it can prove infringement by another – namely the eight

Plant Defendants using GEA centrifuges that it has accused of infringement (Ace, Adkins, Blue Flint, Bushmills, CVEC, Heartland, Iroquois and UWGP (collectively, the “GEA Plant Defendants”) – and there are material questions of fact on the remaining issues related to inducing or contributory infringement; therefore summary judgment is improper. MDN 1025 at 55-64. CleanTech further argues that GEA cannot assert an advice of counsel defense to establish its good faith belief in invalidity. *Id.* at 64-66. CleanTech asserts that GEA cannot have a belief about invalidity without counsel’s advice, *id.* at 64-65 (citing *Aspex Eyewear Inc. v. Clariti Eyewear, Inc.*, 605 F.3d 1305, 1313 (Fed. Cir. 2010); *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1339 (Fed. Cir. 2008)), and GEA refuses to produce any evidence of such; therefore, it cannot have a good faith belief that the patents are invalid. *Id.* at 65. At the very least, there is a question of fact about GEA’s good faith belief. *Id.* at 65-66.

The Court has determined that CleanTech has failed to produced evidence of direct infringement by any of the GEA Plant Defendants; therefore, there can be no induced or contributory infringement as a matter of law. *See Muniauction*, 532 F.3d at 1329; *see also Limelight Networks*, No. 12-786, Slip Opinion at 7. With respect to CleanTech’s reliance upon allegations of infringement as to POET and ADM, non-parties to this MDL, CleanTech presented no evidence that those entities infringed as required by controlling law; therefore, those entities cannot be substituted for the GEA Plant Defendants as to the infringement element. *Cf. Refac Int’l, Ltd. v. IBM*, 798 F.2d 459, 460 (Fed. Cir. 1986) (refusing to take jurisdiction over an appeal of a stay as to direct infringers but not potential contributory infringers because plaintiff could still take discovery from the stayed defendants to support its claims against the alleged

contributory infringer).

Even if the Court were to assume CleanTech had evidence that one or more of the GEA Plant Defendants infringed the patents, summary judgment in favor of GEA would still be appropriate. With respect to the parties' arguments regarding specific intent, the Court agrees that the current state of the law is discussed in *Commil USA LLC v. Cisco Systems, Inc.*, 720 F.3d 1361, 1368-69 (Fed. Cir. 2013). In *Commil*, the Federal Circuit stated that "evidence of an accused infringer's good-faith belief of invalidity may negate the requisite intent for induced infringement." *Id.* at 1368. However, the *Commil* court stopped short of holding as a matter of law that it always would act as a complete bar to liability because it went on to say that good-faith evidence "should be considered by the fact-finder in determining whether an accused party knew 'that the induced acts constitute patent infringement.'" *Id.* at 1369 (quoting *Global-Tech Appliances, Inc. v. SEB S.A.*, ___ U.S. ___, 131 S.Ct. 2060, 2068, 179 L.Ed. 1167 (2011)). Here, GEA produced several documents from the time period prior to the issuance of the '858 patent to evidence that it never believed the '858 patents would issue or could be valid. MDN 935 at 9, ¶¶ 10-11 (citing MDN 938-15, MDN 938-16 & MDN 938-17); *id.* at 15-16. All CleanTech provided in response is an allegation that GEA never asserted reliance on advice of counsel. MDN 1025 at 18-19 (admitting statements were made); *id.* at 61; *id.* at 64-66. Reliance on counsel, however, is not the test; the test is whether or not GEA had a good faith belief of invalidity. The uncontested evidence is that GEA always believed the CleanTech method was not patentable; even when the USPTO issued a Notice of Allowance, GEA insisted the technology was not new and continues to do so in this litigation. MDN 935 at 9. But,

as the *Commil* court cautioned, there is more to the inquiry of “intent” than the good faith belief in the invalidity defense. CleanTech relies on other evidence of “intent” such as post-grant sales activity, MDN 1025 at 59-60; therefore, on the issue of intent, generally, there is a material question of fact.

Notwithstanding that conclusion, however, there is no dispute that GEA sold centrifuges to the GEA Plant Defendants prior to issuance of any of the patents in suit. Therefore, there can be no induced infringement based on those sales because prior acts are not actionable. See *Nat'l Presto Indus., Inc. v. West Bend Co.*, 76 F.3d 1185, 1196 (1996) (concluding “that as a matter of law § 271(b) does not reach actions taken before issuance of the adverse patent”). Similarly, when no patent has issued, there cannot be direct infringement; therefore there is no contributory infringement for those sales either. Sales alleged to POET or ADM lack the crucial element of evidence of infringement by those entities. See MDN 1025 at 18 (admitting that neither POET or ADM are defendants and submitting no evidence of infringement). Without evidence of infringement, there can be no induced or contributory infringement. See *Limelight Networks*, 134 S.Ct. at 2118 (requiring evidence of direct infringement to be held liable for induced or contributory infringement).

With respect to service contracts, CleanTech has provided no evidence of the content of the contracts, or that the routine maintenance suggested by the very name “service contract” or by the few descriptions of the kind of ongoing maintenance needed by centrifuges, satisfies its burden to show culpable conduct; repair and maintenance is not the kind of intentional conduct contemplated by the law for induced infringement. See *Aro Mfg.*, 365 U.S. at 345-46; *Husky Injection Molding Sys. v. R&D Tool & Eng'g*

Co., 291 F.3d 780, 785-87 (Fed. Cir. 2003); *Fonar Corp. v. Gen'l Elec. Co.*, 107 F.3d 1543, 1555 (Fed. Cir. 1997); *Sage Prods. v. Devon Indus.*, 45 F.3d 1575, 1578 (Fed. Cir. 1995). Similarly, there is no case law to support CleanTech's suggestion that GEA's provision of a test to an existing customer so that the customer can determine when a centrifuge is operating properly could provide the basis for actionable culpable conduct. This conduct, which the Court will label troubleshooting, is similar in nature to repair or maintenance in that it is focused on identification of a malfunctioning part, the replacement of which is not actionable.

Moreover, specifically addressing any remaining contributory infringement allegations, products that are staple articles of commerce that are not adapted to infringe cannot form the basis of a claim for contributory infringement. 35 U.S.C. § 271(c). Although CleanTech proffered evidence that GEA changed a centrifuge for a test, there is no evidence that any centrifuge sold to the GEA Plant Defendants was specifically designed for the ethanol plant oil recovery process. There is also no evidence of the type of centrifuges sold to non-parties POET or ADM; therefore, even if the Court considered GEA's post-issuance conduct with respect to those alleged ethanol producers, it could not be considered contributory infringement.

For these reasons, the Court concludes that summary judgment in favor of GEA on CleanTech's claims of inducing or contributing to infringement should be **GRANTED**.

VI. INVALIDITY ARGUMENTS REGARDING THE '858 PATENT FAMILY

A. FACTS⁴⁰

1. Background of CleanTech and GreenShift

GreenShift Corporation is the parent corporation of GS CleanTech, the plaintiff in this action; the two companies share headquarters in Alpharetta, Georgia. MDN 1028 at 25-26. GreenShift and its subsidiaries focus on developing and commercializing technologies that promote more efficient use of natural resources. *Id.* at 26. GreenShift has a track record of identifying new market opportunities in long-established industries, and of developing valuable technology for market participants to exploit those opportunities. *Id.* For example, GreenShift has developed and continues to develop innovative technologies relating to corn oil extraction, adhesives, and paper. *Id.* CleanTech holds six patents in the corn oil extraction industry, U.S. Patent No. 7,608,729 (which is not at issue in this case), the '858 patent family, and the '037 patent. *Id.* CleanTech has six additional patent applications pending before the USPTO in this area. *Id.*

⁴⁰ CleanTech's method for responding to the Defendants' motion for summary judgment on invalidity has made it nearly impossible for the Court to decipher whether or not CleanTech is actually disputing Defendants' facts. For example, in its opposition brief, MDN 1028, at page 16 of 149 (citing MDN 1028 at pages 35 to 40 of 149), CleanTech objects to the completeness of four paragraphs of the moving brief and cites in support twenty paragraphs of facts in another part of CleanTech's brief ("Plaintiffs' Statement of Material Facts in Dispute"), one of which incorporates by reference the prior seven paragraphs. Collectively, those twenty paragraphs cite to at least twenty other references. Further, many of the statements offered by CleanTech in opposition to Defendants' statement of facts are conclusions or argument rather than facts. In lieu of asking CleanTech to resubmit its brief, the Court has endeavored to ascertain from CleanTech's statement of facts in dispute (as referenced in its opposition to Defendants' statements) whether or not there is a real dispute about the facts as set forth by Defendants, or if they are additional facts. The facts set forth in this section are the culmination of this endeavor.

2. Conventional Dry Mill Ethanol Plant

The '858 patent family explains that "dry milling" is "typically practiced using corn." MDN 1028 at 28. The "process utilizes the starch in the corn . . . to produce the ethanol through fermentation." *Id.* The process creates a waste stream commonly referred to as whole stillage. *Id.* Whole stillage is then separated into two byproducts: "distillers wet grains," and "thin stillage." *Id.* The '858 patent family explains,

Despite containing valuable oil, this whole stillage has for the most part been treated as waste and used primarily to supplement animal feed (mostly in the form of distillers dried grains with solubles (DDGS), which is created by evaporating the thin stillage, recombining the resulting concentrate or syrup with the distillers wet grains, and drying the product to have a low moisture content

Id. at 28-29.⁴¹ The '858 patent family further explains that prior methods "to recover the valuable oil from this byproduct have not been successful in terms of efficiency or economy." *Id.* at 29. The specification notes one attempt to separate the oil from the thin stillage prior to evaporation, stating that method is "highly inefficient and uneconomical." *Id.* It also notes the use of filters to remove solids and then recovering lactic acid and glycerol from the thin stillage prior to evaporation; moreover, this method is prone to plugging, which increases operational costs. *Id.* The specification further opines that "a need exists for a more efficient and economical manner of recovering oil from a byproduct containing it, such as thin stillage" *Id.*

The '858 family of patents relate to a method for recovering corn oil from the concentrated thin stillage (or syrup) historically produced by a conventional dry mill

⁴¹ Defendants disputed certain characterizations by CleanTech of both the prior art and the advantages of the inventions discussed in the '858 patent family specification. MDN 1093 at 74. The Court has used CleanTech's citations to the '858 patent and quoted the referenced material in its entirety to address concerns about CleanTech's statements containing argument rather than facts.

ethanol plant. MDN 1173 at 11. The methods involve running the syrup through a mechanical process, such as centrifugation, to recover oil. *Id.* Particular embodiments disclosed in the '858 patent family include: (1) the use of a decanter centrifuge, a screen centrifuge, a disk-stack centrifuge, a nozzle bowl disk stack centrifuge and a horizontal centrifugal decanter as the mechanical process; (2) feeding the syrup to the centrifuge at a temperature between 150°F and 212°F and ideally at 180°F, and a pH between about 3 and 6 (ideally between 3.5 and 4.5); and evaporating the thin stillage such that it has a moisture content between 15% and 90%, but more preferably between 30% and 90%, and ideally between 60% and 85%. MDN 1028 at 29-30. The '858 patent family specification claims two advantages for this process: recovery of corn oil; and greater efficiency in drying the DDGS. MDN 1028 at 29; MDN 1093 at 108.

There were many techniques available at the time of the invention to separate oil from the byproducts produced at an ethanol plant; moreover, there were many locations within the process for removing the oil depending upon quality expectations and end-use markets for the product.⁴² MDN 1028 at 33-35; MDN 1093 at 76. However, some prior art patents discussed removal of oil from streams in the back end of processing facilities. MDN 1093 at 76. Moreover, Defendants' expert, Rockstraw, testified that he would consider evaluating corn oil recovery from whole stillage, from thin stillage, and from concentrated thin stillage. MDN 1028 at 35. All the experts essentially agreed that the separation technique or the location to apply the technique would vary depending upon the quality of oil sought; however, the '858 patent family does not speak to quality,

⁴² Defendants disputed that the cited references supported CleanTech's version of this fact in its various forms. MDN 1093 at 76; MDN 1028 at 33-35. The Court has rewritten the fact to reflect the testimony in the cited evidence.

it merely discuss “oil” and efficiency. MDN 1028 at 35-36; MDN 1093 at 76 (disputing the materiality of CleanTech’s statement of material fact in dispute ¶¶ 35-37).

One of ordinary skill in the art at the time of the invention (a “POSA”) would know the following: Gravity separation techniques exploit the natural differences between the specific gravity of oil and water. MDN 1173 at 13. A settling tank (a large tank where the oil and water in a mixture are allowed to sit and, through the operation of gravity, separate naturally with oil rising to the top) is one example of gravity separation. *Id.* Mechanical processes that accelerate the effects of gravity were developed to improve the speed of separation. *Id.* A centrifuge is a mechanical device that increases the gravitational forces by spinning an oil/water or oil/water/solids mixture in a container to separate oil. *Id.* The more dense material, the water, migrates towards the exterior of the container while the less dense material, the oil, migrates towards the interior. *Id.*

An emulsion is a mixture of two immiscible (nonsoluble) liquids, such as oil and water, in which one liquid is dispersed in the other. MDN 1028 at 37. Some emulsions are stable, meaning it is difficult to separate the two liquids; and certain substances, such as proteins, fine powder or starch (all found in thin stillage), can act as an emulsifying agent, which helps to stabilize an emulsion. *Id.* at 36-37. High agitation can cause an emulsion to form; therefore, pumps in an ethanol plant can contribute to the creation and maintenance of emulsions in the stillage streams. *Id.* at 37. Whether or not a centrifuge could separate an emulsion is application and site specific.⁴³ *Id.*; MDN 1093 at 76. Further, emulsions that are more viscous are generally more difficult to

⁴³ Defendants disputed that the cited references supported CleanTech’s version of this fact in all of its forms. MDN 1093 at 76; MDN 1028 at 37-38. The Court has rewritten the fact to reflect the testimony in the cited evidence.

separate with a centrifuge; it would generally take greater centrifugal force and lower the efficiency of the process.⁴⁴ MDN 1028 at 38-40; MDN 1093 at 77. Hammond, Sommers and Eckhoff all testified that they believed a more viscous material such as concentrated thin stillage, would be more difficult to extract oil from than thin stillage. MDN 1028 at 38. At least one expert opined that Stokes' Law, the predictor of the rate of settling in a mixed liquid, would not apply to thin stillage or thin stillage concentrate, but the general principle that separation of high viscosity liquids is more difficult than low viscosity liquids would apply; this is consistent with the predictions by Stokes' Law. MDN 1028 at 38-40; MDN 1040-4 at 89-90 (Reilly Dep. at 88-89).

Further, a POSA would know: Centrifuges have been known and used for centuries. MDN 1173 at 13. In 1878, Gustaf de Laval received a patent for the first continuous centrifugal separator. *Id.* This invention made the widespread application of centrifuges feasible. *Id.* Gustaf de Laval went on to found the company known as Alfa Laval. *Id.* Today, Alfa Laval is a large multinational company that supplies a broad range of equipment in three "key technologies:" heat transfer, separation, and fluid handling. *Id.* As stated on its webpage, since the 19th Century, "separation has been a central part of the organization. This technology is used to separate liquids from liquids and solid particles from liquids." *Id.* at 13-14. Alfa Laval itself has over 100 years of experience in the separation of various oils from water using centrifuges, evaporators, and heat exchangers. *Id.* at 14. Alfa Laval supplies "solutions for oils extracted from

⁴⁴ Again, Defendants dispute the materiality of CleanTech's statements of material fact in dispute ¶¶ 44-52. MDN 1093 at 77. In addition, Defendants claim that Eckhoff admitted that Stokes law did not apply to thin stillage, but failed to make a citation to support that assertion. MDN 1093 at 77. The Court will not consider that statement. In this section, the Court has rewritten some of the facts to reflect the cited evidence.

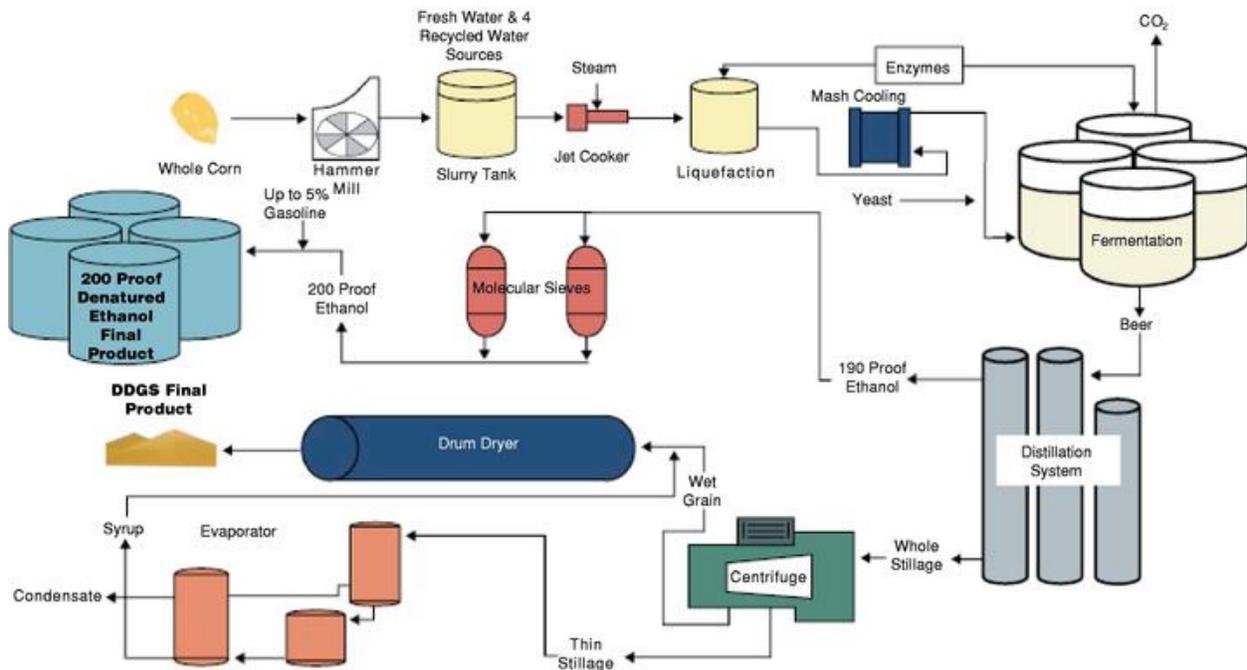
every type of oil-bearing crop such as plant material, seeds, and olives,” “numerous process solutions for extracting and refining fats and proteins from surplus raw material in the fish and meat industries,” as well as process for separating cream from milk. *Id.*

A POSA would also know: If the mixture to be separated contains a significant amount of suspended solids, a solids-ejecting disk stack centrifuge, which is designed to handle such mixtures, can be used to prevent clogging. *Id.* at 15. These types of centrifuges can be adjusted to eject solids more or less frequently depending upon the amount of solids present in the mixture. *Id.* In addition, centrifuges can be adjusted to increase or decrease the amount of oil and quality of oil separated. *Id.* at 15-16. The ‘858 patent family does not teach how to adjust a centrifuge. *Id.* at 16.

A POSA would know that mechanical techniques for processing materials that contain between 15% to 40% moisture were available, but they would be neither practical nor efficient. MDN 1028 at 30; MDN 1093 at 108.

The primary method of producing ethanol is the “dry milling” process. *Id.* In this method, corn is ground and processed to release sugar that is fermented to produce ethanol. *Id.* This is the same general process used to produce beer or whiskey. *Id.* The following diagram illustrates the dry milling process, focusing just on the production of ethanol:⁴⁵

⁴⁵ Securities & Exchange Comm’n, Form S-1, Hawkeye Holdings Inc., at 66 (May 30, 2006), <http://www.sec.gov/Archives/edgar/data/1363908/000104746906007798/a2170573zs-1.htm> (last visited June 18, 2014).



Starting in the upper right-hand corner of the diagram, the process begins with the corn being ground into meal and then mixed with hot water, recycled thin stillage, and enzymes. MDN 1173 at 16. The mixture is heated or “cooked” to form a less viscous, liquefied “mash” stream. *Id.* The mash stream is then fermented with yeast to produce ethanol and various fermentation byproducts. *Id.* at 16-17. The ethanol is boiled off, concentrated, and processed into marketable product in a distillation system. *Id.* at 17.

After the distillation of ethanol, the remaining process stream known as whole stillage, contains water, corn oil and dissolved and undissolved solids. *Id.* The corn oil is low grade and not human consumable. *Id.* The whole stillage stream exits from the bottom of the distillation or beer column and cannot be disposed of or discarded without violating environmental regulations. *Id.* However, because whole stillage includes proteins, vitamins, minerals, and fats, it can be sold as a valuable ingredient in animal feed. *Id.* In addition, whole stillage exiting the distillation system contains a large

amount of solid material and very large amounts of water. *Id.* Therefore, the next step in the conventional ethanol plant is to process whole stillage through a decanter centrifuge, which separates the material into a mostly solid stream and a mostly liquid stream that contains oil, water and solids. *Id.*

The lower portion of the diagram above also shows the typical prior art stillage treatment process. *Id.* Whole stillage that exits the distillation system contains a large amount of solid material and very large amounts of water. *Id.* The next step in the conventional ethanol plant is to process whole stillage through a decanter centrifuge, which separates into a mostly solid stream and a mostly liquid stream that contains oil, water, and solids. *Id.* See also Securities & Exchange Comm'n, Form S-1, Hawkeye Holdings Inc., at 66-67 (May 30, 2006), <http://www.sec.gov/Archives/edgar/data/1363908/000104746906007798/a2170573zs-1.htm> (last visited June 18, 2014) (describing the processing of whole stillage into “co-products” of the ethanol production process).

The mostly solids stream, known as “wet grains” has nutritional value and, historically, were dried in a dryer, then sold as feed for cattle and other livestock. MDN 1173 at 18. The dried wet grains are called Dried Distillers Grains or “DDG.” *Id.* The mostly liquid stream is known as “thin stillage” and the presence of oil in this stream has been known for many years, as described by the ‘858 patent family specification. *Id.* For environmental and other reasons, the prior art processing of thin stillage at dry mill ethanol plants included an evaporation step, typically consisting of an evaporator, to efficiently boil off and remove much of the water from the thin stillage. *Id.* The evaporated water is important to the functioning of the plant and is captured and

recycled back into the ethanol production process. *Id.* The resulting post-evaporation stream is commonly referred to as “concentrated thin stillage,” or “syrup,” and is a mixture of water and dissolved and suspended solids, including corn oil. *Id.* Concentrated thin stillage or syrup was placed in an insulated storage tank to stay at a high temperature and contained enough moisture to pump it through pipes. *Id.*

Historically, ethanol plants mixed the syrup back in with the wet grains before the drying step, which increased the nutritional value of the cake and added to the product’s feed value and market price. *Id.* The resulting product is known as Dried Distillers Grains with Solubles, or DDGS. *Id.* DDGS is an important revenue source for an ethanol plant. *Id.*

When run under standard operating conditions, the prior art process typically produced concentrated thin stillage within a well-known range of temperature, pH, and moisture content. *Id.* at 19. Evaporators in a conventional dry mill plant typically operate between 150°F and 212°F, because temperatures outside this range cause problems such as fouling or viscous flow. *Id.* at 19. The ultimate temperatures of the syrup may depend upon many factors, but is generally in the same range, which is described in U.S. Patent No. 4,944,954 to Strop (“Strop patent”), at column 10, lines 58 to 59. *Id.*

Further, thin stillage concentrate is typically slightly acidic (pH below 7) because it contains acidic organic compounds and small amounts of acid added for process control purposes. *Id.* The acidity is not affected significantly by the evaporation process; therefore, the syrup at a typical dry mill ethanol plant will have a pH somewhere between 3.0 and 6.0, as described in U.S. Patent No. 5,250,182 to Bento

(“Bento patent”), at column 9, lines 49 to 51. *Id.*

“Moisture content” is a measure of the amount of water contained in a mixture, made on a mass or volume basis; its inverse is the solids concentration. *Id.* The moisture content of the thin stillage stream entering the evaporation stage typically ranges from approximately 80 weight percent to 93 weight percent; the concentrated thin stillage or syrup exiting the evaporation stage typically has a moisture content ranging from approximately 55 weight percent to 80 weight percent. *Id.* at 19-20. The prior art Agri-Energy ethanol plant already produced syrup under these conditions (pH of 4.2, moisture content of 70%-80%, temperature of 180°F) before it began dealing with Winsness and Cantrell or recovering oil from the syrup using a centrifuge. *Id.* at 20.

In summary, a typical, prior art conventional dry mill ethanol plant produces concentrated thin stillage or syrup within the following parameters: temperature - 150°F to 212°F; pH – 3.0 to 6.0; moisture content (weight percent) – 55% to 80%. *Id.*

3. Prior Art

a. The Rosten Patent

In 1952, the USPTO issued a patent to Rosten, which is directed to a method for “recovering germ oil from the slop produced in the ethyl or butyl alcohol fermentation and distillation of a cereal mash.” Rosten Patent, col1, ll1-4 (MDN 945-66). Rosten discloses that the fermentation process produces a byproduct known as “distillers’ slops, which contains the unfermented residue of the mash, partly in solution and partly in suspension.” *Id.* col1, ll9-18. Further, Rosten teaches that oil will be present in this slop. *Id.* col1, ll20-26. Rosten discloses that distillers’ thin slops, which is thin slops that

has been screened, may be centrifuged to produce either two liquid cuts (one that is an emulsion of oil and water; the other comprises the entire remainder of the input stream); or three liquid cuts (the lighter being an emulsion of oil and water; the heaviest a slurry of solids in water; and the mid-heaviest an aqueous solution of the soluble constituents in the input stream including suspended solids, water and some oil). *Id.* col1, l44 to col2, l33. Rosten suggests centrifuging the lightest phase again to recover oil; evaporating the mid-heavy cut to solid consistency; and recycling the heavier cut to recover additional oil. *Id.* col2, l37 to col3, l19. Rosten claims recovering oil from the slops or thin slops using centrifugation to produce “a liquid phase enriched in oil.” *Id.* col3, l47 to col4, l45. It also claims a temperature at which to apply centrifugal force to the slops or thin slops. *Id.* Eckhoff admitted that the result of Rosten’s first centrifuge is concentrated thin stillage, although he later corrected himself. MDN 1093 at 77; MDN 1028 at 107.

b. GEA Test at CVEC

In 1998, GEA performed a test at CVEC in which it used a disk-stack centrifuge to recover oil from thin stillage.⁴⁶ MDN 1173 at 22. GEA did not do anything after that demonstration because it believed that ethanol producers were more interested in

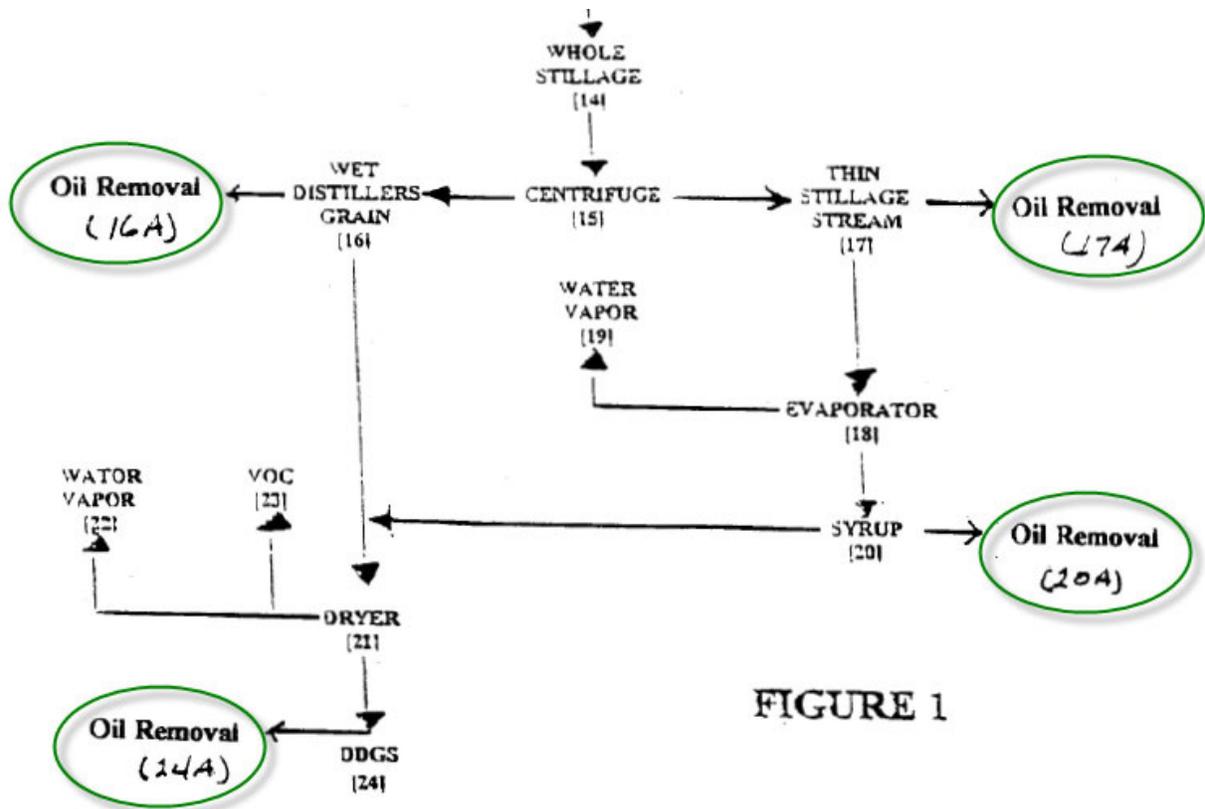
⁴⁶ CleanTech disputes this statement on the grounds that GEA’s Rule 30(b)(6) witness’ testimony is not corroborated by documentary evidence. MDN 1028 at 17. However, lack of corroboration goes to weight, not admissibility of the evidence. *Cf. Guzman v. City of Chi.*, 242 F.R.D. 443, (N.D. Ill. 2007) (stating that, even in a criminal case, a defendant can be convicted on the uncorroborated testimony of an admitted perjurer, a convicted felon, or an accomplice) (citing *United States v. Wallace*, 32 F.3d 1171, 1173 (7th Cir. 1994)). But, “corroboration is required of any witness whose testimony alone is asserted to invalidate a patent, regardless of his or her level of interest.” *Finnigan Corp. v. Int’l Trade Comm’n*, 180 F.3d 1354, 1369 (Fed. Cri. 1999). Such is not the case here; this is only one piece of evidence provided by Defendants in support of their invalidity challenge.

revenue from other products. *Id.*; MDN 1028 at 17, 72-74 (discussing evidence regarding the market for dry mill processing-derived corn oil).

c. The Prevost Application

A few years later, John Prevost (“John”) and Neal Hammond (“Hammond”) analyzed the whole, thin, and concentrated thin stillage (or syrup) streams at a conventional dry mill processing plant and methods of recovering corn oil from them. MDN 1173 at 23. John and Hammond had been hired as consultants by Agri-Energy to do research into oil recovery methods. *Id.* n.8. Further, Hammond was aware from prior experience in the food industry that the typical methods to separate oil from a process stream were solvent extraction, pressing, decanting, and the use of a centrifuge. *Id.* at 23.

On July 15, 2003, John and Hammond filed U.S. Patent Application No. 2004/0087808 (“Prevost”). *Id.* In response to a January 26, 2006, Office Action from the USPTO requiring an election of claims, the applicants elected Claims 1 through 7 and withdrew the remaining claims (Claims 8-28) from consideration. MDN 1028 at 42. Prevost provides a description of the prior art dry milling process to produce ethanol, including prior art stillage processing. MDN 1173 at 23. It describes methods for removing corn oil from a number of points during stillage processing, including from the wet distillers’ grains, from the thin stillage, from the syrup, and from dried syrup. *Id.* Figure 1 in Prevost is a diagram of the typical dry mill ethanol processing plant including the stillage treatment process including oil recovery points identified. *Id.*; MDN 945-49 at 2. The stillage treatment process from Figure 1 is reproduced here with the oil recovery points circled.



MDN 1173 at 24. The Oil Removal point labeled “20A” by John and Hammond is from the syrup after the evaporator. *Id.*

Prevost discloses several methods to recover oil including centrifugation, pressing, and solvent extraction. *Id.* With respect to thin stillage and syrup, Prevost states, in relevant part:

[0013] The dried distillers grains can be subjected to an oil removal step. It is preferred that an oil removal technique be used that will remove substantially all of the oil from the dried distillers grains. Non-limiting examples of oil removal techniques that can be used include centrifugation, pressing with and without the use of a solvent, and solvent extraction without the use of pressing. The preferred solvent for solvent extraction is a normally gaseous solvent, more preferably butane, propane, or mixture thereof. By normally gaseous we mean a solvent in which the oil is soluble and being in the gas phase at atmospheric pressure and at room temperature (approximately 75°F).

[0014] The syrup can be added to the wet distillers grain prior to the drying step and be processed under the same conditions as the wet

distillers grains as described above. An oil removal step can be performed on either the thin stillage before evaporation or on the syrup after evaporation. If performed prior to evaporation, an oil removal process such as centrifugation is preferred whereas after evaporation a solvent extraction process is preferred to extract at least a portion of the oil from the syrup.

* * *

[0026] Both the thin stillage and syrup can each be individually, or a mixture thereof, conducted to an oil removal step, 17A and 20A. For example, the thin stillage can be centrifuged in a similar manner as the wet distillers grains and the resulting oil/water mixture sent to a separation zone wherein the water is separated from the oil. As mentioned previously, separation can be done by simple decanting, by distilling the water from the oil, or by passing a solvent, in which the oil is at least partially soluble or miscible, can be run counter current with the flow of mixture, which solvent will pickup [sic] the oil and carry it in the opposite direction than the water. If using solvent extraction it is preferred that the material being oil-extracted be [sic] substantially dry. For example, it is preferred to dry the syrup by any suitable means, preferably by spray drying, before subjecting it to a solvent.

MDN 945-49 at 7-8.

When Prevost was drafted, Hammond was aware of commercially available centrifuges that would have been able to successfully separate oil from the concentrated thin stillage stream. MDN 1173 at 25. Prevost explicitly claims the process of using a centrifuge to remove oil from syrup in Claims 19 and 20:

19. The process of claim 12 wherein the thin stillage stream is conducted to an evaporator to produce a syrup stream containing less than about 15 wt. % water, which syrup stream is itself conducted to an oil removal stage wherein at least [sic] of the oil is removed from the syrup.

20. The process of claim 19 wherein the oil is removed from the syrup by centrifugation to produce a mixture of oil and water stream.

Id. at 11.

The parties dispute whether or not there is an error in Claim 19 where the reference is “a syrup stream containing less than about 15 wt. % water”: Defendants,

relying upon Hammond's testimony, as well as expert testimony, claim that one of ordinary skill in the art would realize that it is an obvious error and that it should have read "about 15 wt. % fat or oil", MDN 1173 at 25-26; CleanTech asserts that it is impossible to tell what John meant based on Hammond's or any other expert's testimony, MDN 1028 at 43-44.

Prevost repeats, at least twice, that thin stillage that has been evaporated to form syrup would contain between about 8% and 15% fat. MDN 945-49 at ¶¶ 0005 & 0011. But, it also discloses that oil removal from either whole stillage or syrup should be performed when the product contains less than 15 wt. % water. See MDN 1028 at 43; see, e.g., MDN 945-49 at ¶¶ 0012-0014, 0016, 0023-0024, 0026, 0031, Claim 8. However, all the experts agree that it would be difficult and not cost effective to centrifuge a product that is less than around 30% moisture by weight. MDN 1173 at 26; MDN 1028 at 44. CleanTech's expert opined that he did not believe that Prevost taught one of ordinary skill in the art how to extract oil from a stream having 15 wt % water. MDN 949-107 at 39, ¶ 119. He further opined that Prevost teaches away from the patented invention. MDN 1040-2 at 36-37, Eckhoff Van Gerson Rebuttal Rep. ¶ 103.

As previously mentioned, during prosecution of Prevost, the patentees elected to proceed with Claims 1-7 and withdrew the remaining claims. MDN 1028 at 42. Those claims were rejected by the USPTO because the examiner thought it was obvious to use a centrifuge to extract oil. MDN 945-12 at 2.

Co-inventor Cantrell visited John's lab and workshop in Louisiana prior to Cantrell's proposal to recover oil from Agri-Energy's concentrated thin stillage. MDN 1173 at 23 n.8.

Some years later, John and Hammond filed another patent application directed to the treatment of thin stillage, Application Serial No. 10/395,547 (the “547 application”). MDN 1039-1 at 2. The ‘547 application “relates [to] a process for recovering a substantially free flowing product from thin stillage which contains a substantial amount of water.” *Id.* at 3. The first claim of the ‘547 application requires drying thin stillage to produce a product having a water content of 15 weight % or less. MDN1028 at 18; MDN 1039-1 at 13.

Defendants paid Hammond a \$2,000.00 consulting fee, an amount that was set by him, and agreed to prior to him answering any substantive questions. MDN 1028 at 44; MDN 1093 at 80. Hammond acknowledged that John was the inventor of the claims involving less than 20% water and was the primary contact with the patent attorney. MDN 1028 at 44. Hammond had not spoken with John about the meaning of those claims. *Id.*

d. Oil Recovery Processes Used in Other Industries

The oil recovery process used in other industries is relevant to the discussion of the ‘858 patent family because the named inventors, Cantrell and Winsness, admitted that their prior experience in other industries led to discovery of the claimed inventions. MDN 945-48. There are differences between animal cells and plant cells that may cause extraction of oil from animal products to differ from extraction of oil from plants. MDN 1028 at 45. Further, corn has a large percentage of starch, which animal material does not, which could mean that thin stillage would have residual starch that did not ferment. MDN 1028 at 45-46. Residual starch could cause emulsification or form a gelatin when the material is subjected to an evaporator. *Id.* at 46. Corn material

contains natural emulsifiers, which makes it a stable emulsion; most animal materials do not have them, which allows oil to be extracted more easily. MDN 1028 at 46.

(i) **U.S. Patent No. 2,325,327 to Lachle (“Lachle”)** -- In 1943, a patent issued to Lachle entitled “Oil Extraction.” MDN 945-67. It discloses “a new process of extracting oil from a wide variety of oil bearing materials, such as vegetable and animal matter.” *Id.* at 2, left col, ll8-10. See *also* MDN 1028 at 46; MDN 1173 at 29. More specifically, the patent identifies corn germ, wheat germ, cotton seed, peanuts, olives, avoacados, coconuts, and sardines. MDN 945-67 at 2, left col, ll16-47. See *also* MDN 1173 at 29. Among other things, Lachle teaches that the material from which oil is to be recovered must have sufficient moisture content for oil extraction to be effective. MDN 1028 at 46. In addition, the patent teaches that for some plants that contain starch, like corn, additives or other starch removal processes might be desirable before the oil recovery step to reduce the creation of an emulsion.⁴⁷ MDN 1028 at 47; MDN 945-67 at 3, left col, l70 to right col, l10; MDN 1093 at 82.

Further, the patent teaches that there were “various methods of treatment” available to remove oil. MDN 1173 at 29-30; MDN 945-67 at 4, left col, ll37-39.

One form of treatment which may be employed is that of centrifugal separation which is preferably effected in two stages. The first stage may be effected [sic] with a common type of basket centrifuge to separate oil and water from the remaining materials in the slurry. The second stage may employ a liquid separator centrifuge for separating the oil and the water to recover cloudy wet oil.

* * *

The above description is typical of extraction methods applicable to substantially all types of vegetable and animal materials which contain oil

⁴⁷ CleanTech cites to this portion of Lachle for the proposition that the patent teaches additional steps, including additional centrifugation, for corn than it does for animal fats. The Court disagrees with that characterization and has set forth a summary of Lachle’s disclosure rather than CleanTech’s statement.

in a cellular form.

MDN 1173 at 30; MDN 945-67 at 4, left col, ll40-53.

(ii) **Great Britain Patent 1,200,672 (“GB ‘672”)** -- GB ‘672 was published in 1970 and describes methods for processing animal material to recover fat. MDN 1173 at 30; MDN 1028 at 44. The material is cooked then centrifuged to remove solids, leaving a liquid fraction or stream that consists of water, fat, and dissolved solids. MDN 1173 at 30. The liquid stream is then concentrated within known bounds in an evaporator and sent to a second centrifuge, where pure fat is recovered from the concentrated stream. *Id.* Further, GB ‘672 discloses that where a stable emulsion cannot be broken by simple centrifugation, the emulsion can be rendered unstable by applying heat after evaporation but before centrifugation. *Id.* at 30-31. The patent does caution, however, that when the fat content of the animal product is too low, “removal of a great portion of the water by evaporation will cause an undesired increase in the viscosity of the concentrate.” MDN 1028 at 45; MDN 945-68 at 2, ll91-94. The patent teaches in that instance that addition of water to the system is discouraged because it could lead to a substantial change in the fat to solids ratio of the concentrate. MDN 945-68 at 2, ll94-101.

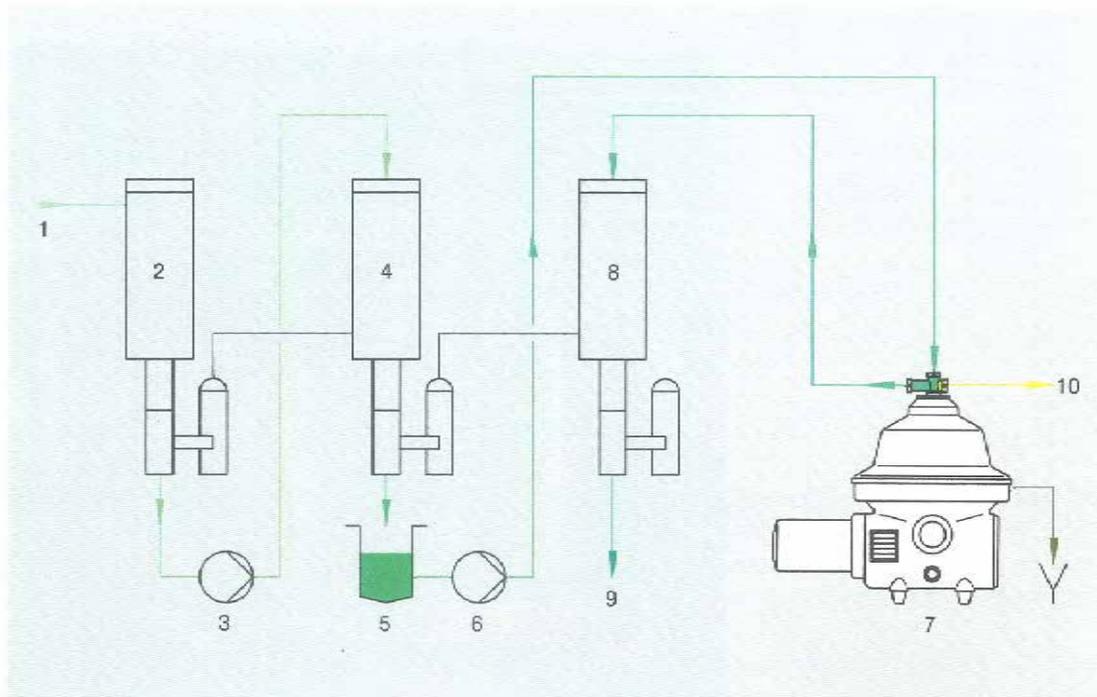
(iii) **U.S. Patent No. 4,137,335 to Holm (“Holm”)** -- Holm, issued in 1979, relates to a method for recovery fat and meat meal from animal raw material. MDN1173 at 30; MDN 945-15, Holm col1, ll4-5. Generally, the material is cooked and then centrifuged to remove solids, leaving a liquid fraction, “stick water,” that consists of water, fat and dissolved solids. MDN 1173 at 30; MDN 945-15, Holm col1, ll34-35; col2, ll16-39; col3, ll1-10, Figure. The liquid stream is then concentrated in an evaporator

and sent to a centrifuge where fat or oil is recovered. *Id.*

(iv) **Fish Oil Recovery Papers (“The Latest on Industrial Fish Processing,” Westfalia Magazin No. 3 (1979) (“Industrial Fish Article”); “The Production of Fish Meal and Oil,” Food & Ag. Organization of the United Nations (1986) (“UN Fish Paper”); “Decanters and Separators for Industrial Fish Processing,” Westfalia Separator Indus. GmbH (1999) (“Westfalia Fish Processing”)** -- Three articles published in 1979, 1986 and 1999, respectively, all describe the same basic method for recovery of fish oil: Raw fish pieces are cooked and then pressed to squeeze out the liquid, referred to as presswater. MDN 1173 at 31. The presswater is first heated and decanted to remove solids, and then heated again and centrifuged to produce oil and “stickwater.” *Id.* Stickwater is a mixture of water, solids, and oil. *Id.* The stickwater is concentrated in an evaporator, subjected to a separate heating step, and sent to a centrifuge, which recovers the oil from the mixture. *Id.* A diagram in the Westfalia Fish Processing article, which is nearly identical to the one shown in the Industrial Fish Article, shows the method that includes an evaporator plant, a heater and a centrifuge. MDN 945-17 at 11-12. The UN Fish Paper explains that stickwater is concentrated in an evaporator and heated before centrifugation because concentration increases the density difference between the water and oil phases of the mixture, while heating reduces viscosity, making oil separation more efficient. MDN 1173 at 32.

When presented with the method diagram from the Westfalia Fish Processing article and the Industrial Fish Article, sanitized of references related to fish, Eckhoff identified them as diagrams of the method claimed in the ‘858 patent family. *Id.* at 33.

(v) **“Whey Processing Lines,” Westfalia Separator (1988) (“Whey Processing piece”)** -- The Whey Processing piece published by Westfalia in 1988 relates to the recovery of cream (fat) from whey (a mixture of water, proteins, solids, and fat) created during butter or cheese production. MDN 1173 at 32. The whey is concentrated in a series of evaporators and then processed in a centrifuge to recover the cream. *Id.* The following is a diagram of the cream recovery method from the Whey Processing piece:



- | | | | |
|----------------------|-----------------------|------------------------|--------------------------|
| 1 Whey concentrate | 4 Evaporator stage II | 7 Separator | 9 To evaporator stage IV |
| 2 Evaporator stage I | 5 Tank | 8 Evaporator stage III | 10 Cream |
| 3 Pump | 6 Pump | | |

MDN 945-19 at 47. When presented with a picture of this diagram, sanitized of references to whey or cream, Eckhoff identified it as a diagram of the method claimed in the '858 patent family. MDN 1093 at 50-51.

e. The Case Farm Story

Cantrell was a poultry science major who specialized in marketing animal feed ingredients. MDN 1173 at 34; MDN 1028 at 49. He formed Vortex Dehydration Technology (“VDT”) in 2000. MDN 1173 at 34; MDN 1028 at 49. Cantrell was a VDT board member and was also its Executive Vice President. MDN 1173 at 34. He was actively involved in the development and marketing of VDT’s products and processes. *Id.*; MDN 1028 at 49.

Winsness received a Bachelor of Science degree in mechanical engineering in 1991 from Clemson University. MDN 1173 at 34-35; MDN 1028 at 50. He worked as a salesman for Tencarva Machinery Company and joined VDT as its Chief Technology Officer in 2002 and eventually became its CEO. *Id.* In 2005, Winsness joined the entity now known as GreenShift as Chief Technology Officer (“CTO”) and is currently in that position. MDN 1173 at 35; MDN 1028 at 50.

Greg Barlage (“Barlage”) was part of GreenShift’s team of people working on corn oil extraction. MDN 1173 at 35; MDN 1028 at 19-20. Barlage has a degree in electronics engineering; he is described as “technically astute” and has “significant operational, chemical processing, extraction and refining experience involving agriculture . . . materials.” MDN 1173 at 35. His prior experience includes “process engineering, manufacturing optimization, maintenance and operations management with a leading food products company.” *Id.* In 1999, Barlage went to work for Alfa Laval and by the summer of 2001 he had been promoted to market unit manager responsible for all of Alfa Laval’s United States sales into the fish, meat, and vegetable oil industries. *Id.* At the end of 2005, Barlage left Alfa Laval to take a position with GreenShift;

currently he is Greenshift's Chief Operating Officer ("COO"). *Id.*

Cantrell joined with an inventor named Frank Polifka ("Polifka") to start VDT. MDN 1173 at 36; MDN 1028 at 49. Polifka had developed a dryer-grinder machine, called the "Windhexe," that was purportedly capable of processing materials, especially waste products, using compressed air to grind and dry a waste product that could then be used as, for example, animal feed. MDN 1173 at 36-37. The purpose of forming VDT was, among other things, to market methods and products for processing byproducts and waste streams, including marketing the Windhexe. *Id.* at 37; MDN 1028 at 49. Cantrell met Winsness during an experiment aimed at testing the capabilities of the Windhexe technology. MDN 1028 at 50.

In 2002, Barlage, then Alfa Laval's market unit manager for equipment sales in the fish, meat, and vegetable processing industries, met Winsness and Cantrell at a Windhexe test site in Maryland. MDN 1173 at 37; MDN 1028 at 50. Barlage's responsibilities at Alfa Laval included the application of centrifuges and other mechanical devices to remove oil from the waste stream of the before-referenced industries. MDN 1173 at 37. Barlage had been invited to the test site by an Alfa Laval customer. MDN 949-12 at 11. At this meeting, Barlage learned of the Windhexe and VDT's drying technologies. MDN 1173 at 37.

As discussed above, GB '672 and Holm generally describe methods for recovering oil from the wastewater created when chicken carcasses are processed. *Id.* The wastewater is strained or centrifuged to remove larger bones and pieces of meat, leaving a byproduct stream that is a mixture of solids, water, and oil. *Id.* VDT had Alfa Laval perform a spin test on a sample of this mixture obtained from Case Farms. *Id.*

This byproduct is referred to as “DAF” and is “a gooey layer of food paste that is anywhere from 70 to 90% water.” MDN 1028 at 48. Based on the results of the spin test, VDT predicted the output of a commercial-scale system and provided an economic payback analysis to Case Farms for a commercial-scale system. MDN 1173 at 37. VDT offered to sell an oil recovery system to Case Farms based on the spin test. *Id.*

After Barlage met Winsness and Cantrell, he contacted them to discuss setting up a facility that would combine Alfa Laval’s wet processing equipment (including evaporator and centrifuge technology) and VDT’s drying technology to process the byproduct stream of a poultry processing plant. MDN 1173 at 37; MDN 1028 at 50. By this time VDT knew that removing oil from the substances to be processed by the Windhexe helped improve the system’s performance. MDN 1028 at 50-51. The men hypothesized that after concentrating the rendering byproduct stream using an evaporator and removing fat or oil from the concentrated stream using Alfa Laval centrifuge technology, VDT’s Windhexe could more efficiently dry the resulting products because most of the water and fat would be removed. MDN 1173 at 38. They tested such a system in Clinton, North Carolina in 2002. *Id.* Winsness participated in the design of the system. *Id.* Barlage and Winsness visited poultry companies such as Carolina Turkey, House of Reaford, Tyson, 3-D Corporate Solutions and Perdue offering to sell such a system. *Id.*

In October 2002, VDT and Alfa Laval entered into an “Allied Supplier Agreement” that gave VDT the right to sell the VDT-Alfa Laval Systems and the Alfa Laval products to the pork, beef and poultry fresh and byproducts processing industry. *Id.* The companies also signed a “Non-Disclosure Agreement” in conjunction with the Allied

Supplier Agreement.⁴⁸ MDN 1028 at 51.

In November 2002, Case Farms executed a contract to purchase and install a system that included three parts, the wet process system consisting of Alfa Laval parts to squeeze out fat and water; the Windhexe; and an Alfa Laval evaporator. *Id.* at 38. The poultry system, as CleanTech refers to it, was designed in self-contained modules for easy installation. MDN 1028 at 51. These modules included: (1) the “Wet Processing System;” (2) the “Protein Reclamation” system, and (3) the “Windhexe Air Dry System.” *Id.* VDT installed all three systems at Case Farms. *Id.*

The system involved processing DAF sludge (a mixture of water, solids and oil) by heating it to 200°F using steam injection. *Id.* at 48. This mixture proceeded to a decanter centrifuge where the liquid was separated from the solids. MDN 1173 at 38-39; MDN 1028 at 48. The remaining liquid stream was sent to a mechanical device, a disk stack centrifuge, to separate and recover the oil. MDN 1173 at 38-39; MDN 1028 at 48. An optional system provided downstream evaporation of the water generated in the process to concentrate soluble proteins. MDN 1173 at 39; MDN 1028 at 48. VDT marketed this system into the meat processing industry, but never applied for a patent for it. MDN 1028 at 47; MDN 1173 at 39.

4. The Ethanol Plant Oil Recovery System

From 1998 to 2012, Agri-Energy LLC operated a conventional dry-mill ethanol plant in Luverne, Minnesota. MDN 1173 at 39. Luverne is located approximately 200 miles west of Minneapolis. *Id.* During the entire 14 years it was producing ethanol, the

⁴⁸ The parties dispute the scope of the Non-Disclosure Agreement between VDT and Alfa Laval. *Compare* MDN 1028 at 51 & 53 (claiming that the Non-Disclosure Agreement protected any corn oil extraction technology), *with* MDN 1093 at 83 (claiming that the Non-Disclosure Agreement is limited to the “pork, beef, and poultry” industries).

plant produced a syrup with pH of about 4.2, a moisture content of about 70% to 80% and a temperature of about 180°F. *Id.*

In the early 2000s, Gerald Winter (“Winter”) and another individual from Agri-Energy visited the VDT facility. *Id.*; see also MDN 1028 at 51-52. Winter brought with him samples of Agri-Energy’s concentrated thin stillage and wet distillers grains to evaluate the ability of the Windhexe to dry these products. MDN 1173 at 39. The syrup clogged the Windhexe, sticking to the inside walls and inhibiting drying. *Id.* Based on his experience with the Case Farms System, the clogging indicated to Cantrell that there was oil in the syrup because he knew these sorts of effects on the operation of the Windhexe. *Id.* at 39-40; MDN 1028 at 52. This testing with Agri-Energy was Cantrell’s first exposure to the ethanol industry. MDN 1173 at 40. Cantrell believed that in order for the Windhexe to successfully dry syrup, the oil should be removed first. *Id.* In addition, because of his experience in the animal feed industry, Cantrell also knew that oil was an expensive and valuable component of animal feed. MDN 1028 at 52.

Mark Lauderbaugh (“Lauderbaugh”) is the owner of Trident Process, Inc. (“Trident”), a company located in Bloomington, Minnesota that “provides process equipment to the chemical process, pulp and paper, power, petroleum refining, food, pharmaceutical, and other industrial markets.” MDN 1173 at 40. Lauderbaugh signed an Independent Contractor Agreement with VDT dated January 1, 2002, that entitled him to promote the sale of the Windhexe and “Related Apparatus” to the “processing of meat and meat byproducts and waste and wastewater management and treatment for fish, livestock, and poultry production” in a certain territory. *Id.* Lauderbaugh signed an “Agreement For Confidentiality, Protection of Proprietary Information, Assignment of

Inventions and Non-Solicitation” as well. MDN 1028 at 53. Lauderbaugh was a member of VDT’s “Marketing Team.” MDN 1173 at 40. Through Trident, Lauderbaugh had also been selling Alfa Laval equipment to ethanol plants since the late 1990s. *Id.* Agri-Energy was one of his long-time customers. *Id.*

Sometime before June 2003, Cantrell began to assemble what has been referred to as the ethanol oil recovery team. MDN 1028 at 52. It consisted of employees from VDT, Alfa Laval and Agri-Energy, as well as employees of Rouse Marketing and Kindstrom-Schmoll.⁴⁹ *Id.* (citing MDN 1040-46, Sommers Dep. at 346-50); MDN 1093 at 83.

On June 4, 2003, Lauderbaugh faxed an excerpt of the “Ethanol Plant Development Handbook” to Cantrell. MDN 1028 at 52. The excerpts Lauderbaugh sent contained a description of the prior art dry mill ethanol process, including sections devoted to stillage processing and distillers grains marketing. MDN 1173 at 40. These excerpts included statements advising ethanol plants that “[c]oproduct marketing should be as much a priority as marketing of ethanol [and] is a significant source of revenue” and that the use of a “company or broker that specializes in the sale of distillers grains” has many advantages. *Id.* at 40-41. The handbook also instructed that for distillers dried grains, “[s]tate specifications . . . guarantee minimum and maximum levels of protein, fat, fiber, and ash,” and that “the selling price . . . will be directly affected by the quality of the product . . . [i]t can take only one bad shipment . . . to jeopardize the account.” *Id.* at 41.

⁴⁹ Defendants objected to CleanTech’s version of these facts as unsupported by the cited evidence. MDN 1093 at 83. The Court has rephrased the statements to reflect the testimony and/or evidence cited.

On June 5, 2003, all of the following occurred:⁵⁰

(i) Cantrell, on behalf of VDT, sent a new agency agreement to Lauderbaugh to sign and return on behalf of Trident. *Id.* The agreement replaced the original agency agreement between VDT and Trident and expanded the scope of Trident's agency for VDT beyond the meat, fish, and poultry industries. *Id.* Lauderbaugh signed the agreement on behalf of Trident and returned it on June 23, 2003. *Id.*

(ii) Cantrell sent an email at 1:09 p.m. to Winter, an Agri-Energy co-op member, and Jay Sommers ("Sommers"), Agri-Energy's plant manager, regarding the potential to recover corn oil from the thin stillage concentrate (or syrup) at Agri-Energy's ethanol plant. *Id.* Cantrell included a link to a picture of VDT's "modular design for the poultry industry" – referring to the Case Farms system – which "separate[s] the fat from the meat." *Id.* Cantrell informed Winter and Sommers that "the centrifuge module will be similar to the one needed to separate fat from your syrup." *Id.* The centrifuge in the linked picture was a disk stack centrifuge. *Id.* Cantrell included a spreadsheet describing the operational costs of the Case Farm system and stated that Winter and Sommers "may wish to review" it, indicating that the cost to operate their system would be similar. *Id.* VDT typically prepares these types of spreadsheets as a "sales tool" to show customers the potential payback for buying a system. *Id.*

(iii) Cantrell sent an email at 4:47 p.m. to Lauderbaugh, Barlage, Bent Ludvigsen ("Ludvigsen") (another Alfa Laval employee), Winsness, and Whit Davis ("Davis")

⁵⁰ Both parties characterize the content of the various correspondence sent on June 5, 2003, and later, to Agri-Energy or between the inventors and others. See, e.g., MDN 1173 at 41-42; MDN 1028 at 54-55; MDN 1093 at 84-85. Although the Court may cite to either Defendant's statement of fact section or CleanTech's throughout this narrative, to the extent practicable, the Court has endeavored to set forth the facts as they appear in the evidence cited therein.

(another VDT employee), with the subject line “Agri Energy, Luverne MN.” *Id.* at 42. The email contained contact information for Winter and Sommers, and Agri-Energy’s address. *Id.* In the email, Cantrell informed Barlage and Ludvigsen that Agri-Energy would be shipping 5 gallon samples of its thin stillage and syrup (concentrated thin stillage), because they did not know which would work, to Alfa Laval for them to test. *Id.*; MDN 1028 at 54-55. Cantrell informed Lauderbaugh, who had an existing relationship with Agri-Energy, that “I told Gerald Winter that you represent us in this area and that you will get in touch with him.” MDN 1173 at 42. Winsness had suggested to Cantrell that he obtain samples of the byproducts and send them to Barlage for testing and analysis because Barlage was more knowledgeable about existing separation technologies. *Id.*

(iv.) Cantrell sent an email at 6:47 p.m. entitled “Oil recovery from ethanol production” to Lauderbaugh, Winsness, Polifka, Barlage, Ludvigsen, and John Schopp (“Schopp”), president of New Hemisphere Consulting Inc. (“New Hemisphere”). *Id.* All of the recipients were members of VDT’s “Marketing Team.” *Id.* The email states, “The prospect looks good for the recovery of oil from ethanol production. For some reason, the industry has failed to consider this option.” *Id.* Cantrell asked, “Should we separate before or after the evaporator,” and stated, “I believe that if anyone can separate the oil from the solubles, our partners at Alfa Laval will be up to the task.” *Id.* Cantrell noted, “Once we design the modules, we will strike fast for a head start on the competition.” *Id.*

Cantrell reiterated in the June 5 emails, whether to VDT employees or otherwise, that it was important to keep the information confidential until they could solicit the entire

market at once.⁵¹ MDN 1028 at 55; MDN 1093 at 84.

On June 10, 2003, Winsness sent an email reporting that

VDS . . . has discovered a Potentially Large Market in the Ethanol Industry using Alfa Laval Components (VDS System). Alfa Laval is shipping a test unit to an Ethanol Plant to see [sic] our theory is accurate. We are keeping the details confidential until the test is complete and we are ready to solicit the entire market at once (it is a simple solution that many other Centrifuge Mfg's [sic] will want to tap, therefore we are keeping confidential until we are ready).

Id. at 43.

After receiving the 5 gallon samples of thin stillage and syrup in mid-June, and with minimal input from either Cantrell or Winsness,⁵² Barlage heated each sample to a temperature of 80°C (176°F) and ran them through a lab centrifuge. *Id.*; MDN 1028 at 56; MDN 1093 at 85. The syrup sample had a pH of approximately 4, and moisture content between 70% and 80%. MDN 1173 at 43.

Based on Barlage's spin tests, he concluded that it was easier to centrifuge oil out of the syrup than it was to centrifuge it out of the thin stillage. MDN 1173 at 43;

⁵¹ Defendants objected to CleanTech's statement that certain tests or information were "to remain confidential" as unsupported by the evidence. MDN 1093 at 84, referencing MDN 1028 at 55). The Court has set forth statements that are supported by the record evidence.

⁵² Defendants' proffered statement read that Barlage received no guidance or instructions from Cantrell or Winsness regarding how to test the samples. MDN 1173 at 43. CleanTech disputed that fact stating that Barlage had received instructions from Cantrell and Winsness. MDN 1028 at 20. However, for this simple statement, CleanTech cited to 34 of its own statements of facts in dispute, paragraphs 94 through 128. *Id.* There is no supportive reference or citation for this contrary fact until paragraph 115. *Id.* at 56. The Court notes this instance because it exemplifies the kind of "hunting for truffles" that has led to waiver in other cases. See, e.g., *SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, (Fed. Cir. 2006) (discussing the waiver of arguments not sufficiently developed in briefs). This is a result that this Court has tried to avoid in this case by following the citation trail CleanTech has left even though it has cost the Court considerable time in the effort. The parties should consider themselves on notice that briefs using this format in the future will be summarily rejected by this Court.

MDN 1028 at 56; MDN 949-66; MDN 1042-20. In addition, Barlage suggested:

Something in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily. The possible methods for doing this separation would require two steps. First, a nozzle type centrifuge or decanter would be used to remove the heavy suspended solids. The liquid from here could be run to a secondary centrifuge where the oil is purified. The liquid from this centrifuge could be blended back with the solids or possibly evaporated further in the current evaporator. The solids from the first centrifuge would go to the drier as they do today. Further in plant testing will be required to fully determine the best method of commercialization for this process.

MDN 1173 at 43-44; MDN 949-66; MDN 1042-20. Barlage considered the results of his hot spin tests successful, MDN 1040-8, at 179 (Barlage Dep. at 178), but also “nowhere close to saying [they] could get [oil] out” in a commercial process. MDN 1028 at 56-57 (citing MDN 1040-8 at 144-45 (Barlage Dep. at 143-44)).

The results of the testing at Alfa Laval motivated Cantrell to do more testing, even though he thought clogging the “gyro” was a failure; and he was “hopefully optimistic that [removing oil from an ethanol byproduct stream] could be done” based on seeing an oil layer in the pictures of the test samples provided by Barlage. MDN 1028 at 59-60; MDN 949-10; MDN 1042-5.

On June 16, 2003, Lauderbaugh and Barlage signed in as visitors at Agri Energy. MDN 1173 at 44. On June 23, 2003, Lauderbaugh, on behalf of Trident, signed a new agreement with VDT to be an Independent Contractor Marketing Representative; the new agreement contained no limitations as to the industries to which Trident could market VDT oil recovery systems. *Id.*

On June 29, 2003, Cantrell sent an email entitled “Oil Recovery” to Winter and Sommers, copying Lauderbaugh, Winsness, Barlage, Ludvigsen, and Davis. *Id.* Cantrell wrote, “We are very excited about the potential to remove the oil from your

waste syrup . . . [w]e are optimistic that we can recover over 80% of this oil.” *Id.* at 44-45. Referring to Barlage’s spin testing, Cantrell stated, “After reviewing the first testing of the product, we are considering a nozzle machine, but a nozzle machine . . . could have a tough time handling the solids . . . a decanter and centrifuges may be necessary.” *Id.* Cantrell continued, “[T]aking the product from the top of the feed tank that feeds the drier may be the most logical option The oil should be rising and the solids staying closer to the bottom. We have methods of just sucking the top of the tank and centrifuging that product.” *Id.* Further, Cantrell wrote, “[T]he next logical step is to do a small spin test at your plant with a Gyro tester and fresh product.” *Id.* He informed Winter and Sommers that Barlage would be available to conduct the test on July 10, 2003. *Id.* Cantrell concluded, “The technology is available to remove the oil, and the quick payback from the new revenue stream, make this a very viable program.” *Id.* Sommers understood that all of the discussions Agri-Energy had with VDT about oil recovery methods were to be kept confidential; however, there was no written agreement between the companies about confidentiality. MDN 1028 at 54; MDN 1173 at 45; MDN 1093 at 84.

Throughout its existence VDT suffered financial difficulty. MDN 1173 at 50. Jerry Dyer (“Dyer”), a VDT shareholder, a member of VDT’s marketing team, and VDT’s “Consultant for Strategic Planning,” described VDT as “a professional test company that was, you know, how much money can we possibly spend this week.” *Id.* But, by July 2003, VDT was attempting to transition from a “professional test company” to one that sold systems. *Id.* Until it generated revenue through the sale of systems, VDT had to rely upon additional cash investments from its owners to survive. *Id.* On July 28 and

29, 2003, VDT held its first ever “System Sales Training Session” because Cantrell and Winsness “wanted to get it started as an actual sales company and not just a testing company.” Highlighted at the sales training session was VDT’s strategic partnership with Alfa Laval, which specialized in “[h]igh performance fat/water/solids separation devices.” *Id.* Cantrell and Dyer were included in the team of people charged to carry out the plan to convert “positive testing results into viable sold-systems to achieve returns.” *Id.* Dyer understood the meeting to be focused on sales into the meat processing industry. MDN 1028 at 48. Sales or processes targeted to the ethanol industry were not discussed during the sales presentation at the meeting. *Id.* at 49.

Throughout July and August 2003, VDT was trying to raise additional funds including from its investors, because of severe financial difficulties. *Id.* at 50. For example, in an August 5, 2003 email, Winsness stated that VDT was “in need of 2 million dollars to complete the Case Farms project” and requested an additional investment of \$1 million from VDT investors. *Id.* On August 19, 2003, in an email entitled “Quick Update” to VDT investors, Winsness explained that a cash call was scheduled for August 20, 2003, and that additional funds should be sent on August 25, 2003. *Id.* at 51.

On July 10, 2003, Barlage and Lauderbaugh traveled to Agri-Energy to conduct the “gyro test” described in Cantrell’s June 29, 2003, email. MDN 1173 at 45. Neither Cantrell nor Winsness were present for the test; although they had provided Agri-Energy with instructions on where to pull samples and had told Barlage to process them through his bench-top centrifuge. MDN 1173 at 45; MDN 1028 at 58-59. Specifically, Agri-Energy staff collected pitchers of concentrated thin stillage from the syrup tank in

Agri-Energy's plant, which was at about 180°F, pH of about 4 and moisture content of about 70% to 80%, and brought immediately to the lab for testing. MDN 1173 at 45-46. The concentrated thin stillage was poured into the top of the "gyro." *Id.* at 46. The gyro mechanically processed the syrup such that oil came out of one port where it could be recovered, while solids and other liquids came out of another port. *Id.* But, after extracting a small amount of corn oil, the gyro centrifuge quickly clogged up, which required that Barlage disassemble the unit and clean it. MDN 1028 at 59. Barlage repeated the process, with the same result: the centrifuge clogged up at each attempt. *Id.* As a result, after six hours of testing Barlage was able to run only eight quarts of syrup through the test gyro centrifuge. *Id.* Neither Barlage nor Lauderbaugh were optimistic about the results after the test; Lauderbaugh considered it a failure. *Id.*

However, in September 2004, Ludvigsen stated that based on "a long tradition of using the AFPX range on the concentrated stickwater in fish applications without problems," he believed the same centrifuge could be used in the oil recovery ethanol industry. MDN 46. Further, in November 2004, Barlage agreed that the AFPX machines would not be a problem for oil recovery in the ethanol industry based on "other products [Alfa Laval had] run on the AFPX machines with heavy emulsion (viscous fluids) in the heavy phase. *Id.* In addition, Winsness had some faith in lab test results to predict actual results because, in an email to a potential customer in February 2005, he wrote, "[I]f the little gyro tester works then the large machines definitely work." MDN 1173 at 46.

The day after the gyro testing at Agri-Energy, July 11, 2003, Sommers reported to Agri-Energy's board regarding the demonstration stating, "Things look really

promising here.” *Id.* This statement reflected Sommers’ understanding that the July 10 demonstration had proven that corn oil could be recovered from syrup using a centrifuge and potentially generate extra income. MDN 1173 at 47.

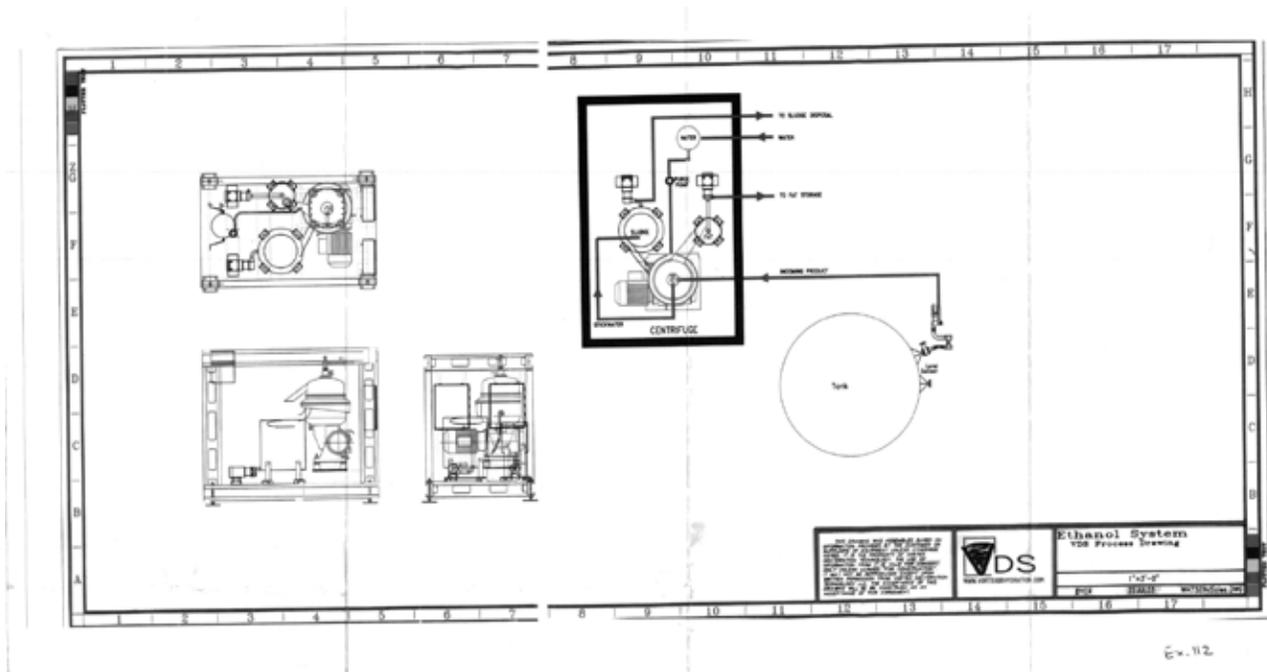
Even before July 11, 2003, Cantrell and Winsness began to exchange drafts of a letter regarding an oil recovery system for Agri-Energy (“Agri-Energy draft letter”). MDN 1173 at 47; MDN 1028 at 21. The Agri-Energy draft letter, with a tag-line “Alfa Laval Oil Recovery Unit,” stated, in pertinent part:

[VDT] would like to offer an oil recovery module to separate oil from condensate sludge. The module will contain all items necessary to separate the oil, and pump the resulting oil and sludge to their respective destinations.

VDT will install the unit and allow Agri-Energy 30 days to monitor the unit’s performance to verify that the unit has met our performance claims. At the end of the 30 days, Agri-Energy agrees to purchase the installed system for \$373,000.

MDN 949-59. The letter further contained an estimate of the amount of oil that could be recovered, operating costs and the estimated net value to Agri-Energy. *Id.* It also stated, “If an order is placed this week, we can deliver the unit in 12 weeks (from the date of order acceptance) as a centrifuge is currently in stock.” *Id.* It also included payment terms. *Id.* The Agri-Energy draft letter included a picture identified as a “module . . . very similar to the unit designed for Agri-Energy.” *Id.* MDN 1173 at 47. The Agri-Energy draft letter included a signature line. MDN 949-59.

Moreover, Dyer began working on a process drawing for an ethanol recovery system at Winsness’ direction. MDN 1173 at 47. The drawing, entitled “Ethanol System VDS Process Drawing” (“Ethanol System Diagram”) is reproduced below.



MDN 1173 at 47-48; MDN 949-62. Dyer was provided a copy of the Agri-Energy draft letter and instructed to use drawings he had used for the Case Farms system to prepare the Ethanol System Diagram. MDN 1173 at 48. Winsness provided Dyer information about the system, including which components, devices and flows to depict. *Id.* Winsness specifically told Dyer to include in the design a disk-stack centrifuge and provided him with digital files that Winsness had obtained from Alfa Laval that contained images of a disk-stack centrifuge model. *Id.* Winsness told Dyer to use the same centrifuge in the Ethanol System Diagram as that used in the Case Farms poultry processing system: the Alfa Laval AFPX 610 solids-ejecting disk stack centrifuge. *Id.* The Alfa Laval AFPX 610 is referenced in marketing materials as an “Animal & Fish Protein Separator” and is a “solids ejecting disk stack centrifuge designed for intermittently discharge [sic] of solids, while splitting a tight emulsion of two liquids. It is mainly used in the animal and fish processing industry, where it is used for a number of different separation and purification duties, such as: Fats and oils purification.” *Id.*

at 49. Dyer understood that VDT's ethanol recovery system design would include one centrifuge, not two. *Id.* He completed the drawing on July 22, 2003. *Id.* The Ethanol System Diagram does not identify the "incoming product" and Dyer did not know what that product would be other than something related to ethanol. MDN 1028 at 63-64.

Dyer often prepared drawings for Cantrell and Winsness that could be used as sales tools and understood that the Ethanol System Diagram "was intended to become a sales drawing . . . one that was for sales." MDN 1173 at 49. Accordingly, Dyer labeled the file for the drawing on his computer as "Wh73EthSales." *Id.* Dyer described Cantrell as focused on "[s]ales and very willing to exploit something that had value and would pursue it with a vengeance." *Id.*

Sommers testified that he believed or assumed Agri-Energy received a copy of the Ethanol System Diagram some time prior to Agri-Energy's board meeting on August 18 or 19, 2003, but could not be sure; and that he understood it to be a "ready to go" system to produce oil from the syrup at its facility. MDN 949-16 at 9-10 (Sommers Dep. at 69-73). Sommers understood that the centrifuge in the system would be a disk stack centrifuge that would be placed as close to the syrup tank as possible to minimize heat loss.⁵³ *Id.* at 10 (Sommers Dep. at 71-73).

On August 1, 2003, Cantrell emailed Sommers at Agri-Energy, copying Winter, Lauderbaugh, and Winsness, in which he asks Sommers to "review the attached

⁵³ CleanTech stated that "Agri-Energy knew that Mr. Cantrell and Mr. Winsness had not yet developed a method that could be used for removing corn oil from waste stillage." MDN 1028 at 54. Defendants objected to this statement claiming that it was unsupported by the cited evidence. MDN 1093 at 84. The Court considered all of the evidence cited by CleanTech and concludes that Defendants were correct; the statement is not supported by the cited evidence. The Court has included here the facts that are supported by the record evidence.

proposal.” MDN 1173 at 51. The attached proposal was a letter dated July 31, 2003 (“July 31 Proposal”). *Id.* It stated, in pertinent part:

[VDT] would like to offer Agri-Energy a No-Risk trial “Oil Recovery System”. The test module is designed to process 18,000 lbs. per hour of evaporator condensate and recovers 16,000 lbs. of oil per day **adding annual profits of \$312,000 to \$530,000 per year.** The module will contain all items necessary to separate the oil, and pump the resulting oil and sludge to their respective destinations. The oil will be cleaned to an acceptable level for boiler fuel, or it can be sold as a nutritional ingredient.

No-Risk Trial:

VDS [sic] will allow Agri-Energy 60 days to operate the unit and confirm its value. At the end of the 60 days Agri-Energy will either:

- a) purchase the system (system price: \$423,000) or,
- b) return the skid to VDS (no questions asked).

Confidentiality / Non-Compete:

All discoveries resulting in the trial process shall remain the property of Vortex Dehydration Technology, LLC and is confidential information. Due to the great expense by VDT to design and fabricate the oil recovery system, Agri-Energy agrees to protect the confidential information and not to purchase a reverse-engineered system from any other organization that infringes on the VDS [sic] process and/or process patent.

MDN 1173 at 51-52; MDN 949-57 (emphasis in original). The July 31 Proposal further stated that the system needed a water line for use by “the Integrated CIP System (Self-Cleaning).” MDN 949-57. It also referenced a process patent. *Id.* No-risk trials were a sales technique frequently used by VDT, and were common in the ethanol industry. MDN 1173 at 52. However, the letter lacked payment terms, dates and terms of delivery, a list of components of the “test module” or specifications of same, and a signature block. MDN 1028 at 62.

Notwithstanding its lack of those specifics, the July 31 Proposal was similar to other letters VDT had prepared for oil recovery systems in other markets. MDN 1173 at

55. For example, on May 19, 2003, Winsness drafted a form offer letter for a “Cod Liver Oil Recovery System” for fish processing plants (“fish oil letter”). *Id.* The letter stated that the system included a used “Alfa Laval Centrifugal Separator” that “separates the Oil from the water,” and that the “oil yields is based on Alfa Laval field knowledge and industry experience.” *Id.* The fish oil letter specifies that the product must be heated to “roughly 180F” before separation. *Id.* Also, similar to Cantrell’s June 5, 2003, email to Agri-Energy, the fish oil letter included pictures of “similar modules (Grinder and Centrifuge)” from the Case Farms system for which “only a few modifications are required to meet your needs.” *Id.* In another similar letter, on August 10, 2003, VDT offered to sell Con Agra’s poultry processing plant an “oil recovery system” . . . “at no risk to you, we offer a 30-day Unconditional Satisfaction Guarantee on the system (no questions asked!)” *Id.* VDT described the system as one that “simply heats the [fat and protein] skimmings and pumps the material through a centrifuge decanter where . . . oil is extracted” *id.*

But, Cantrell considered the July 31 Proposal an offer to test VDT’s idea for extracting oil at the back end of the ethanol plant and presented it as such to Agri-Energy at a meeting on or around August 19, 2013. *Id.* Sommers testified that he believed the July 31 Proposal was an offer to sell Agri-Energy an oil recovery system. MDN 1173 at 52. He understood that the system would include a disk stack centrifuge that would process hot syrup and separate the oil. *Id.* Sommers testified that “[i]f the offer was accepted” he would have expected other documents to follow that would have been more specific about such terms. MDN 1028 at 62-63; MDN 1040-46 at 418.

CleanTech never produced the August 1, 2003, email during discovery in this

litigation notwithstanding the fact that it was authored by Cantrell and copied to Winsness and Lauderbaugh. MDN 1173 at 52.

At least as early as August 7, 2003, Cantrell had been “discussing [his] ethanol project” with several companies having an expertise in the sale and marketing of corn oil for the purpose of assembling a corn oil sales and marketing team. MDN 1173 at 53. On August 7, 2003, Rouse Marketing, Inc. (“Rouse”), a company established in the 1970s to provide service to renderers and processors of animal and vegetable fats in developing and marketing their products, outlined for Cantrell the “combined marketing program” for recovered corn oil that it and other companies had developed. *Id.* at 53-54.

Cantrell established a corn oil sales and marketing team in “an effort to remove all obstacles” from Agri-Energy’s acceptance of the offer. *Id.* at 54. The marketing team consisted of three companies, Rouse, Kindstrom-Schmoll, Inc. and Agri-Vest LLC. *Id.* The three companies formed an alliance, with each company providing different expertise. *Id.*

By email dated August 11, 2003, Rouse and Kindstrom-Schmoll provided information to Cantrell on the type of lab analysis needed to successfully market “the corn oil that is extracted from the ethanol process.” *Id.* at 55. Cantrell cut and pasted much of this information in an August 19, 2003, letter to Agri-Energy. *Id.*

On August 18, 2003, Cantrell travelled to Agri-Energy. *Id.* at 56. The next day, on August 19, 2003, the following occurred:

(i) Cantrell presented his proposal to the Agri-Energy Board of Directors (the “Board”) for “a process where the corn oil is pulled off.” MDN 1173 at 56. Cantrell told

the Board that the system worked and would generate additional income for Agri-Energy. *Id.* The Board minutes from the meeting contain no reference to any further “testing” or “experimenting” that needed to be performed. *Id.*

(ii) At 7:58 a.m., Winsness reported to the VDT shareholders that Cantrell “is meeting with an ethanol plant today and expects to have an order in the near future (\$400K).” *Id.* Winsness further reported “we are attempting to patent the process as an additional barrier so that we can obtain maximum market share.” *Id.*

(iii) At 10:37 p.m., Winsness updated VDT’s shareholders, reporting that Cantrell “had a great meeting with Agri-Energy for a Centrifuge System. He presented the system to the board of directors. This first sale will lead into 10 additional units as several board members of Agri-Energy sit on the board of 10 additional plants.” *Id.* Dyer understood this to be a reference to a potential sale of an ethanol system by VDT. *Id.*

(iv) Agri-Energy’s decision on Cantrell’s offer was postponed because of internal issues at Agri-Energy. *Id.* at 57. Agri-Energy did not accept VDT’s proposal because it was concerned about the economic value of the system, particularly the effect removing oil would have on the sales and pricing of DDGS. *Id.* at 52-53. Some in the industry shared this view, MDN 1173 at 53; however, others believed that there were large markets for the oil ethanol plants could recover and that the resulting DDGS would not decrease in value. MDN 1028 at 72-73. Defendant ICM agreed with the latter view as early as October 2004. *Id.* at 73.

On August 27, 2003, Cantrell reported to Rod Lee, VDT’s Chairman, and Winsness that “we have made an offer to Agri-Energy.” MDN 1173 at 56. Cantrell

stated, “Also, attached is the offer to Agri-Energy.” *Id.*

However, shortly after Cantrell met with Agri-Energy earlier in August, Alfa Laval sold the centrifuge VDT intended to install at Agri-Energy. MDN 1028 at 64. Cantrell did not locate another one until early 2004. *Id.* Cantrell and Winsness testified that the project went cold and they did not undertake any other activities to offer for sale, sell or otherwise commercialize a corn oil extraction system until they could test it at Agri-Energy. *Id.*

On September 3, 2003, Winsness emailed Winter about solutions to “the Drum Dryer Problems.” *Id.* at 57. Winsness hypothesized that the “problems” may relate to the presence of corn oil in the syrup. *Id.* He reported, “We can remove the oil from the syrup.” *Id.* He further reported, “We have outlined two proven methods” . . . “using 50 year old [sic] technology.” *Id.*

By letter dated September 15, 2003, Kindstrom-Schmoll provided Cantrell with a list of target customers for the corn oil. *Id.* at 55-56.

Rouse, Kindstrom-Schmoll and Agri-Vest executed a formal agreement in October 2003. *Id.* at 55. The agreement stated, in pertinent part, that VDT “has developed a process to extract corn oil from the concentrate waste stream of the ethanol industry” and was to be “evergreen with the contractual agreements with the ethanol companies producing corn oil.” *Id.* at 54-55.

Sometime early in 2004, Sommers notified VDT that Agri-Energy wanted to install a centrifuge to recovery oil; VDT informed Sommers that the one they had previously discussed was not available. MDN 1173 at 57. However, in a letter dated February 9, 2004 (“February 2004 Proposal”), on letterhead for “CMC”, Cantrell

proposed the following to Agri-Energy:

CMC, in conjunction with Alfa Laval would like to enter into a research trial with Agri-Energy to determine the merits of the Ethanol Oil Recovery System.

Research Trial:

The test protocol will consist of timed runs to determine the quantity of oil produced, oil quality and the economics of the operation of the system. The research will be conducted within a 30 day period.

Confidentiality / Non-Compete:

All discoveries resulting in the trial process shall remain the property of CMC and is confidential information. Due to the great expense by CMC to design and fabricate the oil recovery system, Agri-Energy agrees to protect the confidential information and not to purchase a reverse-engineered system from any other organization that infringes on the CMC process and/or process patent.

* * *

Requirements (by Customer):

Agri-Energy agrees to pay \$5,000 toward the cost of the research trial.

* * *

Thank you for your interest in testing the Ethanol Oil Recovery system. We both agree that the opportunities are enormous and time is of the essence in making this decision.

MDN 1042-34; MDN 1173 at 57; MDN 1028 at 64-65. The February 2004 Proposal included a payback and/or value analysis and included an estimate for the cost of the "Ethanol Oil Recovery System:" "\$423,000." MDN 1173 at 57; MDN 1028 at 64-65.

In early March 2004, Cantrell contacted Alfa Laval to arrange for Agri-Energy to rent a centrifuge for the "research trial" referenced in the February 204 Proposal. MDN 1028 at 65; MDN 1173 at 57. The cover letter for the rental agreement that Alfa Laval sent to Agri-Energy was to "[m]ention . . . that this is in reference to the discussions we

have had with David Cantrell regarding oil removal from [Agri-Energy's] process streams." MDN 1028 at 65.

On March 24, 2004, Alfa Laval's salesman, Dell Hummel ("Hummel") drafted a proposal for Agri-Energy entitled "Field Test Equipment Rental Proposal." MDN 1028 at 65. The proposal listed an "Alfa Laval model CHPX510 solids-ejecting disc-stack centrifuge with HP motor, starter panel and control panel" as the "Field Test Equipment;" and anticipated "Test Period" of approximately one month; and a "Test Rate" of \$5,000.00, total for freight and start up supervision. MDN 1042-37; MDN 949-76. The proposal was valid for 60 days and the terms were net 30 days. *Id.* After some non-relevant revisions in April 2004, Alfa Laval accepted the proposal and received the centrifuge. MDN 1028 at 65.

Agri-Energy employees testified that sometime in May 2004 they set up the centrifuge, although Barlage, who did not participate in the test, thought Hummel was there, MDN 1028 at 66 (*compare* MDN 1040-8 at 204-205 (Barlage Dep. at 203-04) *with* MDN 1042-23 at 52-53 (Stanley Dep. at 51-52)); and on May 26, 2004, the centrifuge test began at Agri-Energy. MDN 1028 at 65. Hummel worked with Agri-Energy to optimize the process to recover the greatest amount of oil of the highest purity. MDN 1042-39. After the first week of the test, Cantrell re-iterated the importance of keeping the test results confidential and outlined additional questions that needed to be answered by future testing. *Id.* Cantrell and Winsness or "Cantrell's team" gave Agri-Energy some instructions for "assembling, placing or installing" . . . "certain parts" of the oil recovery system. MDN 1028 at 66. Further, Cantrell and Winsness received test

results from Agri-Energy and monitored its progress.⁵⁴ *Id.*

At one point, Agri-Energy fed thin stillage to the centrifuge prior to concentration in the evaporators and successfully recovered oil. MDN 1173 at 57. Agri-Energy did not tell Cantrell or Winsness about this pre-evaporation oil recovery process. *Id.* Neither Cantrell nor Winsness were ever on site during the time that the centrifuge test was performed at Agri-Energy. *Id.* at 57-58.

Agri-Energy ran the centrifuge for several months to explore its economic value and recovered several tank loads of oil that were marketed and sold. *Id.* at 57. In October 2004, Agri-Energy decided not to move forward with the project, removed the centrifuge and shipped it back to Alfa Laval. *Id.*

On August 17, 2004, Cantrell and Winsness filed a provisional application that led to the '858 patent family. *Id.* at 51.

Between 2004 and 2010, Cantrell and/or Winsness, on behalf of VDT, various other entities that they controlled, and GreenShift, made multiple offers to sell or "license" a corn oil recovery system or method to Agri-Energy in exchange for a lump sum payment or a percentage of Agri-Energy's corn oil revenue. *Id.* at 58. Agri-Energy refused these offers. *Id.*

For example, in October 2004, Cantrell approached Defendant ICM to pitch the corn oil extraction technique. MDN 1028 at 68. At the time, ICM was an industry leader in engineering, building, and supporting ethanol plants. *Id.* ICM entered into a Confidentiality Agreement with VDT in order to research the inventors' corn oil

⁵⁴ In paragraph 152 of its Statement of Material Facts in Dispute, CleanTech cited to Cantrell's deposition transcript, volume II at pages 395-97. MDN 1028 at 66. However, the exhibit provided, found at MDN 1042-5, ends at page 375. Therefore, the Court did not consider this evidence.

extraction techniques prior to formalizing any sort of sales or marketing arrangement. *Id.* ICM staff investigated the patented process and generated a report. *Id.* The report stated that “the economic model for the process shows an outstanding return on investment provided market prices remain stable.” *Id.*; MDN 1028 at 82; MDN 1093 at 97-98. It concluded that ICM should actively pursue the technology. MDN 1028 at 68, 82. In fact, ICM entered into an Exclusive Marketing Agreement with VDT in November 2004. *Id.* at 69. Pursuant to that agreement, ICM installed systems at two ethanol plants; it ultimately stopped using the technology. *Id.*; MDN 1093 at 98.

Quotes for oil extraction systems provided by or on behalf of VDT included centrifuges that had been used by food processing companies such as Tyson. MDN 1173 at 59 (citing MDN 949-102 at 14).

VDT’s January 17, 2005, Executive Summary, prepared by Winsness, stated, in pertinent part, “VDT has spent the past 4 years perfecting Animal Byproduct Processing Methods. While implementing the technology into the animal processing industry, VDT realized that its methods could also be applied to Ethanol Byproduct Processing.”⁵⁵ MDN 1173 at 28, 58.

On February 21, 2005, an Alfa Laval email notified its sales people about a conference VDT planned to hold the next day regarding its system. MDN 1028 at 81. The email stated, “The total potential has yet to be realized in this revolutionary

⁵⁵ CleanTech disputed the Defendants’ statement that the inventors acknowledge that the methods for ethanol oil recovery were similar to methods VDT used in animal byproduct systems and cited to paragraphs of its own statement of disputed facts that describe the Case Farms system. MDN 1028 at 23; MDN 1173 at 58. There was also a relevance objection. The Court considers the information relevant to several inquiries in Defendants’ brief; therefore, that objection is **OVERRULED**. In addition, CleanTech’s cited paragraphs do not contradict the statement cited here or call into question the veracity of the cited evidence; therefore, the Court will consider these statements.

process.” MDN 1044-12.

On February 22, 2005, VDT held an “Ethan-Oil [sic] Biodiesel Conference” in Sioux Falls, South Dakota. MDN 1028 at 69. VDT invited almost every ethanol production facility in the country at the time as well as many other industry players in an effort to “solicit the entire market at once.” *Id.*

Further, in an April 21, 2005, update for “VDT Members,” Winsness wrote, “VDT, through the expertise it developed building Alfa Laval Decanter and Centrifuge skids for animal byproduct processing, has secured an exclusive manufacturing contract for the assembly of Oil Extraction Centrifuges in for [sic] the Ethanol Industry.” MDN 949-69 at 2. He further explained, “As odd as it may sound, VDT has proven its Animal Byproduct Processing Techniques to be almost identical to Ethanol Byproduct Processing Techniques.” *Id.* at 8. Cantrell reportedly made similar statements to publications in or around August 2005, claiming that “work he and Winsness did in the rendering arena could carry over to the ethanol business because, as he said, ‘The tail-end of the rendering process is very similar to the tail-end of the ethanol production process.’ He said it was good to see the same process of separation transfer over.” MDN 945-48.

A June 23, 2005, article on the website “renewableenergyworld.com” quoted Don Enders, CEO of VeraSun energy, apparently a marketing partner of VDT’s, stating: “This is exciting new technology. We believe this breakthrough will improve the economics of ethanol production by creating another product revenue stream.” MDN 1028 at 81-82; MDN 1039-28.

In December 2005, GEA generated its own presentation for centrifuges to be used in a dry mill ethanol plant. MDN 1028 at 69, 82 . A GEA representative testified

that it had performed demonstrations in plants prior to development of the presentation, but it had not quantified any monetary savings and/or value for the process/products. MDN 1093 at 98. The sales presentation listed multiple advantages of the use of a centrifuge to recover corn oil:

- “Recovery of valuable corn oil (Biodiesel) \$\$\$\$\$\$\$”
- “Lower fat DDGS, new feed opportunities (poultry, fish)”
- “Premium / Higher Quality DDGS \$\$\$\$\$\$\$”
- “Energy savings in dryer \$\$\$\$\$\$\$”
- “Reduction of VOC emissions”
- “Safety Improvement (lower fire risks in dryer)”

MDN 1028 at 69-70.

Experts who testified in this matter were unable to identify specifically any facility using a process other than the method described by the ‘858 patent family to recover oil.⁵⁶ MDN 1028 at 31; MDN 1093 at 108.

Based on certain technology acquisition agreements, Cantrell, Winsness and Barlage have a financial interest in the outcome of this litigation.⁵⁷ MDN 1173 at 36.

At least one ethanol plant has licensed the patented methods from CleanTech. MDN 1028 at 81; MDN 1093 at 103.

5. Economics of Ethanol Plant Corn Oil Recovery

Although Cantrell and Winsness sold some systems between 2004 and 2007,

⁵⁶ Defendants disputed that the cited references supported CleanTech’s version of this fact. MDN 1093 at 75; MDN 1028 at 31. The Court has rewritten the fact to reflect the cited evidence.

⁵⁷ CleanTech claims that it disputes these statements and that they are not relevant, MDN 1028 at 20; but CleanTech cites no evidence to rebut them and financial interest may be relevant to certain issues raised by both parties.

there is little evidence that there was any widespread use of such methods until 2007.⁵⁸ MDN 1173 at 59; MDN 1028 at 23; MDN 1093 at 103. Cantrell's idea had been to sell the corn oil produced by the ethanol plants as an animal feed additive. MDN 1173 at 59. Cantrell and Winsness' own letter to shareholders dated November 9, 2007, suggested that if the industry had adopted any corn oil recovery system *en masse*, it would have quickly flooded the feed additive market and have caused the price of corn oil for this purpose to plummet. MDN 1173 at 59; MDN 1028 at 23; MDN 1093 at 103. There were other uses for the corn oil, however, such as internal biodiesel production or as a substitute for yellow grease. MDN 1028 at 23; MDN 1028 at 72-73. The parties largely dispute the availability of profitability data for these additional markets for corn oil, but CleanTech's expert admitted that the price for the corn oil generated by an ethanol plant after 2003 has never gone down to pre-2003 prices.⁵⁹ MDN 1173 at 122-23; MDN 1028 at 23-24; MDN 1093 at 100.

In addition, in the 2003 to 2004 time frame, many ethanol plants were concerned about the impact that recovering oil would have on the revenue generated by the full-fat containing DDGS. MDN 1173 at 60; MDN 1028 at 23-24. CleanTech disputes the

⁵⁸ Clean Tech disputed a similar statement by Defendants, MDN 1028 at 23; however, CleanTech cited statements, Statement of Facts in Dispute ¶¶ 137-38, 140, 195-97, do not support its counter-assertion that there was widespread adoption of the technology because it points to a single license agreement. MDN 1028 at 81; MDN 1093 at 103.

⁵⁹ CleanTech argues that Defendants' expert on the issue of economics, Dr. Bruce Babcock ("Dr. Babcock"), should be disregarded because, in essence, his opinions do not meet the reliability prong of the Federal Rule of Evidence 702/*Daubert v. Merrill Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993), test. MDN 1028 at 23-24; MDN 1028 at 74-76. Defendants assert that the Court may disregard Dr. Babcock's testimony on the subject, it needs only to look at CleanTech's expert Dr. Gerald Shurson's ("Dr. Shurson's") admissions. MDN 1093 at 100 (citing Shurson Graph, DX 581 (MDN 1093-3) & Graph DX 577 (MDN 1093-2)). Therefore, the Court has considered Dr. Shurson's testimony and exhibits, but not Dr. Babcock's.

validity of this belief; nevertheless, several plants had this concern. *Id.*

6. Litigation Regarding the '858 Patent Family

Before the '858 patent issued in October 2009, many ethanol plants installed and operated corn oil recovery systems on their own, without assistance from Cantrell and Winsess. MDN 1173 at 61. In July 2009, Peter Hagerty ("Hagerty"), one of GreenShift's lawyers at Cantor Colburn began sending letters to ethanol plants asserting that GreenShift had a right to provisional remedies under 35 U.S.C. § 154(d) once its patent issued. *Id.*

In the letters, Hagerty informed the ethanol plants that "a very serious matter has recently been brought to [the] attention" of his law firm. *Id.* The letters state that GreenShift had learned that ethanol plants were practicing a method for "recovering corn oil from thin stillage by concentrating the thin stillage to create a thin stillage concentrate, followed by separating the oil from the concentrate using a centrifuge," and that the "system is believed to include an evaporator for evaporating the thin stillage to form a concentrate, and a centrifuge for . . . recovering oil." *Id.* According to Hagerty's letters, "This activity falls squarely within the scope fo the published claims of the GreenShift Applications" and the ethanol plants are "thus liable under 35 U.S.C. § 154(d) once these patent applications issue." *Id.* Hagerty's letters conclude: "This letter constitutes actual notice of the published GreenShift Applications and we request you carefully consider these . . . applications in your . . . business plans." *Id.* The letters request that the allegedly infringing plants contact Winsness to come to a "mutually beneficial agreement." *Id.* When the '858 patent finally issued, CleanTech immediately filed suit against seventeen defendants in nine different courts. *Id.*

7. Post-Litigation Activity by CleanTech Regarding the July 31 Proposal⁶⁰

During prosecution of the '858 patent, the USPTO was never told about the Case Farms system, or about VDT's communications and dealings with Agri-Energy, including the July 31 Proposal and the Ethanol System Diagram, or Barlage's June 2003 lab testing and his July 10, 2003, gyro demonstration. MDN 1173 at 62. On May 3, May 10, and June 1, 2010, during the pendency of this law suit and prosecution of the '516 and '517 patents, Winsness and Ed Carroll ("Carroll"), the President and CFO of GreenShift, met with representatives from a competitor named Solution Recovery Services, LLC ("SRS"). SRS told Winsness that GreenShift's patents were invalid due to an offer to sell an oil recovery system more than one year prior to the filing date of the '858 patent application. *Id.* During the May 10 meeting with SRS, SRS showed Winsness a copy of the Ethanol System Diagram. *Id.*

Sometime in late June 2010, Winsness made an unannounced visit to Agri-Energy's rural Minnesota plant. *Id.* at 63. For the first time since contact with Agri-Energy was established in June 2003, Winsness offered Agri-Energy a royalty-free license. *Id.* Darryl Nelson ("Nelson"), Agri-Energy's maintenance manager, felt that Winsness was offering Agri-Energy a royalty-free license in exchange for admitting the patent was valid. *Id.* Nelson rejected Winsness' offer and informed Winsness that Agri-

⁶⁰ The Court has deemed "admitted without controversy" many of the facts in this section because CleanTech has failed to respond to them with citations to evidence as required by Local Rule 56-1(f)(1). Specifically, CleanTech objected to Defendants' statement of material facts ¶¶ 128-79 on relevance grounds. MDN 1028 at 26. In reply, Defendants argued that the facts are relevant to their on-sale bar defense. MDN 1093 at 73. CleanTech never mentions these facts again in surreply. MDN 1138. The Court agrees with Defendants that many of the facts in this section are relevant to the on-sale bar defense as well as other defenses; therefore, to the extent the Court agrees with Defendants, the facts are admitted and CleanTech's objection is **SUSTAINED in part and OVERRULED in part.**

Energy was not interested in pursuing opportunities with Winsness' company to install an oil recovery system. *Id.* Neither VDT, Winsness nor Cantrell had previously made such an offer to Agri-Energy. *Id.* Rather, between July 2003 and December 2009, VDT and/or GreenShift made numerous offers to Agri-Energy, all of which involved the payment of lump sum price or royalties. *Id.*

On July 27, 2010, Michael Rye, GreenShift's lead litigation counsel, wrote a letter to Agri-Energy's counsel seeking a statement from Sommers concerning "the system VDT offered Agri-Energy the opportunity to operate in 2003." *Id.* The letter requested that Sommers confirm the following:

(i) "VDT did not provide any drawings or diagrams for the proposed system in 2003;"

(ii) "VDT did not describe a specific system or method for recovering the corn oil in 2003," other than Cantrell's statement that "the system included a disk stack centrifuge;"

(iii) "the proposed use of the system was intended to be experimental and confidential;"

(iv) "Agri-Energy understood VDT had not proved that its corn oil extraction method and system worked" and that VDT "needed to test it" at Agri-Energy; and

(v) "the method and system had not been tested with an ethanol production facility and there was a need for public testing to determine whether the concept worked." *Id.* at 63-64. Further, the letter offered a release of liability and indemnification if Agri-Energy agreed to provide "confirmation" of these certain alleged "facts" and threatened liability if Agri-Energy failed to do so. *Id.* at 64.

Sommers testified that most of the statements were untrue and he had no further discussion with GreenShift or the author of the letter. *Id.* In fact, Sommers had never read the letter prior to his deposition. MDN 1025 at 25 (citing MDN 1037-32 at 4, Sommers Dep. at 491-92).

In November 9, 2010, the applicants submitted a declaration signed by David Cantrell to the USPTO. MDN 1173 at 64. The declaration stated that the Offer Letter had been first delivered by hand to Agri-Energy by Cantrell on August 18, 2003 and not before. *Id.* Applicants submitted only the July 31 Proposal with Cantrell's first declaration ("Cantrell's First Declaration"). *Id.* The USPTO was told that the letter did not raise an on-sale bar issue because it was first delivered to Agri-Energy less than a year before the August 17, 2004 patent application filing date. *Id.*

In August 2011, the '516 and '517 patents issued. *Id.*

On September 21, 2011, Defendants deposed Cantrell. *Id.* During the deposition, Defendants showed Cantrell a copy of his August 1, 2003, email that Defendant had obtained from Agri-Energy. *Id.* The August 1, 2003, email revealed that the July 31 Proposal was first sent to Sommers on that date, not August 18, 2003. *Id.* Cantrell testified that the email was not authentic and possibly fabricated. *Id.*

On July 12, 2012, the applicants, during the pendency of the '484 patent application, submitted a new declaration of Cantrell ("Cantrell's Second Declaration") in which he admitted that he had sent the July 31 Proposal to Agri-Energy on August 1, 2003. *Id.* at 65.

8. Prosecution of the '858 Patent Family

David Cantrell and David Winsness are listed as the inventors on the '858 patent family. MDN 1028 at 27.

a. The '858 Patent

As previously stated, the '858 patent issued on October 13, 2009. MDN 1173 at 65. It was originally filed on May 5, 2009, as US Patent Application 11/122,859 (the "859 application"). *Id.* Along with the '859 application, applicants filed a letter with the USPTO stating, "Applicants note the existence of [Prevost], which may be found to claim the same invention as at least one claim in the instant application." *Id.* Eventually, the '858 patent issued from Application No. 12/559,136 (the "'136 application"). MDN 1028 at 27. It claims priority to a provisional application filed on August 17, 2004. *Id.* The '516, '517, and the '484 patents issued from applications that are continuations from the '136 application. *Id.*

On February 23, 2006, the application was published as U.S. Patent Application Publication Number US 2006/0041152 (the "'152 publication"). MDN 1173 at 65. The '152 publication contained claims 1 through 30, with claims 1, 11, 14, 16, 22, 25, and 28 being the only independent claims. *Id.* Claims 1 and 2 of the '152 publication are illustrative:

1. A method of processing a concentrated byproduct of a dry milling process for producing ethanol, comprising recovering oil from the concentrated byproduct.
2. The method of claim 1, wherein the byproduct comprises thin stillage, and the method further includes the step of evaporating the thin stillage to form the concentrated byproduct having a moisture content of greater than 15% and less than about 90% by weight before the recovering step.

Id. As filed, the '152 publication included claims 22 through 30, which claimed an oil recovery system. *Id.* at 66. In this application, and all other applications, these apparatus claims were withdrawn in favor of pursuing method claims. *Id.*

Examiner Carr rejected claims 1 through 21 as obvious under 35 U.S.C. § 103(a) "as being unpatentable over Prevost *et al.* in view of Yokoyama *et al.* in further view of Singh *et al.*" *Id.* Examiner Carr noted, "[I]t would have been obvious to one skilled in the art at the time the claimed invention was made to recover oil from stillage that is the by-product of ethanol production as suggested by Prevost *et al.* and Yokoyama *et al.* by heating the stillage prior to oil extraction." *Id.*

On September 15, 2008, in an effort to overcome this rejection, Winsness and Cantrell either amended or cancelled all of the independent claims of the '859 application. *Id.* In further response, the applicants' attorney, Hagerty, represented, "Applicants have carefully studied Prevost and can find no teaching or suggestion of a post evaporation process for recovering oil from the concentrated byproduct by heating and mechanically processing as in claim 1 or 16 or by centrifuging as in claim 14." *Id.* With respect to claim 14, Hagerty argued that

the cited references fail to establish a *prima facie* case of obviousness with respect to independent claims 14 and 16 since these claims generally feature evaporating the thin stillage to create a concentrate having a moisture content of greater than 15% by weight and less than about 90% by weight; and centrifuging the concentrate to recover oil as presented in claim 14

Id. Hagerty admitted during his deposition, however, that he was aware in 2008 that Prevost's claims 19 and 20 taught the use of a centrifuge after the evaporators. *Id.*

On December 22, 2008, the examiner issued a final rejection to all remaining claims of the '859 application. *Id.* at 67. To overcome this objection, the applicants

canceled claim 2 and further amended independent claims 1, 14, and 16. *Id.* In support of the amendment, the applicants argued,

Minowa in combination with Prevost fail to teach or suggest a method of recovering oil from thin stillage comprising 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.

Id.

Hagerty further argued to the USPTO that Cantrell and Winsness “have discovered that [their] claimed processes frees a portion of the bound oil as a result of evaporating the thin stillage to remove water and form a concentrated byproduct. Removing a portion of the bound water breaks the emulsion allowing mechanical processing to further separate and recover the oil.” *Id.*

On June 5, 2009, after having paid the issue fee, Hagerty filed a request to withdraw the ‘859 application from issue to file an Information Disclosure Statement (“IDS”). *Id.* Included with the IDS was a letter to the USPTO in which Hagerty disclosed:

[S]ometime in May 2004, feasibility testing of a process and system for recovering oil from thin stillage was performed that included evaporating thin stillage to form a thin stillage concentrate having a moisture content greater than 30 and less than 90 percent by weight followed by centrifuging the thin stillage concentrate to separate the oil from the thin stillage concentrate. The recovered oil was subsequently sold. Following the feasibility testing, provisional application 60/602,050 was filed on August 17, 2004. U.S. Patent Application Nos. 11/122,859; 11/241,231; and 12/475,871 are legally related and claim priority from the provisional application.

Id. at 67-68. Hagerty claims he filed the letter to “strengthen the patent.” *Id.* at 68. The ‘858 patent subsequently issued without any further office actions. *Id.*

The same examiner reviewed all of the '858 patent family applications. *Id.* She never made a § 102 rejection and never cited claims 19 and 20 of Prevost as a basis for rejection of any of the claims in the '858 patent family. *Id.*

b. The '516 Patent

The '516 patent was filed on September 30, 2005, as US Patent Application 11/231/231. *Id.* at 68. The '516 patent claims a filing date of August 17, 2004. *Id.* On June 17, 2008, the examiner rejected claims 31 through 46 in light of Prevost and Yokoyama, and withdrew claims 47 through 50. *Id.*

In response to the objection, Hagerty repeated representations made during the '858 prosecution that

Prevost fails to teach or suggest a post-evaporation process for recovering oil from thin stillage that includes, inter alia, mechanically processing the thin stillage concentrate to separate oil from the thin stillage concentrate (claim 1) or disc stack centrifuging oil to form a substantially oil free concentrate (claim 4).

Id. at 68-69.

On December 26, 2008, the examiner rejected claims 31, 32, 35-38, 43-46 and 51 as "claiming the same invention as that of claims 1, 7, 9, 14-21 of the copending Application No. 11/122,859." *Id.* at 69. The examiner also rejected the claims under 35 U.S.C. § 103(a) as being unpatentable over "Minowa *et al.* in view of Prevost *et al.*" *Id.*

On February 3, 2009, in response to the rejection, applicants amended the claims and again argued, "Applicants have carefully studied Prevost and can find no teaching or suggestion of a post evaporation process for recovering oil from the thin stillage concentrate that includes centrifuging the concentrate to recover oil." *Id.*

On February 17, 2010, the USPTO issued a notice of allowance for the '516

patent application and the '517 patent application was pending. *Id.*

As discussed above, Winsness met with SRS on May 3 and 11, 2010. *Id.* On May 13, 2010, the applicants filed a Petition to Withdraw from Issue and a Request for Continued Examination. *Id.*

On August 11, 2010, the USPTO issued another Notice of Allowance for the '516 patent. *Id.*

The applicants submitted the July 31 Proposal to the USPTO on November 9, 2010. *Id.* The submission included:

(a) A three page document entitled "Supplemental Response" signed by Hagerty;

(b) The Cantrell First Declaration dated November 9, 2010;

(c) A copy of the July 31 Proposal; and

(d) A three page redacted copy of a credit card statement bearing the name of David F. Cantrell, stamped as EXHIBIT B to the Cantrell First Declaration. *Id.* at 69-70.

In the "Supplemental Response," Hagerty stated, "Although the Letter is dated July 31, 2003, it was nonetheless first disclosed to Agri-Energy on August 18, 2003" *Id.* at 70. Hagerty also stated, "As the Letter was not delivered to Agri-Energy prior to August 17, 2003, the Letter is not material to the above-noted patent application." *Id.* Hagerty stated he was submitting the July 31 Proposal and Cantrell's First Declaration "in an abundance of caution." *Id.*

The examiner allowed the claims and the '516 patent issued on August 30, 2011. *Id.* at 71.

c. The '517 Patent

The '517 patent was filed on September 14, 2009, as US Patent Application 12/559,136 (the "'136 application"). *Id.* at 71. The '517 patent claims a filing date of August 17, 2004. *Id.*

The applicants filed a "Petitioner to Make Special," in which they were required by the USPTO regulations to perform a pre-examination search and provide documents material to patentability. *Id.* In the required Accelerated Examination Support Document, Hagerty argued that Prevost "fails to disclose centrifuging the concentrate to recover oil as in Applicants' claim 1." *Id.* Hagerty stated, "Rather, Prevost discloses a solvent extraction process for recovering oil from the thin stillage concentrate." *Id.* Further, Hagerty argued that claim 1 was patentable because "[r]ecovering oil from the thin stillage concentrate by centrifugation, or for that matter, any mechanical process, is neither taught nor suggested in the cited references." *Id.* at 71-72. Hagerty repeated, "Applicants have carefully studied Prevost and can find no teaching or suggestion of a post evaporation process for recovering oil from the thin stillage concentrate that includes centrifuging the concentrate to recover oil." *Id.* at 72.

Similarly to the situation with the '516 patent application, in a submission to the USPTO dated November 9, 2010, the applicants represented that the July 31 Proposal was first hand delivered to Agri-Energy's representatives on August 18, 2003. *Id.* The applicants again asserted that the July 31 Proposal "is not material to the above noted patent application because it is not prior art to the above noted patent application." *Id.*

The '517 patent issued on August 30, 2011. *Id.*

d. The '484 Patent

The '484 patent issued on October 9, 2012. *Id.* at 72. It was filed on May 13, 2011, as US Patent application 13/107,197 claiming an effective filing date of August 17, 2004. *Id.*

On September 21, 2011, Cantrell was deposed and shown a copy of his August 1, 2003, email. *Id.* On counsel's instructions, Cantrell refused to answer any questions about the August 1, 2003, email and shortly thereafter the deposition was suspended. *Id.* at 72-73. Hagerty agreed that when he found out that Cantrell had sent the July 31 Proposal on August 1, 2003, it sent a chill up his spine. *Id.* at 73.

On April 13, 2012, the examiner issued a Notice of Allowance for the '484 patent. *Id.* On July 12, 2012, the applicants filed a "Request for Continued Examination" ("RCE") and a petition to withdraw the application from issue. *Id.* In addition, Cantrell submitted the Cantrell Second Declaration in which he admitted sending the July 31 Proposal to Sommers via email. *Id.* The Cantrell Second Declaration states, in pertinent parts:

I, David F. Cantrell, declare and state:

1. Attached is an e-mail sent from my e-mail account on August 1, 2003 to Jay Sommers of Agri-Energy, LLC and copied to Mark Lauderbaugh of Trident Corporation, Gerald Winter of Agri-Energy, LLC and David Winsness, co-inventor of the present application ("the August 1st email"), which attached a version of a letter dated July 31, 2003 (the "July 31 Letter").

2. At the time that I signed the Declaration dated November 5, 2010 that was submitted to the United States Patent and Trademark Office in the following related cases: App. Serial Nos. 12/559,136, which issued into US Patent 8,008,517 and 11/241,231, which issued into US Patent 8,008,516, I did not recall the August 1st email.

3. The July 31 Letter attached to the August 1 email was unsigned.

4. I hereby further declare that all statements and representations made herein of my own knowledge are true and that all statements made on information and belief are believe to be true; and further that these statements and representations were made with the knowledge and willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application of any patent issued therefrom.

Id. at 73-74.

e. Provisional Application

On February 16, 2006, a provisional application directed toward the same technology as the '858 patents was filed naming Cantrell, Winsness, and Barlage as co-inventors. MDN 1173 at 35 n.11. Then, on March 20, 2007, a utility application was filed claiming priority to the provisional and again named Barlage as a co-inventor. *Id.* Just before the '858 patent issued and only a few months before CleanTech filed its initial lawsuits, Barlage, Cantrell, and Winsness submitted sworn declarations to the USPTO representing that Barlage had been mistakenly included as an inventor. *Id.*

f. The Claimed Methods

All of the issued claims of the '858 patent family are method claims. MDN 1173 at 75. Any apparatus claims were withdrawn by the applicants. *Id.* the '858 patent family specification describes recovering corn oil from the syrup using a "solids ejecting" disk stack centrifuge, such as an Alfa Laval Model No. AFPX 510, AFPX 513, AFPX 617, "a nozzle bowl disk stack centrifuge," or "a horizontal centrifugal decanter (which may be especially beneficial when the moisture content of the concentrate is less than 50% by weight)." *Id.* Further, the specification states, "All such modifications and variations are within the scope of the invention." *Id.*

The '858 patent has four independent claims as set forth above; Claim 8 is the broadest. *Id.* Claim 8 only requires using any centrifuge to recover substantially oil⁶¹ from conventional concentrated thin stillage. *Id.* Original claim 14 of the '859 application issued as Claim 8, with the following changes: "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 ~~45~~30% by weight and less than about 90% by weight; and centrifuging the concentrate to recover oil." MDN 1028 at 80. Claims 1, 10, and 16, include a separate heating step; Claim 8 does not. MDN 1173 at 75. The dependent claims variously specify conventional temperature, pH, or moisture content ranges for the concentrate, or the use of a disk stack centrifuge. *Id.* Only dependent Claim 14 claims continuous processing. *Id.* Claim 15 further requires the step of drying the concentrate after the oil is recovered. *Id.*

The '516 patent has two independent claims, 1 and 7. *Id.* at 76. Unlike the claims of the '858 patent, Claim 1 uses the narrowing patent claim formulation "consisting essentially of" instead of the broader "comprising" formulation. *Id.* Claim 1 requires the use of substantially only a mechanical process on the concentrated thin stillage produced by a conventional ethanol plant to recovery oil. Claim 7 is a "comprising" claim that requires the use of a disk stack centrifuge on the concentrated thin stillage produced by a conventional ethanol plant to recover largely or mostly oil and to remove enough oil from concentrated thin stillage so it becomes substantially free of the oil it had before the centrifuge. *Id.* Claim 9 claims a continuous process. *Id.*

⁶¹ CleanTech disputed certain statements by Defendants regarding expert testimony regarding the Court's construction for the term "oil." MDN 1028 at 24; MDN 1173 at 75. The Court addressed all of these arguments in Section IV.A.1., *supra*.

The other independent claims variously specify conventional temperature, pH, or moisture content ranges for the concentrated thin stillage. *Id.*

The '517 patent contains one independent claim. *Id.* It requires only using any centrifuge to recover oil from the concentrated thin stillage produced by a conventional ethanol plant. *Id.* This claim also extends the mixture concentration range down to a 15% moisture content. *Id.* Dependent Claim 2 specifies the use of a disk stack centrifuge. *Id.*

The '484 patent has five independent claims, Claims 1, 8, 16, 19, and 30. MDN 1173 at 76. Except for Claim 30, all of the method claims require the additional step of "drying the thin stillage concentrate" after oil is recovered from it. Except for the above additional requirement, Claim 1 is the same as Claim 1 of the '516 patent; Claim 8 is the same as Claim 7 of the '516 patent; Claim 16 is the same as Claim 8 of the '858 patent; Claim 19 is the same as Claim 1 of the '858 patent (which also includes the additional and separate heating step requirement). *Id.* at 76-77. Claim 30 does not include additional drying or a separate heating step. *Id.* at 77. The method of Claim 30 only requires mechanical processing of the concentrated thin stillage produced by a conventional ethanol plant to recovery oil. *Id.* The dependent claims specify various conventional temperature, pH, or moisture content ranges, or the use of a disk stack centrifuge. *Id.* Dependent claims 26, 27, 28 and 29 require that after the concentrated thin stillage is dried, it is combined with the wet distiller grains before that mixture is also dried. *Id.*

The '516, '517 and '484 patents were issued by the USPTO despite having Defendants' infringement and invalidity contentions before it during prosecution of those

patents. MDN 1028 at 81.

g. Post-Evaporation Heating Step

The '858 patent states, "In its most basic form, the method comprises recovering oil from the concentrated byproduct [i.e., the syrup]." MDN 1173 at 77 (citing '858 Patent, col2, ll20-22). The '858 patent also states, "In one embodiment, the byproduct comprises thin stillage, and the method includes the step of evaporating the thin stillage to form a concentrate." *Id.* (citing '858 Patent, col2, ll23-25). "Preferably, the recovering step comprises: (1) providing the concentrated byproduct [which has been formed by evaporation] at a temperature of between about 150 and 212°F and, most preferably, at a temperature of about 180°F" *Id.* (citing '858 Patent, col2, ll27-30). "The concentrating step may comprise processing the thin stillage to a temperature of between about 150 and 212°F" *Id.* (citing '858 Patent, col2, ll65-67). "Preferably, the concentrate fed to the disk stack centrifuge is at a temperature of between about 150 and 212°F (and ideally 180°F)" *Id.* (citing '858 Patent, col3, ll62-64).

Figure 2 represents the inventive method and a related subsystem, "10," for implementing it. *Id.* "[M]echanically separated thin stillage is delivered to the evaporator 12 forming part of the subsystem 10. The resulting concentrate or syrup . . . is delivered to a disk stack centrifuge 14" *Id.* at 77-78 (citing '858 Patent, col4, ll39-46). "As should be appreciated, the above-described method and subsystem of the preferred embodiment essentially require the addition of a centrifuge downstream of the evaporator in the conventional system for processing this stillage." *Id.* at 78 (citing '858 Patent, col5, ll27-30).

During prosecution, the claims that ultimately became Claims 1, 10, and 16, were

amended to include a requirement of “heating and mechanically processing” the concentrated thin stillage. *Id.*

This Court has construed the claims that refer to “heating and mechanically processing” to require a separate heating step to be performed on the concentrated thin stillage after evaporation, but before centrifugation. *Id.*

9. Expert Opinions Regarding Obviousness

Defendants’ experts opined that the oil recovery methods claimed in the ‘858 patents are invalid as anticipated and obvious. MDN 1173 at 79-80 (listing Dr. Harris, Mr. Monceaux, Dr. Reilly, Dr. Rockstraw, Dr. Van Gerpen, and Mr. Yancey). Although CleanTech’s expert, Dr. Eckhoff, had stated at one time he believed the ‘858 patent to be obvious, upon subsequent investigation, he concluded the methods had not been tried in the past and were not obvious. *Id.* at 80; MDN 1028 at 25. However, Dr. Eckhoff did testify that the oil recovery method for ethanol processing claimed in Claim 8 of the ‘858 patent is nearly identical to the oil recovery method utilized in the prior art meat, fish and whey processing industry publications. MDN 1173 at 80 (citing MDN 949-4, Eckhoff Dep. at 262-66); MDN 1028 at 25. Further, Dr. Eckhoff testified that Rosten disclosed the use of a centrifuge to recover oil from a “thin stillage,” but later corrected himself. MDN 1173 at 80 (citing MDN 949-4, Eckhoff Dep. at 101, 108-09); MDN 1028 at 25, 107. In addition, Dr. Eckhoff testified that based on the written descriptions and drawings prepared by and/or on behalf of the inventors, he could practice the inventions in Claims 1 and 8 of the ‘858 patent. MDN 1173 at 80 (citing MDN 949-4, Eckhoff Dep. at 189-90, 196-200).

10. Other Evidence Regarding Non-Obviousness

Corn oil recovery in ethanol plants gained popularity several years after the inventors filed their application for a patent.⁶² MDN 1028 at 70; MDN 1093 at 98-99. By 2013, one publication estimated that 70% of the dry-mill ethanol plants were extracting oil and that the sale of the oil could contribute as much as 23% of a plant's revenue. MDN 1028 at 70 (citing, *inter alia*, MDN 1039-23, Tom Bryan, "Making Customer-Driven Corn Oil Decisions," (BBI Int'l Apr. 16, 2013)). Eckhoff testified that he had heard of others trying to extract corn oil from thin stillage, but did not seek to do so himself because he was focused on the front end of the ethanol plant instead. MDN 1028 at 70-71. Others, including ADM, were also looking at the front end of the ethanol plant for corn oil extraction. *Id.* at 71. In 2004, Agri-Energy extracted oil from the thin stillage prior to evaporation in part to reduce the amount of oil going through the evaporation system to improve efficiency. *Id.* Others had also extracted oil from thin stillage and other streams in an ethanol plant either using a centrifuge or by settling/decanting prior to 2004; however, some had not pursued either method because they did not believe it was economically viable. *Id.* Removing the oil from thin stillage might improve the cost-

⁶² Defendants objected to CleanTech's statement of material facts in dispute numbered 166 through 170 because they were not supported by the cited evidence, were opinions and/or not based on admissible testimony. MDN 1093 at 98-99. The Court agrees with Defendants, in part, that the statements in paragraph 166 are unsupported opinion; that the statement in paragraph 167 is unsupported by admissible evidence; the statements in paragraphs 168 and 169 are not completely supported by the cited evidence and will only be considered to the extent they are supported; and the statements in paragraph 170 are not supported by the cited evidence because the references do not discuss prior known attempts to separate oil, rather, they discuss the nature of thin stillage alone. Therefore, Defendants' objection is **SUSTAINED in part and OVERRULED in part.**

effectiveness of the DDGS drying process by a fraction of a percent.⁶³ MDN 1028 at 74; MDN 1093 at 100.

ICM began selling centrifuges to ethanol plants for oil recovery in 2008.⁶⁴ MDN 1028 at 77; MDN 1093 at 101. ICM has agreed to indemnify its customers sued by CleanTech, including Cardinal, BR-Galva, BR-WB and LincolnLand. MDN 1028 at 77. Vander Griend, as majority shareholder of ICM, agreed with others at ICM to indemnify its customers. *Id.* ICM also agreed to indemnify Flottweg, the centrifuge manufacturer for ICM's oil recovery system, against the cost of litigating this matter. *Id.* at 78. Flottweg also sought its own patent protection for a method for increasing the yield of oil production using the claimed patented method. *Id.* Specifically, Flottweg is the assignee of U.S. Patent No. 7,918,458 (the "458 patent"), which issued on March 29, 2011. *Id.* The '458 patent is directed to a method of obtaining oil from an ethanol

⁶³ Defendants objected to CleanTech's statement of facts in dispute number 186 to the extent it suggests that removing oil from thin stillage could improve efficiency of the DDGS drying process because it lacked an evidentiary foundation. MDN 1093 at 100. Defendants also cite to Shurson's deposition for the proposition that drying DDGS with or without oil requires the same amount of energy, *id.*; however, Defendants did not provide the cited pages of Shurson's deposition to review. The Court agrees that the cited evidence does not support the "efficiency" portion of the statement, but at least one other citation supports the statement that removal of the oil saves some energy. See MDN 1040-25, Rockstraw Dep. at 164-65. Defendant's objection is **SUSTAINED in part and OVERRULED in part**. Further, as previously stated, the Court has disregarded Dr. Babcock's report and testimony regarding the economics of oil recovery, Section VI.A.5. n.56, MDN 1093 at 100; therefore, CleanTech's statement of facts in dispute numbers 177 through 181 were considered only to the extent they raised a Rule 702 and/or *Daubert* challenge to Dr. Babcock's evidence. To the extent CleanTech considered it a Rule 702 and/or *Daubert* challenge, the objection is **SUSTAINED**.

⁶⁴ Defendants objected to CleanTech's statement of facts in dispute number 183 on the grounds that it contained conclusions of law and that the validity of the claimed technology was in dispute. MDN 1093 at 101; MDN 1028 at 77. The Court agrees that much of CleanTech's statement is a legal conclusion; however, the cited evidence does support the statement here, therefore, Defendants' objection is **SUSTAINED in part and OVERRULED in part**.

production facility “and recovering oil from the concentrated syrup, wherein the step of recovering oil from the concentrated syrup includes using a horizontal axis centrifuge.”

Id.

GEA sells centrifuges that are used in corn oil recovery. MDN 1028 at 78; MDN 1093 at 101. It requires its customers either to have a license agreement with CleanTech or to indemnify it for any infringement of CleanTech’s patents that might be found. *Id.* GEA has sold 110 centrifuges for use in ethanol plants for oil recovery. MDN 1028 at 78; MDN 1093 at 101. Forty of the centrifuges were sold prior to 2008; the remaining 70 were sold between 2008 and 2013. MDN 1028 at 78-79.

GEA, ICM, Flottweg and the Plant Defendants have profited from the oil recovery systems that the Plant Defendants have been using. MDN 1028 at 79.

CleanTech was unable to sell or install any systems in 2009 or 2010, and only managed to sell one or two systems in ethanol plants each year from 2011 through 2013. *Id.* at 80.

In 2010, the U.S. Environmental Protection Agency (“EPA”), listed corn oil extraction from concentrated thin stillage as an “advanced technology,” and mentioned GreenShift systems at ethanol plants in four states. MDN 1028 at 82. The EPA concluded that these types of systems could be used to meet the EPA’s requirement of a 20% reduction in greenhouse gas emissions. *Id.*

A commodities price for inedible corn oil has been reported publicly since 2012.⁶⁵ *Id.* at 82; MDN 1093 at 103.

⁶⁵ Defendants disputed the connections that CleanTech attempted to draw between the commodities pricing availability and the patented invention. MDN 1093 at 103. The Court has set forth the fact supported by CleanTech’s cited evidence.

B. ON-SALE BAR

Pursuant to 35 U.S.C. § 102(b), a patent is invalid if “the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States.”⁶⁶ The provisional application for the ‘858 patent family was filed on August 17, 2004; therefore, the critical date pursuant to § 102(b) is August 17, 2003. MDN 1173 at 51. The on-sale bar applies when two elements are satisfied before the critical date: (1) the invention must be the subject of a commercial offer for sale; and (2) the invention must be ready for patenting. See *Hamilton Beach Brands, Inc. v. Sunbeam Prods., Inc.*, 726 F.3d 1370, 1374 (Fed. Cir. 2013) (citing *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 67 (1998)). “An actual sale is not required for the activity to be an invalidating commercial offer for sale.” *Id.* (citing *Atlanta Attachment Co. v. Leggett & Platt, Inc.*, 516 F.3d 1361, 1365 (Fed. Cir. 2008)). “An attempt to sell is sufficient so long as it is ‘sufficiently definite that another party could make a binding contract by simple acceptance.’” *Id.* (quoting *Atlanta Attachment*, 516 F.3d at 1365). A series of communications that are understood by those in the commercial community to be an offer satisfies that element. See *Group One, Ltd. v. Hallmark Cards, Inc.*, 254 F.3d 1041, 1046-47 (Fed. Cir. 2001).

Experimentation may negate a bar if it is used “to convince [the inventor] that the invention is capable of performing its intended purpose in its intended environment.” *EZ Dock v. Schafer Sys., Inc.*, 276 F.3d 1347, 1352 (Fed. Cir. 2002) (quoting *Gould Inc.*

⁶⁶ Congress changed the language and structure of 35 U.S.C. § 102 when it enacted the Leahy-Smith America Invents Act, Pub. L. No. 112-29. Because the cases at issue here were filed before the effective date of the change, the Court refers to the old version of § 102(b). See *Hamilton Beach Brands, Inc. v. Sunbeam Prods., Inc.*, 726 F.3d 1370, 1374 & n.1 (Fed. Cir. 2013).

v. United States, 579 F.2d 571, 583 (Ct. Cl. 1978) (modification in original)). See also *Pfaff*, 525 U.S. at 64-65 (quoting *Elizabeth v. American Nicholson Pavement Co.*, 97 U.S. 126, 137 (1877)), for the proposition that “a *bona fide* effort to bring [the] invention to perfection, or to ascertain whether it will answer the purpose intended” is not prohibited). But, those experiments must address claimed features of the patented invention. *EZ Dock*, 276 F.3d at 1353. Further, an “inventor’s subjective intent to experiment is not sufficient.” *Id.* at 1355 (Linn, J., concurring) (citing *Paragon Podiatry Lab., Inc. v. KLM Labs., Inc.*, 984 F.2d 1182, 1186 (Fed. Cir. 1993)). Factors the Court should consider to assess experimentation include, (a) the necessity for public testing; (b) the amount of control over the experiment retained by the inventor; (c) the nature of the invention; (d) the length of the test period; (e) whether payment was made; (f) whether there was a secrecy obligation; (f) whether records of the experiment were kept; (g) who conducted the experiment; (h) the degree of commercial exploitation during testing; (i) whether the invention reasonably requires evaluation under actual conditions of use; (j) whether testing was systematically performed; (k) whether the inventor continually monitored the invention during testing; and (l) the nature of the contacts made with potential customers. See *Allen Eng’g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1353 (Fed. Cir. 2002) (quoting *EZ Dock*, 276 F.3d at 1357). “[O]nce the invention is reduced to practice, there can be no experimental use negation.” *Id.* at 1354 (quoting *EZ Dock*, 276 F.3d at 1356-57 (Linn, J., concurring)).

With respect to the second element, an invention is ready for patenting if it is (a) “reduced to practice;” or (b) “depicted in drawings or other descriptions ‘that were sufficiently specific to enable a person skilled in the art to practice the invention.’”

Hamilton Beach Brands, 726 F.3d at 1377 (quoting *Pfaff*, 525 U.S. at 67-68). “[R]eduction to practice involves proof that an invention will work for its intended purpose.” *EZ Dock*, 276 F.3d at 1352 (citing *Scott v. Finney*, 34 F.3d 1058, 1061 (Fed. Cir. 1994)).

Defendants have the burden to prove the elements of an on-sale bar by clear and convincing evidence. See *Allen Eng’g*, 299 F.3d at 1352.

Defendants contend that the series of communications between Cantrell and Agri-Energy prior to the critical date of August 17, 2003, constituted a commercial offer for sale. MDN 1173 at 86-92; MDN 1093 at 12-20. Further, Defendants assert that there is no material question of fact that the claimed method had been reduced to practice prior to the critical date, which both satisfies the second element of the *Pfaff* on-sale bar test and precludes CleanTech from arguing that the 2003 Agri-Energy collaboration was an offer to perform an experiment. MDN 1173 at 92-93, 94-96; MDN 1093 at 17-21. Moreover, Defendants argue that the second element of the *Pfaff* test is met because there was sufficient description of the invention prior to August 17, 2003, to allow one of ordinary skill in the art to practice the claimed methods. MDN 1173 at 93-94, 96-97; MDN 1093 at 22-23.

CleanTech states that a reasonable jury could conclude that the July 31 Proposal did not amount to a commercial offer for sale because it lacked crucial terms and could not have formed a binding contract if Agri-Energy had accepted the proposal. MDN 1028 at 85-87. Relying on some documents from July and August of 2003 as well as documents from 2004, CleanTech further argues that the July 31 Proposal concerned an experimental use of the technology where the inventors were trying to prove that the

method was “capable of performing its intended purpose in its intended environment.” *Id.* at 89-93 (quoting *EZ Dock*, 276 F.3d at 1352). CleanTech asserts that it could not confirm the method worked for its intended purpose in its intended environment until spring 2004. *Id.* at 93. Similarly, CleanTech contends that there is a genuine issue of material fact as to whether or not the invention was ready for patenting prior to August 17, 2003, because the method had not been tested under the actual working conditions of a dry-mill ethanol plant; in other words, the method had not been proven for its intended purpose until Spring 2004. *Id.* at 94-96. Moreover, CleanTech denies that the Ethanol System Diagram and other documents were sufficient to enable a person of ordinary skill in the art to practice the claimed method. *Id.* at 96-99.

The Court concludes that the undisputed contemporaneous evidence supports only one conclusion, the on-sale bar applies and invalidates the ‘858 patent family because (1) the July 31 Proposal was the culmination of a commercial offer for sale and (2) the method described in the ‘858 patent family had either or both been reduced to practice or/and there was sufficient description of the patented method by August 17, 2003, to allow one of ordinary skill in the art to implement the method. CleanTech focuses on the language of the July 31 Proposal for its argument that a jury could find that the letter was not a commercial offer to sell. MDN 1028 at 85-86. However, the major elements of a contract for the sale of a system that could perform the patented method are contained in the letter: all items necessary to recover oil and the price. MDN 1173 at 51-52; MDN 949-57. Any mention of a “test” was not related to the method for securing oil, but rather to the quality of the oil produced and/or the efficiency and cost-effectiveness of the module. *Id.* None of the claims of the ‘858 patent family

have oil quality, efficiency or cost-effectiveness elements. In fact, CleanTech has argued throughout this litigation that, except for the unrelated temperature, moisture content and pH requirements of the incoming concentrated thin stillage stream, there are no quantifiable elements in the claims at all. See MDN 1025 at 38-40 (arguing that “largely or mostly” adequately conveys a broad definition for the term “substantially oil free”); *id.* at 43-46 (arguing that “largely or mostly” adequately conveys a broad definition for the term “oil”); see also MDN 118 at 14-15 (arguing that the “oil” term should not be limited to the preferred embodiment); MDN 121 at 17-21 (same); MDN 464 at 17(same).

Further, CleanTech wholly ignores the course of dealing between the parties prior to Agri-Energy’s receipt of the July 31 Proposal as well as the contemporaneous internal VDT documents that evidence that VDT considered the letter an offer for sale. Prior to the letter, VDT had advised Agri-Energy what the system looked like, see MDN 1173 at 41; where the oil recovery module would be placed, *id.* (referencing removal of fat from “syrup,” which is an industry name for concentrated thin stillage); MDN 949-57 at 3 (requiring that the system be placed “inside or within 50’ of the evaporator”); why it needed to be placed at that location (to minimize heat loss), MDN 949-16 at 6 & 10 (Sommers Dep. at 48, 71-73), MDN 949-9 at 7 (Stanley Dep. at 85); that the major component of the module was a disk-stack centrifuge that would separate the oil from the syrup, MDN 1173 at 41 (explaining that the centrifuge model that would be needed was a disk stack centrifuge), MDN 949-61 (stating that the “right centrifuge” would either be a three phase nozzle machine or a solids discharging machine); that it would recover over 80% of the oil, MDN 1173 at 44, MDN 949-61 (stating, “We are optimistic that we

can recover over 80% of this oil.”); cost a certain amount to operate, MDN 1173 at 41 (stating that the operational cost would be similar to that of the Case Farms system), MDN 949-57 at 4 (stating an operating cost of \$60.00/day); required a certain amount of space and utilities at Agri-Energy’s facility, MDN 949-57 at 3; provide a certain payback, *id.* at 2; and that it was a simple process comprised of “just sucking the top of the [syrup] tank and centrifuging that product.” MDN 1173 at 44-45; MDN 949-61 (“We have methods of just sucking the top of the tank and centrifuging that product.”). The July 31 Proposal itself had many of these parameters contained within it as well as a specific price, \$423,000.00. MDN 949-57. Sommers confirmed that after receipt of the July 31 Proposal, Agri-Energy could accept the offer and receive the equipment; some details needed to be worked out, such as timing and payment terms, but Agri-Energy believed that its acceptance of the offer would have created a binding contract. MDN 1173 at 52, MDN 949-16 (Sommers Dep. at 82-83). Sommers did testify that he expected a formal contract to follow, but never considered that he could not accept the offer and create a binding agreement. MDN 1173 at 52; MDN 1028 at 62-63; MDN 1093 at 92. Moreover, it is undisputed that the “sale on approval” form of the July 31 Proposal was common in the industry. MDN 1173 at 52 & 55. A “sale on approval” contract is a commercial agreement recognized in the Uniform Commercial Code, UCC § 2-326, which the Federal Circuit has explicitly recognized as a source to help determine whether something is a commercial offer. *See Group One*, 254 F.3d at 1047.

In addition, VDT’s internal documents at or around the time Cantrell sent the July 31 Proposal indicate that VDT believed it had offered to sell the system to Agri-Energy. Winsness announced to shareholders of VDT that it had made an offer to sell. MDN

1173 at 56. He further informed the shareholders that the sale could lead to other sales because members of Agri-Energy's board of directors, which would approve the sale, were affiliated with at least ten other potential customers. *Id.* (citing MDN 949-70 at 30 ("David Cantrell had a great meeting with Agri-Energy for a Centrifuge System. He presented the system to the board of directors. This first sale will lead into additional units as several board members of Agri-Energy sit on the board of 10 additional plants.")). Moreover, there is no dispute that Dyer produced the July 22, 2003, Ethanol System Diagram believing it was for sales purposes. MDN 1173 at 48-49. In addition, Cantrell was focused on finding a market for the oil that Agri-Energy would recover with the system stating that he wanted to remove all obstacles to Agri-Energy's acceptance of the offer. MDN 1173 at 53-54 (citing, *inter alia*, MDN 945-47 at 5-6).

Moreover, a reasonable jury could not conclude that the July 31 Proposal was an offer to perform an experiment to see if the patented method would work to recover oil. Cantrell and Winsness already knew that a centrifuge could recover oil from the concentrated thin stillage and the contemporaneous correspondence bears this out. MDN 1173 at 47-48 (describing Winsness' directions to Dyer regarding preparation of the Ethanol System Diagram); MDN 949-61 (June 29, 2003, email from Cantrell to Agri-Energy, Subject: Oil Recovery); MDN 949-59 (July 11, 2003, Draft Letter to Agri-Energy, Re: Alfa Laval Oil Recovery Unit); MDN 1173 at 56 (citing MDN 949-73 (Agri-Energy Board Minutes, Aug. 19, 2003)); MDN 949-70 (Winsness' Aug. 19, 2003, Update to the VDT Board of Directors stating, "This first sale will lead into 10 additional units"); MDN 1173 at 57, ¶ 115 & MDN 1028 at 22 (no objection to ¶ 115) (Winsness stating that they could remove the oil from the syrup with "two proven methods" "using 50 year

old [sic] technology”). The July 31 Proposal itself indicated an expected oil recovery rate and an estimated payback. MDN 949-57 at 2. Previous correspondence from Cantrell to Agri-Energy unequivocally stated, “The technology is available to remove the oil” MDN 949-61. Further, there is no other indicia in the July 31 Proposal that the “60-day risk free trial” was a test such as a test protocol, control over the system by Cantrell or Winsness, record-keeping requirements, requirements that Cantrell and Winsness be on site while Agri-Energy ran the module, or limits on whether Agri-Energy board members could seek out a similar offer for other plants after Cantrell’s presentation. See MDN MDN 949-57; see also *Allen Eng’g*, 299 F.3d at 1353 (listing the factors to consider to assess experimentation). Any questions that remained related only to the “value of the system,” MDN 1173 at 51 (citing MDN 949-57), or commercial viability, MDN 1173 at 56 (citing, *inter alia*, MDN 949-70 at 28), which are aspects that are not addressed by the claims of the ‘858 patent family. Commercial testing is not “experimental use.” See *Allen Eng’g*, 299 F.3d at 1353-55; *In re Smith*, 714 F.2d 1127, 1135 (Fed. Cir. 1983); *Delano Farms Co. v. Cal. Table Grape Comm’n*, 940 F. Supp.2d 1229, 1256 (E.D. Cal. 2013).

Furthermore, at least by the time that Barlage performed the “gyro” test at Agri-Energy on July 10, 2003, the method of the patented invention, “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,” ‘858 Patent, col6, ll1-5, had been performed. MDN 1173 at 45-46 (stating that the concentrated thin stillage Barlage tested was at about 180°F, pH of about 4, and moisture content of about 70% to 80%). Barlage testified that after

the second test, he would have tried a solids-ejecting or solids-liquid centrifuge to make the process less likely to clog and more efficient. MDN 1040-8 at 159-61 (Barlage Dep. at 158-60). But again, the claims of the '858 patent family as construed by the Court, do not have an efficiency requirement.

CleanTech makes much of the argument that the inventors did not know whether or not the “invention would work for its intended purpose.” MDN 1028 at 94-96. However, later, CleanTech admits that “a patent need not enable a commercially acceptable embodiment unless the claims require it, and the claims here do not.” *Id.* at 135-36. Likewise, reduction to practice does not require a showing that the method would work acceptably in a plant environment “unless the claims require it, and the claims here do not.” *Id.* See also *Cygnus Telecomc’ns Tech., LLC v. Telesys Commc’ns, LLC*, 536 F.3d 1343, 1355 (Fed. Cir. 2008) (concluding that whether or not a product would work in a commercial setting is not relevant for purposes of the on-sale bar analysis) (citing *Allen Eng’g*, 299 F.3d at 1352). There is no factual dispute that Barlage practiced the method twice, once in the lab and once at Agri-Energy, prior to July 31, 2003; therefore, a reasonable jury could only conclude that the patented method had been reduced to practice prior to the offer to Agri-Energy.

Moreover, there was sufficient description in the communications exchanged between Cantrell and Agri-Energy, Winsness’ communications with others, the July 31 Proposal, Barlage’s lab centrifuge testing and report, the July 10 demonstration at Agri-Energy, and the Ethanol System Diagram to enable one of ordinary skill in the art to practice the invention. A single reference is not required to show that “the inventor had prepared drawings or other descriptions of the invention that were sufficiently specific to

enable a person skilled in the art to practice the invention.” *Pfaff*, 525 U.S. at 67-68. Here, although there is not a single reference that specifically delineates each sequential step of the methods disclosed by the ‘858 patent family claims, the Ethanol System Diagram, prepared on or around July 22, 2003, coupled with Barlage’s lab tests and results as well as communications from Cantrell to Agri-Energy on June 29, would allow a POSA to practice the invention of the patents – to recover oil from thin stillage that had been concentrated in a dry-mill ethanol plant operating at standard conditions. There is no mystery or dispute that the pH, moisture content and temperature ranges in the claims of the ‘858 patent family are those that occur at the standard operating conditions of a dry mill ethanol plant. MDN 1173 at 19. As a result, those elements are inherent in the descriptive material provided to Agri-Energy about the process prior to the offer, part of the method Barlage used in the lab when he heated and centrifuged concentrated thin stillage samples from Agri-Energy and/or part of the method Barlage used when he performed the “gyro” test at Agri-Energy. *Cf. Schering Corp. v. Geneva Pharma.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) (discussing the doctrine of inherent elements in prior art with respect to anticipation, which does not require recognition of the importance of the element in the prior art or by one of ordinary skill in the art). Furthermore, Barlage testified that after the “gyro” test at Agri-Energy, he would have known to try solids-ejection or a solids/liquid centrifuge to process concentrated thin stillage continuously. MDN 1040-8 at 159-61 (Barlage Dep. at 158-60). That all the claims could have been practiced by a POSA is particularly true here where the Court has concluded that there is no requirement in the ‘858 patent family that the mechanical

processing method used to recover oil is a specific machine.⁶⁷ See MDN 169 at 13-15; *supra* Section IV.B. A POSA had enough information on July 10, 2003, to enable him or her to practice all of the methods disclosed in the '858 patent family.

The Court agreed with Defendants that the claims of the '484 patent require separate drying of the reduced oil thin stillage concentrate stream exiting the mechanical processing device; drying the mixed product called DDGS does not meet the requirements of that claim. See, *supra* Section V.B.2. Defendants present no evidence that documents contemporaneously produced when the July 31 Proposal was made disclose this step. MDN 1173 at 97. Therefore, the on-sale bar does not invalidate the '484 patent claims.

For these reasons, the Court **GRANTS** summary judgment in favor of Defendants on their Counterclaim and/or defense that the '858, the '516 and the '517 patents are invalid pursuant to § 102(b)'s on-sale bar; and **DENIES** summary judgment in favor of Defendants on their Counterclaim and/or defense that the '484 patent is invalid pursuant to § 102(b).

C. ANTICIPATION

Invalidity based on “[a]nticipation requires that all of the claim elements and their limitations [be] shown in a single prior art reference.” *Old Reliable Wholesale, Inc. v.*

⁶⁷ There is no material question of fact that Agri-Energy was able to recover oil using the patented method without any additional input from the inventors in the summer of 2004 and there was nothing different about the process that was tried then than what VDT proposed to sell Agri-Energy on July 31, 2003. Compare MDN 949-57 (July 31 Proposal) with MDN 1042-34 (February 2004 Proposal). The communications between the inventors and Agri-Energy in 2004 merely support the notion that the patented method had already been reduced to practice because they only reference process optimization, not feasibility. See, e.g., MDN 1042-34, February 2004 Proposal (“The test protocol will consist of timed runs to determine the quantity of oil produced, oil quality and economics of the operation of the system.”)

Cornell Corp., 635 F.3d 539, 544 (Fed. Cir. 2011) (quoting *In re Skvorecz*, 580 F.3d 1262, 1266 (Fed. Cir. 2009)). See also *Trebo Mfg., Inc. v. Firefly Equip., LLC*, 748 F.3d 1159, 1169 (Fed. Cir. 2014). The prior art may either expressly or inherently disclose a limitation. See *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008); *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). Anticipation is a question of fact. See *Telemac Cellular Corp. v. Topp Telecomm'cn. Inc.*, 247 F.3d 1316, 1327 (Fed. Cir. 2001).

1. Prevost

Defendants contend that Prevost anticipates Claim 8 of the '858 patent; all of the asserted claims of the '516 patent except Claims 5 and 6; all the claims of the '517 patent; and Claim 30 of the '484 patent. Specifically, Defendants argue that the pH, temperature and moisture content ranges disclosed in the claims are broad enough to capture the typical operating conditions at all standard ethanol plants; therefore, those elements are inherent in any disclosure that discusses the typical dry mill ethanol process. MDN 1173 at 99 n.15 & 102-03. Prevost, Defendants assert, describes the typical dry mill ethanol plant process, including the evaporation of thin stillage to form a syrup, the typical fat content of syrup as well as the combination of the thin stillage with wet distillers' grains to form DDGS. *Id.* at 99-100. Prevost further discloses recovering oil at various points of stillage processing: before evaporation, after evaporation, from wet distillers' grains and from DDGS. *Id.* at 100 (referencing MDN 945-49, Prevost, Fig. 1). According to Defendants, Prevost also discloses at least three methods for extracting oil: centrifugation, pressing, and solvent extraction. *Id.* at 100-01 (quoting MDN 945-49, Prevost ¶¶ 0014 & 0026). Although Prevost states a preference for

solvent extraction after evaporation of the thin stillage,⁶⁸ he expressly claimed using a centrifuge to recover oil from syrup in Claims 19 and 20 of the application. *Id.* at 101 (quoting MDN 945-49, Prevost, Claims 19 & 20). Defendants assert that Claim 19 contains an obvious typographical error where it references the moisture content of the syrup stream entering the centrifuge as being 15% by weight moisture because such a product would not flow. *Id.* at 101-02. Therefore, one of ordinary skill in the art would read Prevost as disclosing recovery of “oil by centrifuging syrup containing less than 15 wt.% fats, which is equivalent to a moisture content of less than 85 wt.% water and falls squarely within the range claimed by the patents-in-suit.” *Id.* at 102. Defendants further assert that the ‘858 patent family does not specifically describe or disclose a separate post-evaporation heating step or a separate heating apparatus to perform such a step; therefore, if the Court concludes that such is disclosed in the ‘850 patent family, it is inherent in Prevost as well. *Id.* at 103; MDN 1093 at 33. Defendants also argue that Claims 19 and 20 separately and wholly anticipate all of the asserted claims, but, at the very least Claim 1 of the ‘517 patent. MDN 1173 at 99-05; MDN 1093 at 27-32.

CleanTech contends that Prevost cannot be an anticipatory reference because it does not disclose the claimed moisture ranges identified in the ‘858 patent family. MDN 1028 at 100-02. CleanTech further asserts that any alleged error in Claim 19 cannot be used to show anticipation and even if it could, the content of Prevost is a question of fact that cannot be determined on summary judgment. *Id.* at 101-04. In addition,

⁶⁸ Defendants contend that Prevost’s stated preference for solvent extraction of oil after evaporation of thin stillage in the specification is inapplicable to an anticipation analysis. MDN 1093 at 26 (quoting *ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1344 (Fed. Cir. 2012) (quoting *Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998))).

CleanTech argues, “Inherent anticipation . . . requires that the ‘prior art *necessarily* functions in accordance with, or includes, the claimed limitations.” *Id.* at 104 (quoting *Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 639-40 (Fed. Cir. 2011) (quoting *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349 (Fed. Cir. 2002)) (emphasis added by CleanTech)). Because Defendants have presented no evidence that the method disclosed in Prevost must be performed in a dry mill ethanol plant under standard conditions, they cannot show that the pH and temperature ranges would be inevitable. *Id.* Finally, CleanTech avers that Prevost does not disclose a heating step and any attempt to compare Prevost to the disclosure in the ‘858 patent family regarding such is “faulty.” *Id.* at 105.

Defendants make a conclusive argument that Prevost anticipates Claim 8 of the ‘858 patent; all asserted claims of the ‘516 patent except Claims 5 and 6; both claims of the ‘517 patent; and Claim 30 of the ‘484 patent. Like the ‘858 patent family specification, Prevost describes the traditional dry mill ethanol production process. MDN 945-49, Prevost ¶ 0005. The Prevost application teaches recovery of oil from concentrated thin stillage and lists a centrifuge as a possible method for doing so. *Id.* Prevost ¶¶ 0009, 0013, 0014, 0026, Fig. 1. It identifies the oil content of the concentrated thin stillage, or syrup, as between 8% and 15%. *Id.* ¶ 0005. *See also id.* ¶ 0011 (“The thin stillage is typically subjected to an evaporation step [to] remove water and produce a syrup that will contain about 7 to about 15 wt. % oil or fat.”). Prevost also specifically claims a process that uses a centrifuge to recover oil from syrup (concentrated or evaporated thin stillage) in a “moisture range” that buttresses the moisture ranges disclosed in the ‘858 patent family. Specifically, in Claims 19 and 20,

Prevost describes a process for extracting oil from a syrup stream that contains “less than about 15 wt. % water.” *Id.* Prevost at 6, Claims 19 & 20. Claims 1 and 2 of the ‘517 patent includes a requirement that the concentrate have a moisture content of “greater than 15% by weight” as well. MDN 267-1, ‘517 Patent, col6, l34.

Even if Prevost did not specifically disclose a moisture range that overlaps one of the claims of the ‘858 patent family, the Court agrees with Defendants that the moisture, pH and temperature ranges disclosed in the relevant claims of the ‘858 patent family are inherent in the Prevost disclosure. As the Court previously mentioned, CleanTech argues that Prevost does not inherently disclose these elements because the invention therein does not necessarily depend upon standard operating conditions of an ethanol plant. MDN 1028 at 104-05. CleanTech’s argument is premised on the conclusion that Prevost did not recognize the parameters as important. But, absolute recognition of inherent parameters is not required. In fact, the Federal Circuit in *Schering* “reject[ed] the contention that inherent anticipation requires recognition in the prior art.” 339 F.3d at 1377. “[I]nherent anticipation does not require that a person of ordinary skill in the art at the time would have recognized inherent disclosure.” *Id.* Moreover, there is no evidence in the record that the moisture and pH ranges disclosed in the ‘858 patent family were critical to the invention or would otherwise affect the recovery of oil using the method. In fact, there is one point in the specification where the inventors acknowledge that the moisture percentages in the syrup stream have no impact on the product value figures. MDN 120-2, ‘858 Patent, col5, ll11-15.

Further, there is no dispute that Prevost is directed to the identical process as that of the ‘858 patent family: byproducts of “ethanol production from agricultural

products, such as cereal grains.” MDN 945-49, Prevost, Abstract. The entirety of the Prevost specification is devoted to the discussion of the invention in relation to “a conventional ethanol production process utilizing corn as the starch containing feedstock” *Id.* ¶ 0005. Therefore, there is no reasonable dispute that the Prevost invention inherently discloses the standard production process parameters of a dry mill ethanol plant, which encompass all of the specific ranges identified in the relevant claims of the ‘858 patent family. *Compare* MDN 1173 at 20, ¶ 34 (standard operating conditions of syrup in a conventional dry milling process: temperature 150-212°F; pH 3.0 to 6.0; moisture wt.% 55 to 80) *with* MDN 120-2, ‘858 Patent, col6, ll27 (moisture content of greater than 30% by weight and less than about 90% by weight); MDN 233-2, ‘516 Patent, col6, ll15-16 (moisture content of greater than 30% and less than 90% by weight); *id.* ll21-22 (moisture content of greater than 60% and less than 85% by weight); *id.* l24 (“pH of between about 3 and 6); *id.* l26 (pH of between about 3.5 and 4.5); *id.* ll39-40 (moisture content of greater than 30% and less than 90%); MDN 267-1, ‘517 Patent, col6, ll34-35 (moisture content of greater than 15% by weight and less than about 90% by weight); MDN 673-4, ‘484 Patent, col8, ll33-34 (moisture content of greater than 30% and less than 90% by weight).

In addition, Prevost Claims 19 and 20 specifically identify the evaporation of thin stillage to form syrup and subsequent centrifugation of that syrup to remove oil. MDN 945-59 at 11, Claims 19 & 20. That all of the experts agree that “15 wt. % water” is some type of typographical error or not feasible only supports the conclusion that the invention was intended to work at the standard operating conditions of a dry mill ethanol plant where the syrup would contain between 8% and 15% fat or oil. *Id.* (“The thin

stillage fraction, after evaporation to form a syrup, will typically contain from about 8 to 15 wt. % fat.”); *id.* ¶ 0011 (“The thin stillage is typically subjected to an evaporation step [to] remove water and produce a syrup that will contain about 7 to about 15 wt. % oil or fat.”). This conclusion is further supported in the Prevost specification where it teaches that the ultimate goal is to produce a protein-rich product having a water content of less than about 15% by weight . . . that is substantially free of oil” *Id.* ¶ 0012. The syrup is added to these dried distiller’s grains after an oil removal step. *Id.* ¶ 0014. There is nothing in the Prevost specification to suggest that the syrup alone has a moisture content of 15% by weight or less. In fact, such substances in Prevost are identified differently: “retentate,” “permeate,” or “free flowing powder [that] will contain 15 wt. % or less water.” *Id.* ¶¶ 0015 (carotenoid retentate and nutrient rich permeate after the dryer); 0016 (protein and yeast containing retentate after being dried); 0034 (thin stillage passed through ultrafiltration to produce “a protein and yeast rich retentate”); 0038 (describing the product after the dryer as “free flowing powder [that] will contain 15 wt. % or less water”). This aspect of the Prevost invention is fully described by Claims 24 through 28. *Id.* at 11.

Although the question of whether or not Prevost “teaches away” from the patented invention is not part of the anticipation inquiry, see *Celeritas Techs., Ltd. v. Rockwell Int’l*, 150 F.3d 1354, 1361 (1998) (stating that “the question of whether a reference ‘teaches away’ is inapplicable to an anticipation analysis”), and, notwithstanding some reference by this Court regarding this statement in Prevost, with the undisputed facts before the Court now and in the face of Claims 19 and 20, it is unreasonable to believe that a POSA would consider the preference for solvent

extraction of oil from concentrated thin stillage to teach away from the '858 patented invention: Claims 19 and 20 clearly teach centrifugation of the syrup. See *Galderma Labs., L.P. v. Tolmar Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013) (stating that a preference does not “teach away” unless it criticizes, discredits or otherwise discourages investigation) (citing *DuPuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 f.3d 1314, 1327 (Fed. Cir. 2009)). This is particularly true when those claims are juxtaposed against Claims 24 through 28 that specifically claim oil removal from concentrated and then dried syrup through solvent removal. MDN 945-49, Prevost at 6, Claims 24-28.

For these reasons, the Court concludes that there is no genuine issue of material fact that Prevost anticipates Claim 8 of the '858 patent, all of the asserted claims of the '516 patent except Claims 5 and 6; all the claims of the '517 patent; and Claim 30 of the '484 patent. Therefore, summary judgment in favor of Defendants is appropriate as to those claims.

2. Rosten

Defendants assert that Rosten also anticipates some of the claims in dispute and describe Rosten as a process that starts with whole stillage, or “distillers slops;” removes solids to form thin stillage, or “thin slops;” heats the thin stillage (to at least 150°F, but if it is already at 180°F to 190°F from prior processing of the whole stillage, no further heating is necessary); processes the hot thin stillage with a centrifuge into three streams, mostly water, mostly solids, and a concentrated thin stillage stream that is 15% by weight oil. MDN 1173 at 105-06. The concentrated thin stillage is further centrifuged to recover oil. *Id.* at 106. Defendants also suggest that, like with Prevost, Rosten describes a process similar to that of a conventional ethanol plant; therefore, the

pH, temperature, and moisture content of the asserted claims are inherent therein. *Id.* As a result, Defendants argue that Rosten anticipates Claims 10-14 and 16 of the '858 patent. *Id.* at 106-07.

CleanTech claims that Rosten extracts corn oil from a different point in the ethanol manufacturing process, namely thin slops, which is a product created after screening the bottoms from the fermentation and distillation of a cereal-containing mash. MDN 1028 at 105-06. This thin slop is run through a first centrifuge to create an oil/water emulsion. The intermediate remaining thin slop stream is then evaporated and dried to sell as poultry feed. *Id.* at 106. This process, CleanTech asserts, does not extract oil from the evaporated thin stillage as required in the '858 patent family. *Id.* Further, CleanTech states that neither the thin slop nor the oil/water emulsion is evaporated before it is sent through the second centrifuge to recover oil. *Id.* In contrast, the patents-in-suit concentrate the thin stillage "and then require just one centrifuge to recover oil." *Id.* CleanTech also claims that Rosten does not inherently disclose the moisture content, temperature, and pH ranges claimed in the '858 patent. *Id.* Moreover, CleanTech argues that Defendants cannot rely on Eckhoff's misstatement that Rosten discloses using a centrifuge to separate oil from concentrated thin stillage because he later corrected it. *Id.* at 107.

With respect to Rosten, the Court concludes that there is a material question of fact on whether or not the reference anticipates Claims 10-14 and 16 of the '858 patent. The Court is not troubled by Rosten's use of more than a single centrifuge or a screening process prior to use of a centrifuge to recover oil; both of these options are not foreclosed by the relevant claims or the specification of the '858 patent. But, the

relevant claims of the '858 patent state that the thin stillage includes "oil and solids." MDN 120-2, '858 Patent, col6, ll35-36. In Rosten, distillers thin slops contains all three elements, MDN 945-66, Rosten col1, ll44-50; however, there is no indication in Rosten that this material is concentrated and there is conflicting expert testimony on this issue. MDN 1173 at 21-22, 105-07; MDN 1028 at 41-42, 129. In addition, it is not entirely clear that the "lighter cut, i.e. the emulsion of germ oil and water" that is further centrifuged to recover oil, meets the definition of thin stillage concentrate in the '858 patent as defined by the Court. "Concentrated thin stillage" is defined as "syrup containing water, oil and solids resulting from the concentrating or evaporating process." MDN 169 at 10-13. Although Claims 10-14 and 16 of the '858 patent do not require evaporation, as asserted by CleanTech, they do require production of a "thin stillage concentrate" that includes solids. MDN 120-2, '858 Patent, col6, ll37. Rosten equivocates on the content of the emulsion stating that "[t]he lighter of these is mainly an emulsion of corn oil and water." MDN 945-66, Rosten col2, ll24-25. And there is competing expert testimony about the components of Rosten's version of "concentrated thin stillage" that cannot be resolved on summary judgment. MDN 1173 at 21-22, 105-07; MDN 1028 at 41-42, 129.

With respect to the temperature, moisture content and pH elements, there is also a material question of fact as to whether or not Rosten inherently discloses them. Although Defendants characterize the screened distillers slops, or distillers thin slops, as the "concentrated thin stillage" that is subjected to heat, then a centrifuge to recover oil, whether this meets the definition of "concentrated" in this the case is contested. Moreover, as stated above, it is the lighter emulsion in Rosten that is further introduced

to a centrifuge to recover oil. MDN 945-66, Rosten col2, ll39-46. Therefore, it is far from clear that Rosten teaches heating a concentrated thin stillage, meaning a mixture of oil, water and solids created by some kind of concentrating step. Further, unlike in the '858 patent family or in Prevost where it is clear that the dry mill ethanol process is the focus of the inventions, in Rosten, the inventor used broader language to describe the field of his invention and never sets forth the distinct steps to obtain whole stillage, thin stillage or concentrated thin stillage. *Id.* Rosten col1, ll1-36. As a result, there is a material question of fact as to whether Rosten inherently discloses the pH and moisture ranges specified in the relevant claims.

For these reasons, the Court cannot conclude as a matter of law that Rosten anticipates Claims 10-14 and 16 of the '858 patent.

D. OBVIOUSNESS

Invalidity based on obviousness requires that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” *Trebo Mfg.*, 748 F.3d at 1169 (quoting 35 U.S.C. § 103(a) (pre-America Invents Act)). “Obviousness is a legal conclusion based on underlying factual determinations” including “the scope and content of the prior art, the difference between the prior art and the claims, the level of ordinary skill in the art, and any objective indicia of nonobviousness.” *Id.* “Where . . . the content of the prior art, the scope of the patent claim[s], and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim[s] is apparent in light of these factors, summary judgment is appropriate.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398,

427 (2007). However, the Court must avoid “the distortion of hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *Id.* at 421.

Defendants assert that differences between the prior art and the claims of the patents-in-suit are so minute that the ‘858 patented inventions would have been obvious to a POSA. MDN 1093 at 34-57. Specifically, the inventions are nothing more than a combination of old elements that yield a predictable and unremarkable result: separating oil from other constituent materials. MDN 1173 at 108. Defendants contend that neither the scope of the prior art nor the level of skill of a POSA is materially disputed, and, presuming that CleanTech’s version of the scope of the claims is accurate, the claims are obvious. MDN 1093 at 34-51 & n.5; see *also* MDN 1173 at 108-16. Defendants argue further that secondary considerations do not overcome the strong evidence of obviousness. MDN 1093 at 51-57.

CleanTech asserts that Defendants ignore secondary considerations of non-obviousness and utilize references that are either unrelated to the ethanol industry, teach away from the patented inventions or are decades old, all of which create a material question of fact on whether or not the patented inventions were obvious. MDN 1028 at 107-09. CleanTech contends that the patented “invention was a counterintuitive solution to a long-existing problem, one that overcame several significant obstacles to reach previously unheard efficiency in the extraction of corn oil.” *Id.* at 110. Specifically, a POSA would not have tried to centrifuge the higher-viscosity concentrated thin stillage; rather, he or she would have followed Prevost, which taught away from centrifuging concentrated thin stillage. *Id.* at 110-13. In fact, CleanTech asserts that material questions of fact exist as to each of the prior art references and

combinations thereof that preclude summary judgment. *Id.* at 128-34. In addition, a POSA would have had a variety of equipment options, not just a centrifuge, to perform the separation. *Id.* at 113-15. According to CleanTech, compounding the complexity of the problem was that the concentrated thin stillage contained solids, which would have made it difficult, if not impossible, for a POSA to predict the success of any particular piece of separation equipment. *Id.* at 115. Further, CleanTech argues that the secondary considerations of non-obviousness at least create a question of material fact and the Court should ignore any facts raised regarding these factors by Defendants in their reply. *Id.* at 115-27; MDN 1138 at 2-6.

The Court concludes that there is no material question of fact that the '858 patent family would have been obvious to a POSA at the time of the invention. There is no material dispute about the level of skill of a POSA. A POSA is at least a person with a chemical engineering degree or a person with another engineering degree with experience in process engineering and/or separation technology. MDN 1093 at 35-36 & n.5; MDN 1028 at 15 & 31. Persons with a science degree and a work history in oil separation techniques may also qualify as a POSA. *Id.*

With respect to the scope of the prior art, there is no material question of fact regarding the scope of the relevant patents or the other prior art disclosures proffered by Defendants. In fact, CleanTech's major argument focuses on the secondary considerations of non-obviousness, which the Court addresses later. The Court's anticipation discussion regarding the two major pieces of prior art cited by Defendants, Prevost and Rosten, makes clear that there is only minor differences between those references and the prior art. Prevost discloses centrifugation of concentrated thin

stillage to recover oil. The only elements of the '858 patent family missing from Prevost's explicit teachings are specific pH, moisture content and temperature range requirements that are indisputably encompassed by the standard operating conditions of a dry mill ethanol plant and the heating element recited in some of the claims. See Section VI.C, *supra*. The Court has concluded that the heating elements are not described in the '858 patent family and therefore, they are invalid pursuant to 35 U.S.C. § 112(1). See Section VI.E., *infra*. Even if the Court is incorrect in this conclusion, Rosten discloses a heating step on thin slops, which is a mixture of solids, water and oil. MDN 945-66, Rosten col1, l50 to col2, l6. A "mixture of solids, water and oil" is analogous to the Court's construction of the term "concentrate"/"concentrated byproduct"/"concentrated thin stillage" in the '858 patent family and is consistent with the meaning of the term in this industry. MDN 169 at 10-13. Moreover, a POSA would know from his own standard process that heat in the evaporator was essential to keep the product flowing through the system. MDN 1173 at 19. A jury could only conclude from the evidence in the record that if there was a need to recover oil from thin stillage, a POSA would be motivated to try centrifugation of evaporated thin stillage based on these two references alone.

If these two references alone were not enough, Lachle teaches that, regardless of feedstock, i.e. fish, other animal fats, or corn, the byproduct could be processed similarly (using a centrifuge) to recover oil. MDN 1173 at 30; MDN 945-67, Lachle at 4, left col, ll40-53. Further, there is no dispute that by the time of the '858 patent family invention the markets for oil recovered from byproducts in the fish, poultry and meat industries were well-developed because there was a need for the revenue source and a

market for the product. See, *generally* Sections VI.3.d. & d., *supra*. The “systems” sold in these industries to recover oil were identical to the patented invention; CleanTech’s own expert identified the diagrams from the fish and whey processing industries as the same process as the one described in the patents-in-suit. MDN 1173 at 33 (citing MDN 949-4, Eckhoff Dep. at 262-66, MDN 949-108 & MDN 949-109). CleanTech makes much of the argument that the fats or oils in these systems were different in many respects, MDN 1028 at 44-46, 47-49, 110-111, 115; but those are not the material aspects of the patented invention. In fact, other than the references to moisture and pH, the chemical composition of thin stillage or thin stillage concentrate is never discussed in the ‘858 patent family.

CleanTech’s disavowal of animal processing references is surprising considering the inventors themselves connected their success in poultry processing to the patented invention. Indeed, Winsness instructed Dyer to base the Ethanol System Diagram on the system at Case Farms. MDN 1173 at 47-48. Contemporaneous documents surrounding the July 31 Proposal confirm that both Winsness and Cantrell saw a synergy between VDT’s success in the meat and poultry industries and recovery of oil in the dry mill ethanol manufacturing industry. MDN 1173 at 28, 58. Therefore, such prior art is relevant to the obviousness analysis and highlights the similarity of the processes as identified in Lachle.

Furthermore, any efficiency or quality improvements that CleanTech boasts to differentiate the patented invention from prior art systems is belied by its stance about the breadth of its claims with respect to infringement. There are no efficiency or oil quality requirements in the claims save for the “substantially oil free” limitation. If the

Court had adopted CleanTech's proffered view that "substantially oil free" means 51% or more oil is removed, there is no difference between that system and the one proposed in Rosten. Further, Prevost specifically identifies that one of its main goals is to produce "substantially fat free products . . . from both the thin stillage stream and the wet distillers grains." MDN 945-49, Prevost, Abstract. In any event, there is no specific quantification of any alleged improvements in the patented invention over the prior art; therefore, the Court cannot agree that they provide a meaningful basis upon which to distinguish any of the prior art and do not create a question of material fact.

CleanTech's expert has asserted that Prevost teaches away from the patented invention because it expresses a preference for solvent extraction if oil removal is performed on the post-evaporation thin stillage and would be inconsistent with Stokes Law. MDN 1028 at 129-30; MDN 1040-2 at 36-37, Eckhoff Van Gerpen Rebuttal Rep. ¶ 103. A reference teaches away "when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference." *Galerma Labs.*, 737 F.3d at 738 (quoting *DePuy Spine*, 567 F.3d at 1327. "[A] general preference" does not teach away unless it "criticize[s], discredit[s] or otherwise discourage[s] investigation." *Id.* (quoting *DePuy Spine*, 567 F.3d at 1327). Here, the actual claims of Prevost specifically negate such an understanding because Claims 19 and 20 expressly claim centrifugation of evaporated thin stillage. MDN 945-49, Prevost at 6. As discussed above, no matter which expert you believe, Prevost's claim to centrifugation of thin stillage with a moisture content of 15% water by weight was most likely an error because all the experts agree it would be difficult if not impossible to recover oil from thin stillage via centrifuge with only 15% moisture. MDN 945-11 at 5,

Hammond Aff. ¶ 16; MDN 949-125 at 17, Harris Rep. at 16; MDN 949-126 at 38039, Rockstraw Rep. ¶ 81; MDN 949-2 at 46-47, Monceaux Rep. at ¶ 103; MDN 949-124 at 28-29, Reilly Rep. ¶¶ 63-64; MDN 949-4 at 14, 22, 24, Eckhoff Dep. at 120-21, 210, 238-39; MDN 1040-2 at 39, Eckhoff Rebuttal Expert Rep. ¶ 116. Any reasonable substitute, or just striking the requirement in its entirety, reads on the patents-in-suit. The undisputed evidence makes clear that a POSA would have looked to the prior art and would have been motivated to use a centrifuge to recover oil from concentrated thin stillage.

CleanTech also focuses heavily on secondary considerations of non-obviousness. Specifically, commercial success, long felt need, copying, unexpected results, acceptance by others and initial skepticism. MDN 1028 at 115-27. It also argues that Defendants' failure to raise them in their opening brief means summary judgment on obviousness should be denied summarily. *Id.* at 116. The Court disagrees with CleanTech's assessment of Defendants' arguments as well as the purpose of secondary considerations. Defendants never labeled it as such, but they addressed secondary considerations of non-obviousness both in some introductory paragraphs of their opening brief as well as statements of fact and within their obviousness analysis. MDN 1173 at 22 (discussing GEA's test at CVEC and its belief that ethanol producers were not interest in this revenue stream at the time), 107, 109-110 (discussing the failure of the industry to need oil recovery), 113 (discussing old world technology). Even if they had not done so, "once a challenger introduces evidence that might lead to a conclusion of invalidity---what [the Federal Circuit calls] a prima facie case---the patentee 'would be well advised to introduce evidence sufficient to rebut that of the

challenger.” *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1360 (Fed. Cir. 2007) (quoting *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1570 (Fed. Cir. 1986)). When faced with CleanTech’s recitation of its rebuttal evidence supporting the secondary consideration factors, Defendants buttressed their argument with contrary evidence. MDN 1093 at 51-57. Further, the *KSR* Court made clear the purpose of secondary considerations as first enunciated in *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966): “*Graham* set forth a broad inquiry and invited courts, where appropriate, to look at any secondary considerations that would prove instructive.” *KSR Int’l*, 550 U.S. at 415 (citing *Graham*, 383 U.S. at 17). In addition, “evidence of secondary considerations does not always overcome a strong prima facie showing of obviousness.” *Asyst Techs., Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008).

While there may be some questions of fact regarding some secondary considerations of non-obviousness, a reasonable jury could not conclude that they overcome Defendants strong prima facie case of obviousness. For example, the need for oil recovery in the market at the time of the invention is far from clear. But, Cantrell himself recognized that creating a market for the recovered oil would be paramount to successful sales of systems into the dry mill ethanol industry. MDN 1173 at 53-54 (discussing undisputed facts related to Cantrell’s development of a marketing team in “an effort to remove all obstacles” to Agri-Energy’s “acceptance of an offer”). And, CleanTech’s own data in 2007 suggested that supply in the domestic market for the oil recovered already exceeded demand. MDN 1093 at 53-54 (discussing CleanTech’s expert Shurson’s testimony and data). In further example, any industry praise is contested because many of the articles and comments CleanTech relies upon were

made by CleanTech business partners, or fail to mention or relate to the patents specifically. *Compare* MDN 1028 at 81-82 *with* MDN 1093 at 103. The question is whether or not these factual issues overcome strong evidence presented by Defendants that the '858 patent family invention is nothing more than a new combination of old elements. The Court is convinced that the evidence is overwhelmingly in Defendants' favor primarily because the difference between the prior art and the claimed invention is very, very small and, as acknowledged by Winsness, the technology at issue was over fifty years old and a well-known solution to the problem of separation of oil from byproducts of processing foods and grains, even when the byproduct is contaminated with solids. MDN 1173 at 57; MDN 1028 at 22.

For these reasons, the Court **GRANTS** Defendants' motion for summary judgment of invalidity of the '858 patent family because the inventions were obvious in light of Prevost and/or Rosten in combination with Lachle and/or prior art systems pursuant to 35 U.S.C. § 103.

E. INVALIDITY OF "HEATING" CLAIMS PURSUANT TO 35 U.S.C. § 112(1)

Defendants assert that the '858 patent family specification fails to disclose a means for performing the heating step, as that term has been construed by the Court; therefore, Claims 1-7, and 10-16 of the '858 patent; Claims 5 and 6 of the '516 patent; and Claims 19-25 and 29 of the '484 patent fail because they lack a written description as required by 35 U.S.C. § 112(1). MDN 1173 at 119-21; MDN 1093 at 60-61. Defendants also contend that if the heating claims are sufficiently described and enabled in the '858 patent family, then Prevost also sufficiently contains the subject matter because the relevant disclosures regarding the standard operating conditions of

a dry mill ethanol plant are nearly identical. MDN 1173 at 103 & 119-21; MDN 1093 at 33. Prevost does not specifically reference a heating step after evaporation and before centrifugation.

Post-evaporation heating and mechanical processing was one of the primary grounds upon which the inventors distinguished both Prevost and Minowa (or a combination of Prevost and Minowa) during prosecution of the '858 patent. Specifically, the patentees stated: (1) "Applicants have carefully studied Prevost 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."; MDN 120-5 at 105 (emphasis in original); and (2) "For the reasons discussed above, any disclosed heating [in Minowa] is limited to whole stillage. There is no heating of thin stillage and thus no evaporation to form a thin stillage concentrate. This is a critical feature because it is believed that the formation of the thin stillage concentrate by evaporation frees some of the bound oil within the thin stillage." MDN 120-5 at 128.

CleanTech claims that a separate heating step is disclosed in the following language in the specification:

In one embodiment, the byproduct comprises thin stillage, and 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 disk stack centrifuge. Preferably, the recovering step comprises: (1) providing the concentrated byproduct at a temperature between about 150 and 212°F and, most preferably, at a temperature of about 180° F;

MDN 1028 at 137 (citing, *inter alia*, MDN 120-2, '858 Patent, col2, ll23-30). And quotes the rule that "a patent need not teach, and preferably omits, what is well known in the

art.” *Id.* (quoting *Streck, Inc. v. Research & Diagnostic Sys., Inc.*, 665 F.3d 1269, 1288 (Fed. Cir. 2012)). CleanTech also cites Defendants’ expert as stating that methods for heating thin stillage were well known. *Id.* at 138. CleanTech further argues that the prosecution history related to Minowa is irrelevant because it only addresses Minowa’s lack of an evaporation step for thin stillage. *Id.*

The Court concludes that the ‘858 patent family does not disclose a separate method for heating the concentrated thin stillage; therefore, the “heating” claims are invalid pursuant to 35 U.S.C. § 112(1). The language in the specification that CleanTech relies upon does not specifically disclose a method for separately heating the evaporated thin stillage; it merely states that the recovery step could include providing the concentrate at a certain temperature. MDN 120-2, ‘858 Patent, col2, ll23-30. Also, CleanTech acknowledges that Defendants’ expert was talking about well-known methods for heating “thin stillage,” namely a heat exchanger. MDN 1028 at 138 (citing MDN 1040-4 at 151, Reilly Dep. at 150). When taking that fact in CleanTech’s favor, it suggests that the ‘858 patent inherently discloses methods of heating; but such an argument is belied by the prosecution history where the inventors specifically distinguish prior art based on the absence of a disclosed heating process. MDN 120-5 at 105, 128. Like the patents-in-suit, Prevost discloses an evaporator for concentrating thin stillage, which necessarily heats the resulting syrup. In other words, as Defendants have suggested, if the ‘858 patent inherently discloses well-known methods of heating concentrated thin stillage (the product resulting from the prior art evaporation process), then a reasonable jury could only conclude that Prevost also inherently discloses the same methods of “heating” prior to centrifugation because it discloses centrifugation of

post-evaporation thin stillage.

Further, the Court disagrees with CleanTech that the prosecution history references are irrelevant because post-evaporation heating was specifically identified as a point of differentiation between Prevost and/or the combination of Prevost/Minowa and the '858 patent family. The referenced description distinguishing Minowa makes clear that the inventors were relying upon the evaporation process to heat the thin stillage and perform the desired effect of freeing bound oil in the thin stillage. MDN 120-5 at 128. This is not what they claimed; what they claimed was a heating step separate and apart from the concentrating step. MDN 169 at 17-19. Nowhere in the specification do the inventors disclose how such an independent step would be performed other than evaporation. Accordingly, a separate heating step as required by the Court's claim construction is not included in the written description and the heating claims must fail pursuant to 35 U.S.C. § 112(1).

F. ENABLEMENT OF THE LOWER MOISTURE CONTENT RANGE CLAIMS

Claims 1 and 2 of the '517 patent claim the use of a centrifuge or a disk stack centrifuge to recover oil from syrup with a moisture content as low as "greater than 15%." '517 Patent, col6, l34. Defendants argue that the uncontested evidence in the record is that centrifuges will not work on products with moisture contents that low. MDN 1093 at 61-62. Specifically, CleanTech's expert testified that he was more certain that centrifugation of syrup with a moisture content below 30% would not work to recover oil. *Id.* at 62; MDN 1173 at 118 (citing MDN 949-4, Eckhoff Dep. at 238-40). Defendants' experts testified that they could think of some centrifuges that might work, such as a "basket-type" or a "plunger or pusher-type," but that testimony does not prove

that a POSA would have considered those types of centrifuges. MDN 1093 at 62. Similarly, Defendants claim that Claims 8 and 13 of the '858 patent; Claim 1 of the '517 patent; and Claims 16, 18 and 28 of the '484 patent are not enabled because CleanTech's expert clearly stated that a centrifuge cannot be used to recover oil from syrup with a moisture content of 30% or below; rather, the limit was 40%. *Id.* at 63. And, there is no testimony to support enablement of the lower content ranges using a disk stack centrifuge, which invalidates Claims 2 and 9 of the '858 patent; Claim 2 of the '517 patent; Claims 7-11 of the '516 patent; and Claims 2, 8-15, 17, 20 and 27 of the '484 patent. *Id.* Further, Defendants argue that the claims using the term "mechanical processing" to recover oil are not enabled because there is no disclosure in the '858 patent family for any kind of system, other than a centrifuge, to recover oil. *Id.* at 62-63.

CleanTech argues that its expert did not have a formal opinion on the moisture content needed to recover oil with a centrifuge and it should be disregarded. MDN 1028 at 135-36. Further, Winsness testified that it would be more challenging and less cost effective to centrifuge low moisture thin stillage, but "a patent need not enable a commercially acceptable embodiment unless the claims require it, and the claims here do not." *Id.* at 136. In addition, CleanTech asserts that Defendants' experts opined on several centrifuges and/or other processes for recovering oil from low moisture content materials; therefore, all the relevant claims, whether directed to centrifuges or the broader term "mechanical processing," are enabled.

A patent is enabled if "a person skilled in the pertinent art, using the knowledge available to such a person and the disclosure in the patent document, could make and use the invention without undue experimentation." *N. Telecom, Inc. v. Datapoint Corp.*,

908 F.2d 931, 941 (Fed. Cir. 1990) (citing 35 U.S.C. § 112). There is no material question of fact on enablement at the lower moisture content ranges for the broader claims in the '858 patent family. Prior art reference Prevost discussed centrifugation as a method for recovery of oil from low moisture byproducts, see Dkt. No. 945-49, Prevost at 3, ¶ 0023; but the experts agreed that centrifugation of lower moisture products was not feasible. See MDN 945-11 at 5, Hammond Aff. ¶ 6; MDN 949-125 at 17, Harris Rep. at 16; MDN 949-126 at 38-39, Rockstraw Rep. ¶ 81; MDN 949-2 at 46-47, Monceaux Rep. ¶ 103; MDN 949-124 at 28029, Reilly Rep. ¶ 63-64; MDN 949-4 at 14, 22, 24, Eckhoff Dep. at 120-21, 210, 238-39; MDN 1040-2 at 39, Eckhoff Rebuttal Rep. ¶ 116. Further, the expert testimony about the use of processes to recover oil from low moisture products using either a centrifuge or other mechanical devices is unsupported by the disclosure of the '858 patent family.

Moreover, there is no evidence in the record to refute Defendant's challenge to the use of a disk stack centrifuge to recover oil from the low-moisture ranges as required by Claims 2 and 9 of the '858 patent; Claim 2 of the '517 patent; Claims 7-11 of the '516 patent; and Claims 2, 8-15, 17, 20 and 27 of the '484 patent. There is simply no testimony from any expert that such a centrifuge will recover oil from syrup with a moisture content below 40% and there is no specific disclosure to enable one of ordinary skill in the art to practice the invention below that threshold. Therefore, these specific claims are not enabled for that reason as well. Summary judgment in favor of Defendants is **GRANTED** on this theory as to Claims 2, 8, 9, and 13 of the '858 patent; Claims 7-11 of the '516 patent; Claims 1 and 2 of the '517 patent; and Claims 2, 8-18, 20 and 28 of the '484 patent.

G. PROPER INVENTORSHIP

Defendants contend that Barlage should have been named as a co-inventor of the '858 patent family because he significantly contributed to the conception of some or all of the claims of the patents. MDN 1173 at 124-26; MDN 1093 at 64. Specifically, Defendants recite the following undisputed facts:

On June 5, 2003, Cantrell and Winsness arranged for Agri-Energy to ship samples of its thin stillage and concentrated thin stillage to Barlage for testing and analysis, because Barlage was more knowledgeable about existing separation technologies.

Cantrell and Winsness needed to know whether corn oil should be removed from the thin stillage or concentrated thin stillage of an ethanol plant.

After receiving the samples from Agri-Energy in mid-June, Barlage heated each sample to a temperature of 80°C (176°F) and ran them through a lab centrifuge.

Following his testing, Barlage provided Cantrell and Winsness with a test report later in June in which he stated that “[s]omething in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily.

Barlage recommended using “a nozzle type centrifuge or decanter . . . to remove the heavy suspended solids” from concentrated thin stillage and running the resulting liquid “to a secondary centrifuge where the oil is purified” as a method of “commercialization.”

MDN 1093 at 64 (citing Defs.’ SOMF ¶¶ 87(c), 87(d), 89, 90, 94; MDN 1028 at 142; Case No. 1:13-mc-0058-LJM-DML). See also MDN 1173 at 125-26 (discussing specific portions of the specification and prosecution history that trace back to Barlage’s test results). Defendants argue that these actions were not merely “assisting the actual inventor after conception of the claimed invention.” MDN 1093 at 65 (quoting *Ethicon, Inc. v. U.S. Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998) (citing *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624 (Fed. Cir. 1985))). Rather,

the conception came after Barlage's test, which CleanTech has conceded by admitting that neither Cantrell nor Winsness knew from which stream to separate the oil prior to Barlage's lab test. *Id.* at 65 (citing, *inter alia*, MDN 1028 at 97). Moreover, Defendants assert that Barlage discovered the very basis by which the inventors distinguished prior art as a basis for patentability. *Id.* at 66-67; MDN 1173 at 126-27. Namely that the "claimed processes frees a portion of the bound oil as a result of evaporating the thin stillage to remove water and form a concentrated byproduct. Removing a portion of the bound water breaks the emulsion allowing mechanical processing to further separate and recover the oil. The cited references fail to teach or suggest evaporation followed by mechanical processing as claimed." MDN 1173 at 126; MDN 1093 at 66. *See also* MDN 120-5 at 130, '858 Patent Prosecution History. In other words, whether Barlage objects to being named a co-inventor, was familiar with the ethanol industry or not prior to the lab tests, or received instructions of any kind from Cantrell and/or Winsness is irrelevant because Barlage's contribution formed the basis for allowance of the claims. MDN 1093 at 67 (citing *Ethicon*, 135 F.3d at 1460, 1463-64; *Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997)); MDN 1173 at 127. Defendants aver that it is also irrelevant whether or not the claims adopted a two-centrifuge approach as Barlage recommended because the claims do not foreclose the possibility of using two centrifuges and is therefore within the broader scope of the invention. MDN 1093 at 68-69.

CleanTech argues that there was no mistake as to inventorship of the '858 patent family because Barlage has stated he was not an inventor, knew nothing about the ethanol process at the time, and had no input into the initial attempts to separate oil

from thin stillage. MDN 1028 at 141-42. CleanTech asserts that these facts at least create a genuine issue of material fact on inventorship because a jury could conclude that Barlage's suggestion of a different, two-phase process to recover oil was not a contribution to the conception of the invention. *Id.* at 142.

The undisputed material facts compel the conclusion that Barlage was a co-inventor of the '858 patent family. It is undisputed that neither Cantrell nor Winsness knew the best location for recovering oil from the thin stillage prior to Barlage's spin tests on May 31, 2001. MDN 1173 at 41-42; Cause No. 1:13-mc-0058-LJM-DML, Dkt. No. 16 at 9; MDN 1028 at 20; MDN 1093 at 64. It is also undisputed that Barlage wrote the following after the spin test regarding recovery of oil from concentrated thin stillage that he had heated:

Something in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily. The possible methods for doing this separation would require two steps. First, a nozzle type centrifuge or decanter would be used to remove the heavy suspended solids. The liquid from here could be run to a secondary centrifuge where the oil is purified. The liquid from this centrifuge could be blended back with the solids or possibly evaporated further in the current evaporator. The solids from the first centrifuge would go to the drier as they do today. Further in plant testing will be required to fully determine the best method of commercialization for this process.

MDN 1173 at 43-44; MDN 949-66; MDN 1042-20. CleanTech has admitted that a key discovery for the patented inventions was where to put the oil recovery system, MDN 1028 at 97, which was clearly answered here by Barlage in this passage. Further, the patentees identified this feature as a reason that the invention was patentable over prior art. Specifically, the patentees argued: "[The] claimed processes frees a portion of the bound oil as a result of evaporating the thin stillage to remove water and form a concentrated by product. Removing a portion of the bound water breaks the emulsion

allowing mechanical processing to further separate and recover the oil.” MDN 1173 at 67 (citing MDN 120-5 at 130, ‘858 Patent Prosecution History at 129).

Moreover, the Court agrees with Defendants that the claims of the patents-in-suit do not foreclose the method described by Barlage as being an optimal one for commercialization of a process. In fact, the Court has rejected Defendants’ argument that the “mechanical processing” term must exclude multiple mechanical processing techniques, which is exactly what Barlage suggests – multiple mechanical processing techniques – although both of his techniques involve a centrifuge. See Sections IV.B. & V.B.1., *supra*. Under the Court’s construct as advocated by CleanTech itself, even the claims referencing a centrifuge do not foreclose the possibility that other mechanical processing techniques be used to facilitate the recovery of oil. In fact, some of the claims do not require an evaporator to perform the concentrating step, which suggests other options for performing that step, including a centrifuge.

Finally, contemporaneous marketing documents clearly evidence that Cantrell, Winsness and Barlage agreed that Barlage was a co-inventor: at least three VDT documents regarding the oil recovery team identify Barlage as a co-inventor. MDN 949-110 at 2; MDN 949-111 at 2; MDN 945-20 at 3. In light of all the contemporaneous evidence, Barlage’s objection to being named as a co-inventor, his prior experience in the ethanol industry (which in point of fact is no different than that of Cantrell or Winsness), and any instructions he may or may not recall having received from Cantrell and/or Winsness before performing the spin test are irrelevant.

The patents in the '858 patent family are invalid for failure to name the correct inventors pursuant to 35 U.S.C. § 102(f) and summary judgment in favor of Defendants is appropriate on that ground.

H. INDEFINITENESS OF THE “OIL” TERM

Defendants argued in their original brief on invalidity that all claims are invalid because the term “substantially oil” is indefinite. MDN 1173 at 121-23. While the motions were pending, the Supreme Court issued an opinion in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. ___, 134 S.Ct. 2120 (June 2, 2014), in which it clarified the standard for evaluating claims under 35 U.S.C. § 112, ¶ 2. The Court requested supplemental briefing on the issue and has considered all of the relevant arguments from both sets of briefs.

Section 112, ¶ 2 requires that a patentee “conclude the specification with ‘one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.’” *Nautilus*, 134 S.Ct. at 2124 (quoting 35 U.S.C. § 112, ¶ 2). This requirement has given rise to questions regarding how precise a patentee must be in drafting his claims given that he must take into account “the inherent limitations of language” but ensure that the language is “precise enough to afford clear notice of what is claimed.” See *id.* at 2128-29 (discussing the competing interests in drafting claims). The Supreme Court concluded that the proper balance is struck by adhering to the following standard when evaluating arguments under § 112, ¶ 2: “a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.” 134 S.Ct. at 2124.

Defendants argue that the '858 patent family intrinsic evidence provides no numerical value for the oil-purity percentage of the oil stream. MDN 1215 at 3. Recognizing that there are inherent limits to the language, Defendants assert that there should have been no issue regarding the oil purity level claimed in the '858 patent family because the percentage of oil is definable and the inventors knew how to claim percentages with respect to other elements such as moisture percentage and as to all relevant materials in Figure 2. *Id.* The Court rejected Defendants suggestion to read the limitation from Figure 2 into the claims, but, according to Defendants, the Court's definition leaves one of ordinary skill in the art to guess at the boundaries of the "oil" term. *Id.* According to Defendants, this "is the epitome of *uncertainty*, and a far cry from the 'reasonable certainty' that § 112, ¶ 2 demands." *Id.* Further, Defendants point to the expert testimony in this case to substantiate their view that the term "'largely or mostly oil' is "not very precise"" and absent further guidance from the Court, the experts cannot agree on an amount of oil recovery that would satisfy the claims. *Id.* at 4. Moreover, Defendants claim that CleanTech's reasoning regarding the teachings in the specification is flawed because it has focused on the wrong parameter, namely the amount of oil in the pre-drying recombined product consisting of wet distillers grains and reduced oil syrup. MDN 1238 at 2-3.

CleanTech asserts that the Court's claim construction analysis effectively performed a "reasonable certainty" analysis when it determined that the plain meaning of substantially applies, particularly with respect to the "substantially oil free" term. MDN 1226 at 3. Further, a POSA would read the specification's disclosure to mean that "substantially oil" means a stream that contains a majority of oil. *Id.* at 3-4. Specifically,

CleanTech points to the portions that teach: “Recombining the syrup (which is **substantially free of oil**) from the centrifuge **14** with the distillers wet grains’ can result[] in further efficiencies upon drying. ‘Moreover, **removal of the majority of the oil** before the drying step makes the process more efficient.’” *Id.* at 3-4 (quoting MDN 120-5, ‘858 Patent, col4, ll54-55, 63-65 (emphasis added by CleanTech)). Further, even Defendants’ expert understood the Court’s claim construction to mean that the scope of the term “substantially” was greater than 50%. *Id.* at 4.

The Court concludes that under its claim construction for the pertinent terms “oil” and “substantially oil free” as further discussed and clarified in Section IV.A. of this Order, summary judgment is appropriate on Defendants’ claim that the terms that recite recovery of “oil,” without the “substantially oil free” limitation, are invalid for indefiniteness. CleanTech’s argument to the contrary fails because it is based upon the notion that the term “substantially oil free” means that more than 50% of the oil is removed, which the Court has rejected. The Court further rejects CleanTech’s argument because the “oil” term is in all the claims, but the “substantially oil free” term is not. CleanTech won on this issue during claim construction as to the ‘516 and the ‘484 patent and clarification of the scope of the remaining claims of the ‘858 patent family, and the Court will not adopt CleanTech’s sophistic argument to the contrary now. MDN 784 at 9-14; MDN 179, at 34-36; MDN 510 at 29.

The Court has concluded that, based on the intrinsic evidence, there is no principled way to limit the scope of the term “oil” other than “substantially” or “largely or mostly” and there is evidence in the specification itself that indicates the patentees intended for the term to be ambiguous. See Section IV.A.1., *supra*. It is precisely in this

type of case that the balance struck in § 112, ¶ 2 and by the Supreme Court in *Nautilus* should apply: too much uncertainty must doom the claims because they do not reasonably “inform those skilled in the art about the scope of the invention.” *Nautilus*, 134 S.Ct. at 2124. The contrast between CleanTech’s arguments on infringement and invalidity only highlight the problem with the term “oil” in the claims: as to infringement, it argues that “anything over 50% infringes;” but as to invalidity, the invention is different from what Barlage did in either the lab or at Agri-Energy because it was not proven to “work for its intended purpose,” MDN 1028 at 94-96; and further disavow prior art because those systems were not successful in either efficiency or economy, MDN 1028 at 17, 29, 52, 71-72. Even more telling, is that CleanTech admits in its brief on invalidity that the claims do not require a commercial embodiment. MDN 1028 at 136. CleanTech is right: the claims contain no efficiency or quality requirements at all much less ones related to commercial standards. It is precisely for that reason that the claims with an “oil” limitation fail “to inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus*, 134 S.Ct. at 2124.

For these reasons, the Court concludes that the term “oil” is indefinite and renders invalid Claims 1 through 16 of the ‘858 patent; Claims 1 through 6 of the ‘516 patent; Claims 1 and 2 of the ‘517 patent; and Claims 1 through 7 and fifteen through 30 of the ‘484 patent.

VII. WILLFUL INFRINGEMENT – ‘858 PATENT FAMILY

Defendants contend that under the objective prong of the *In re Seagate Tech., LLC*, 497 F.3d 1360 (Fed. Cir. 2007), test, summary judgment on CleanTech’s claim of willful infringement is proper. MDN 1173 at 127-132; MDN 1093 at 69-71. Specifically,

Defendants argue that they have both legitimate defenses to infringement and credible invalidity arguments that demonstrate “the lack of an objectively high likelihood that a party took actions constituting infringement of a valid patent,” which defeats a charge of willfulness as a matter of law. MDN 1173 at 129 (quoting *Black & Decker, Inc. v. Robert Bosch Tool Corp.*, 260 Fed. Appx. 284, 291 (Fed. Cir. 2008); citing, *inter alia*, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 567 F.3d 1314, 1336-37 (Fed. Cir. 2009)). This “objective determination of recklessness,” Defendants assert, is particularly suited for summary judgment. *Id.* at 130 (citing *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003, 1007 (Fed. Cir. 2012)). Defendants cite the following seven objectively reasonable bases for their invalidity challenges: (1) CleanTech’s failure to pursue a preliminary injunction; (2) VDT’s attempt to sell an Ethanol Oil Recovery System to Agri-Energy prior to the critical date; (3) anticipation by Prevost and Rosten; (4) obviousness based on the prior art; (5) certain claims are not fully enabled and/or certain claims or elements are not adequately described and/or certain claim elements are indefinite; and a failure to name the right inventors; (6) non-infringement based on objectively reasonable claim construction arguments; and (7) unenforceability based on an objectively reasonable argument that the applicants intentionally misled the USPTO about the July 2003 Proposal. *Id.* at 130-31; MDN 1093 at 70-71.

CleanTech claims that numerous facts would support a jury finding that Defendants’ conduct has been objectively reckless. MDN 1028 at 145-46. Namely, there is no categorical rule that the failure to file a preliminary injunction precludes a finding of willful infringement. *Id.* at 145 (citing *Krippelz v. Ford Motor Co.*, 675 F. Supp. 2d 881, 897 (N.D. Ill. 2009)). Further, Defendants were on notice of the pending patent

applications covering the method in February 2005; letters were sent in July and October 2009 that included published claims that explicitly put Defendants on notice that their conduct infringed; the '858 patent issued on October 13, 2009; this lawsuit and the claim charts provided to Defendants put them on notice of infringement; and Defendants have admitted infringement under the Court's claim construction. *Id.* at 145-46. Moreover, each of Defendants' invalidity arguments is contested and each has been rejected by the USPTO. *Id.* at 146. Cantrell's misstatement was also before the USPTO during prosecution of the '484 patent, which means the USPTO rejected Defendants' premise of unenforceability. *Id.*

According to the *Seagate* court, "to establish willful infringement, a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." 497 F.3d at 1371 (citing *Safeco Ins. Co. of Am. v. Burr*, 551 U.S. 47, 127 S.Ct. 2201, 2215 (2007)). The Federal Circuit expressly stated, "The state of mind of the accused infringer is not relevant to this objective inquiry. If this threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk . . . was either known or so obvious that it should have been known to the accused infringer." *Id.*

CleanTech has not sufficiently proffered a question of fact on the objective standard set forth above. Further, contrary to CleanTech's understanding, the decision on the objective prong is for the Court. *Bard Peripheral Vascular*, 682 F.3d at 1007. While CleanTech's proffered facts endorse the second inquiry – knowledge of the objectively-defined risk – they offer little evidence that Defendants' "acted despite an objectively high likelihood that [their] actions constituted infringement of a valid patent."

With respect to the latter inquiry there is no material question of fact that several of Defendants arguments on claim construction, infringement and invalidity were more than reasonable. The Court has found in Defendants favor on several of their arguments related to these issues. Further, contrary to CleanTech's viewpoint, its failure to pursue a preliminary injunction during the early stages of this litigation is relevant to the reasonableness of Defendants' steadfast belief that they either did not infringe, or the patents are invalid for multiple reasons. Such an action delayed an early determination of those key issues in the case, which has allowed this case to linger far longer than the Court intended for it to do so. The delay has also seemed to encourage CleanTech to engage in a bit of sophistry with respect to the breadth of key claim terms, which also weighs in favor of a conclusion that Defendants have not acted recklessly in their continued pursuit of a definitive ruling on claim interpretation, infringement and invalidity.

For these reasons, the Court concludes that Defendants are entitled to summary judgment on CleanTech's allegations of willful infringement because they had objectively reasonable arguments regarding claim construction, non-infringement and invalidity.

VIII. PROVISIONAL REMEDIES – '858 PATENT FAMILY

Under § 154(d), a patent holder may be entitled to a reasonable royalty during the period beginning on the date of publication of the application for a patent and ending on the date the patent issued if the alleged infringer used the method of the invention as claimed in the published application and the alleged infringer had actual notice of the published application. 35 U.S.C. § 154(d)(1). Letters indicating publication of an

application have been deemed sufficient to provide “actual notice.” See *Classen Immunotherapies, Inc. v. King Pharms., Inc.*, 403 F. Supp. 2d 451, 457-58 (D. Md. 2005) (discussing, *inter alia*, *Stephens v. Tech Int’l, Inc.*, 393 F.3d 1269, 1275 (Fed. Cir. 2004)). The patent must issue with substantially identical claims to the claims in the published patent application. *Id.* § 154(d)(2). *Stephens*, 393 F.3d at 1275.

Defendants assert that CleanTech is not entitled to provisional remedies provided for by 35 U.S.C. § 154(d) with respect to the ‘858 patent. MDN 1173 at 133. Specifically, Defendants allege that CleanTech cannot prove that the issued claims of the ‘858 patent are substantially identical to the claims in the published applications. *Id.* at 134-35. Defendants cite to changes in at least Claim 1, but obliquely reference changes in the other independent claims of the ‘858 patent to justify this claim. *Id.* at 134 (citing MDN 1173 at 65-68, Defendants’ SOMF §§ 140-50). Defendants also asserted that CleanTech had not pled the right to provisional damages with respect to the ‘516, ‘517 and ‘484 patents; therefore, such was not an issue as to those patents. *Id.* at 133 n.31. However, in reply⁶⁹ Defendants argued that they never had actual notice of the published applications for the ‘517 and ‘484 patents because CleanTech provided no evidence of such notice; and that the claims at issue in the ‘516 patent were not substantially identical to the claims in the published application for that patent. MDN 1093 at 72-73 (citing, *inter alia*, MDN 1173 at 65-71, Defendants’ SOMF ¶¶ 140-65).

⁶⁹ The Reply was filed after CleanTech pointed out that as a remedy, provisional damages need not be specifically pled. MDN 1028 at 143 (citing *Back Doctors Ltd. v. Metro. Prop. & Cas. Ins. Co.*, 637 F.3d 827, 831 (7th Cir. 2011), *Medisim Ltd. v. BestMed LLC*, 910 F. Supp. 2d 591, 620 (S.D.N.Y. 2012)). Defendants abandoned this argument in Reply.

In addition to stating that it did not need to specifically plead a right to provisional damages, CleanTech asserts that its prayer for relief did make such a request. MDN 1028 at 142-43 (citing MDN 673-83). Further, CleanTech claims that Defendants did not show that there is a substantial difference between the claims of the published application and the issued claims; at the very least, there is a question of fact on this issue. *Id.* at 144.

The Court concludes that Defendants have failed to evidence that CleanTech cannot prevail on the elements of provisional damages. First, Defendants made no argument in their opening brief regarding the substantially similar prong with respect to any patent other than the '858 patent. *Compare* MDN 1173 at 65-68, *with* MDN 1093 at 72-73. The Court is not inclined to grant summary judgment based on the cursory reference and non-existent comparison of the relevant claims in Defendants' Reply brief as to the '516, '517 and '484 patents. Second, even with respect to the '858 patent, the Court cannot conclude on the record before it exactly which claims of the '858 patent are not substantially similar. As the Court has stated before, it has endeavored to fairly assess the voluminous pleadings, complicated citations and evidence in this case by "hunting for truffles" hidden amongst the briefs even though such a pursuit is not required. The search Defendants request here, however, would require the Court to make arguments on substantial similarity for them; this is not a quest the Court is willing to embark upon.

For these reasons, the Court **DENIES** Defendants' motion for summary judgment as to provisional remedies.

IX. INVALIDITY ARGUMENTS REGARDING THE '037 PATENT

A. PRIOR INVENTORSHIP

The '037 Defendants argue that the '037 patent, upon which Winsness is listed as the sole inventor, is invalid pursuant to 35 U.S.C. § 102(e) for multiple reasons including that all of the claims include the step of recovering oil from concentrated thin stillage, which CleanTech has admitted is a joint concept. MDN 1072 at 24-26. More specifically, the '037 Defendants recite that the '858 patent was based on U.S. Provisional Patent Application No. 60/602,050 ("Prov. App. '050"), filed on August 17, 2004; the '037 patent issued based on a provisional application filed on May 5, 2005; therefore, if the '037 patent is "by another," then the '858 patent is prior art and invalidates the asserted claims of the '037 patent. The '037 Defendants claim that CleanTech "has admitted that 'David Winsness and David Cantrell worked jointly on the subject matter of the claimed invention of the '858, '516, and '517 patents,' and that they 'both contributed to the conception of the claimed invention.'" *Id.* at 26. The '037 Defendants further assert that "David Cantrell has acknowledged by his own testimony and the testimony of David Winsness as having contributed to the idea of concentrating thin stillage (the liquid fraction of whole stillage) before performing a mechanical oil removal step." *Id.* The '037 Defendants previously claimed that the '858 patent discloses every step of the '037 patent, including the further evaporating step, which invalidates the '037 patent in total.

CleanTech contends that the '858 patent and the '037 patent are distinguishable because the '858 patent discloses repeated iterations within the oil recovery step while the '037 patent contemplates further reducing the moisture content of the de-oiled syrup

post oil recovery, then combining it with wet distillers grains. MDN 1160 at 13-14. More specifically:

'858 Patent	'037 Patent
The '858 patent discloses that the de-oiled syrup stream can be directed back through the oil recovery process by re-evaporating and re-centrifuging the de-oiled syrup to recover more oil. ('858 patent, col. 5, ll. 46-48) After the desired amount of oil is recovered, the de-oiled syrup stream is mixed with another byproduct, distillers wet grains.	The '037 patent represents an improvement in the process downstream of the oil recovery. Specifically, the post oil-recovery de-oiled syrup that exits the centrifuge is further evaporated to reduce the moisture content before it is combined with distillers wet grains. This way there is less water to remove in the drying step . . . ('037 patent, col. 7, ll 29-32.

MDN 1160 at 14 (footnote 3 omitted). CleanTech states that Winsness is the sole inventor of the improvement in DDGS processing as described in the '037 patent. *Id.* at 14-17. CleanTech also argues that the '037 patent is an improvement patent in that it incorporates several steps of the '858 patent, but the “improvement claimed in the '037 patent was solely invented by Winsness and was not claimed in the '858 patent.” *Id.* at 18. Therefore, because the improvement in the later-filed patent is Winsness' own work, the '858 patent cannot be prior art. *Id.* at 18-20 (citing, *inter alia*, *Riverwood Int'l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1354, 1357 (Fed. Cri. 2003); MPEP § 2136.04).

The parties agree that there is no genuine issue of material fact and that summary judgment is appropriate; the only question is how the law applies to the undisputed facts. Pursuant to 35 U.S.C. § 102(e), “A person shall be entitled to a patent unless . . . the invention was described in . . . a patent granted on an application for a patent by another filed in the United States before the invention by the applicant for the patent.” The question of whether or not the '858 patent is prior art under this section turns on “whether the portions of the reference relied on as prior art, and the subject

matter of the claims in question, represent the work of a common inventive entity.” *Riverwood Int’l Corp. v. R.A. Jones & Co.*, 324 F.3d 1346, 1356 (Fed. Cir. 2003) (citing *In re DeBraun*, 687 F.2s 459, 462 (CCPA 1982)). Here, CleanTech admits that the ‘858 patent issued to “another” inventive entity. MDN 1160 at 17. It argues, however, that the subject matter of the claims of the ‘037 patent that distinguish it from the disclosure in the ‘858 patent were either not the same, *id.* at 14 (claiming that the ‘858 patent contemplated re-iterative oil recovery steps whereas the ‘037 patent contemplates a new step in the formation of DDGS); or not relied upon to support a rejection based on obviousness because the improvement in the ‘037 patent was invented by Winsness alone. *Id.* at 17-20. The Court agrees with CleanTech that, while the requirements of the ‘037 patent claims regarding oil recovery systems meet the definition of § 102(e) prior art, the specific disclosure of the ‘858 patent references the reintroduction of the reduced oil syrup to an evaporator to recover more oil, not to reduce the moisture content before drying. Dkt. No. 120-2, ‘858 patent, col5, ll46-48. Further, evidence that the USPTO rejected similar claims under § 102(e), but withdrew the objection based on Winsness’ affidavit of sole inventorship of the evaporative steps that are novel and unique to the ‘037 patent, convinces the Court that the ‘858 patent does not render the ‘037 patent obvious pursuant to § 102(e). In other words, the ‘858 patent does not fully disclose what is claimed in the ‘037 patent.

For these reasons, the Court **GRANTS** summary judgment in favor of CleanTech and **DENIES** summary judgment in favor of Defendants on the issue that the ‘858 patent alone renders the ‘037 patent invalid pursuant to 35 U.S.C. § 102(e).

B. OBVIOUSNESS

The '037 Defendants assert that CleanTech does not dispute that the '858 patent is § 102(e) prior art as to the oil recovery processes in the '037 patent. MDN 1179 at 6. If it is not already disclosed in the '858 patent specification, the alleged improvement, Defendants contend, is merely an obvious extension of the existing ethanol recovery process for creating DDGS and one of ordinary skill in the art would have been motivated to further reduce the moisture content of the post-oil recovery thin stillage before mixing it with distillers wet grains and drying the mixture. MDN 1072 at 30-31; MDN 1179 at 6-10. The evaporation process was well-known in the art and already being used in the ethanol plants to ensure that the syrup being mixed with the distillers wet grains had a moisture content of between 50% and 70%. MDN 1072 at 31-32; MDN 1179 at 6-10. Further, U.S. Patent No. 5,958,233 to Ralph H. Willgohs ("Willgohs patent") taught reducing the moisture content of thin stillage before mixing it with wet distillers grains prior to drying to save money. MDN 1179 at 8. See also MDN 1072 at 31. Similarly, the Alcohol Textbook, 4th Ed. (2003), which was not cited to the examiner as prior art, taught a POSA that an evaporator system uses four to five times less energy to remove water from thin stillage than a dryer. *Id.* at 7-8. See also MDN 1072 at 31-32 & n.8. These disclosures, the '037 Defendants assert, would have led a POSA to use an evaporator to reduce the moisture content of any reduced-oil syrup that was outside the typical moisture range prior to mixing with distillers grains and drying the mixture.

CleanTech argues that the claims are not obvious because the USPTO examiner had relevant prior art before her regarding the efficiency of evaporation over drying,

including Great Britain Patent 1,200,672 (“GB ‘672 patent”), and still allowed the claims; therefore, the ‘037 Defendants’ newly-cited prior art adds nothing to the analysis. MDN 1160 at 24-25. CleanTech also contends that Defendants’ argument fails as a matter of law because they did not address any secondary considerations of non-obviousness. *Id.* at 25. In any event, according to CleanTech there are factual issues about the prior art that must be addressed by a jury. *Id.* at 26.

Invalidity based on obviousness requires that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” *Trebo Mfg.*, 748 F.3d at 1169 (quoting 35 U.S.C. § 103(a) (pre-America Invents Act)). “Obviousness is a legal conclusion based on underlying factual determinations” including “the scope and content of the prior art, the difference between the prior art and the claims, the level of ordinary skill in the art, and any objective indicia of nonobviousness.” *Id.* “Where . . . the content of the prior art, the scope of the patent claim[s], and the level of ordinary skill in the art are not in material dispute, and the obviousness of the claim[s] is apparent in light of these factors, summary judgment is appropriate.” *KSR Int’l*, 550 U.S. at 427. However, the Court must avoid “the distortion of hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *Id.* at 421.

The Court concludes that post-oil recovery evaporation of thin stillage would have been obvious to a POSA. There is no dispute that a POSA would be familiar with the prior art ethanol plant processes, including evaporation of the thin stillage to reduce the moisture content before mixing it with wet distillers grains to form DDGS. There is

also no real dispute that the '858 patent is prior art with respect to the oil recovery processes disclosed therein, nor could there be since the oil recovery portions of the claims of the '037 patent mirror those of the '858 patent family. In fact, the '858 patent teaches that the oil recovery method is performed on concentrated thin stillage, which is formed using the evaporators already in existence at an ethanol plant. Dkt. No. 120-2, '858 Patent, col5, ll28-30. It discloses further that dryer efficiencies can be gained from removal of the oil from the syrup prior to mixing with wet distillers grains. *Id.* col4, ll54-56; *id.* col5, ll15-25. In other words, efficiencies in making DDGS would be important in an ethanol plant that is selling its valuable byproducts. Moreover, CleanTech makes no real argument to refute that the prior art cited by the '037 Defendants discloses that an evaporator system is four or five times more efficient for removing water than a dryer. MDN 1160 at 24-26; MDN 1072 at 31-32. Because the '858 patent both suggests (and claims) drying the post-oil recovery syrup before adding it back to the DDGS and references the possibility of re-introducing the post-oil recovery syrup to the evaporation system, a POSA would have been motivated to lower the moisture content of the de-oiled syrup using evaporation based on either her own knowledge of the prior art system, or the Alcohol Textbook, or the Willgohs patent.

With respect to secondary considerations of non-obviousness, CleanTech proffers no evidence that such considerations would overcome the strong showing of obviousness proffered by the '037 Defendants. The Court sees no reason why this Court should make CleanTech's arguments for it when the evidence weighs so heavily in favor of a conclusion of obviousness. *See KSR Int'l*, 550 U.S. at 415 (citing *Graham*

for the proposition that courts should look at any instructive secondary considerations as appropriate (citing *Graham*, 383 U.S. at 17)).

For these reasons, the Court **GRANTS** summary judgment in favor of the '037 Defendants on invalidity of the '037 patent because it is obvious in light of the '858 patent, the prior art process, including the '858 patent, and either the Alcohol Textbook or the Willgohs' patent.

C. ENABLEMENT OF THE CONCENTRATION RANGES STATED IN THE CLAIMS

The '037 Defendants argue that the breadth of the “concentrated thin stillage” term, as it has been construed, encompasses embodiments of water, oil and solids mixtures at concentrations not disclosed in the '037 patent and for which no operability is possible; therefore, the '037 patent is invalid pursuant to 35 U.S.C. § 112 for lack of enablement. MDN 1072 at 28-30. Several claims of the '037 patent reference only “thin stillage concentrate” that is subjected to an oil removal process, which would encompass any moisture content range, including moisture contents as low as 1% and those above 90%. *Id.* at 30. There is no disclosure of how to process concentrated thin stillage with a moisture content below 60%. *Id.* at 29-30 (citing '037 Patent, col6, ll8-26; col6, ll50-52). Further, according to the '037 Defendants, the '037 patent specifically disclaims oil recovery from thin stillage having a moisture content above 90%. *Id.* at 30 (citing '037 Patent, col2, ll1-6). The '037 Defendants conclude that without disclosure of a method removing oil from concentrated thin stillage with moisture content below 60% or above 90%, the claims reciting “thin stillage concentrate” alone are invalid. *Id.*

CleanTech asserts that Defendants have failed to support their argument with expert testimony or an expert report; therefore, they cannot meet the standard of proof

under the law. MDN 1160 at 21-22 (citing, *inter alia*, *Regents of Univ. of Minn. v. AGA Med. Corp.*, 835 F. Supp. 2d 711, 729-30 (D. Minn. 2011), *aff'd*, 717 F.3d 929 (Fed. Cir. 2013)). For this reason, CleanTech seeks summary judgment on this issue as well. *Id.* at 22.

A patent is enabled if “a person skilled in the pertinent art, using the knowledge available to such a person and the disclosure in the patent document, could make and use the invention without undue experimentation.” *N. Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 941 (Fed. Cir. 1990) (citing 35 U.S.C. § 112). Defendants point to the ‘037 patent specification for substantial proof that oil recovery from the broadly construed “thin stillage concentrate” term is not enabled. Specifically, they cite column 2, lines 1 through 6, for the proposition that the ‘037 patent disclaims recovery of oil from thin stillage with a moisture content above 90%. MDN 1072 at 30 (citing ‘037 Patent, col2, ll1-6). The patent specification further references the ideal moisture content range of 60% to 85% for processing thin stillage concentrate to recover oil. *Id.* col5, ll40-48; *id.* col6, ll18-26; *id.* col6, ll50-52. Yet, the ‘037 claims merely state that oil recovery is performed on “thin stillage concentrate.” See, e.g., ‘037 Patent, col10, l60 (“recovering oil from the thin stillage concentrate”). Moreover, CleanTech’s own expert testified that he did not know if was possible to use a centrifuge to process thin stillage below 30% or 40% moisture. MDN 945, Eckhoff Dep. at 238-40. Considering the intrinsic evidence as well as CleanTech’s own expert testimony, there is no question of material fact that the ‘037 patent fails to disclose how to process thin stillage concentrate at the outer edges of the 0% to 100% moisture content range contemplated by the broad claim construction for the term. Therefore, the Court must conclude that

that the claims of the '037 patent are not enabled.

For this reason the Court **GRANTS** summary judgment on this issue in favor of the '037 Defendants and concludes that all of the claims of the '037 patent are invalid for lack of enablement. CleanTech's motion for summary judgment on this issue is **DENIED**.

D. ENABLEMENT OF THE "MECHANICALLY PROCESSING" TERM IN CLAIM 8

The '037 Defendants allege that neither of the applications upon which the '037 patent claims priority contained any reference to "mechanically processing" when they were filed; the term was added during prosecution to the claim that issued as Claim 8. MDN 1072 at 41. The only device discussed in the '037 patent for recovering oil from thin stillage concentrate is a centrifuge or, more specifically, a disk stack centrifuge. *Id.* Further, when the amendment was made, CleanTech never incorporated by reference the specification of the '858 patent; rather, it only cited to existing portions of the application for the '037 patent and the requirements of 37 C.F.R. § 1.57(f) were never met. MDN. 1179 at 11-12. Therefore, the broader claim, "mechanically processing" is not supported by the specification and Claim 8 is invalid for lack of enablement pursuant to 35 U.S.C. § 112(1). MDN. 1072 at 41; MDN 1179 at 12.

CleanTech asserts that the '037 Defendants' enablement argument here fails also because they present to expert testimony on the issue. MDN 1160 at 23 (citing *Regents of Univ. of Minn.*, 835 F. Supp. 2d at 729-30). Further, CleanTech argues that the '037 patent incorporates by reference the '858 patent, which specifically discloses "mechanically processing," which is sufficient to satisfy the enablement requirement. *Id.* (citing *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1382 (Fed. Cir. 1999)).

According to CleanTech, the '037 patent specification also discloses a “genus” of oil recovery means that satisfies the “mechanically processing” requirement of Claim 8. *Id.* at 23-24 (citing '037 Patent, col4, ll32-37 (“The means or device for separating oil from a mixture, such as a gravity separator (which advantageously requires no additional energy input to effect separation and, thus, further enhances efficiency), a centrifuge, a disk-stack centrifuge, a centrifugal decanter, or an evaporator.”); MPEP § 2164.02; and *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1568 (Fed. Cir. 1997)).

A patent is enabled if “a person skilled in the pertinent art, using the knowledge available to such a person and the disclosure in the patent document, could make and use the invention without undue experimentation.” *N. Telecom, Inc.*, 908 F.2d at 941 (citing 35 U.S.C. § 112). The Court is persuaded that CleanTech has created an issue of fact only by virtue of its reference to language in the '037 patent to multiple devices to separate oil. The Court otherwise agrees with the '037 Defendants that CleanTech never fully incorporated by reference the relevant disclosures in the '858 patent or pointed to clear language in the specification to support addition of the “mechanically processing” term in Claim 8 as it was required to do pursuant to 37 C.F.R. § 1.57(f). The '037 Defendants ignore the previously-disclosed list of “device[s] for separating oil from a mixture” in their reply brief and, although it is slim evidence, the Court cannot say as a matter of law that such a reference cannot suffice to illuminate the “mechanically processing” term.

For these reasons, the '037 Defendants' motion for summary judgment as to lack of enablement of the “mechanically processing term” in Claim 8 is **DENIED**.

**X. ADKINS' MOTION FOR SUMMARY JUDGMENT
ON ITS AFFIRMATIVE DEFENSE OF UNCLEAN HANDS &
MOTION FOR SANCTIONS**

Adkins has moved for summary judgment on its affirmative defense of unclean hands. Specifically, Adkins asserts that CleanTech should not be able to pursue its claims of patent infringement against Adkins because CleanTech (1) tried to suppress evidence that the claimed invention was on sale more than a year before the critical date; (2) left Adkins with an unfinished construction project and liens on its property when it breached its obligations under an agreement with Adkins; (3) sued Adkins for infringement after promising that Adkins could pursue other oil extraction technology; (4) asserted in summary judgment a theory on Adkins' breach of contract counterclaim that it never pursued against Adkins prior to this litigation; (5) failed to produce the vast majority of documents responsive to Adkins' discovery requests, many of which were relevant to the breach of contract issue, until just before CleanTech filed its motion for summary judgment on the subject; and (6) proffered against Adkins the testimony of experts tainted by conflict of interest. MDN 926 at 12-15 (citing *Precision Instr. Mfg. Co. v. Auto. Maint. Mach. Co.*, 324 U.S. 806 (1945); *Keystone Driller Co. v. Gen'l Excavator Co.*, 290 U.S. 240, 244-45 (1933)); MDN 1082 at 6-7. Adkins incorporates by reference the entirety of its Motion for Sanctions based on CleanTech's production of 164,000 pages of documents on February 8, 2013, less than three weeks prior to CleanTech's motion for summary judgment on Adkins' breach of contract counterclaim, in support of its unclean hands defense. See MDN 810 & 824.

CleanTech asserts that Adkins' motion for summary judgment should be denied because Adkins improperly relies upon allegations of inequitable conduct that the Court

has bifurcated for purposes of summary judgment and, even if the Court considered all of the evidence Adkins presents, there are material questions of fact as to each allegation that cannot be determined on summary judgment. MDN 1025 at 66-68; 69-75. Specifically, CleanTech disavows that it attempted or succeeded in suppressing any evidence, including as to inequitable conduct, the facts supporting which CleanTech insists cannot form the basis of any motion for summary judgment. *Id.* at 70-73. It further contends that issues of fact remain on any of Adkins' allegations surrounding the prior contract between the parties. *Id.* at 73. On this issue, CleanTech incorporates by reference the entirety of its response to Adkins' Motion for Sanctions as well as the parties' prior briefs on CleanTech's motion for summary judgment on Adkins' breach of contract counterclaim. *Id.* Finally, CleanTech asserts that there are genuine issues of material fact on whether or not its experts are "tainted" by conflict of interest. *Id.* at 74-75.

The doctrine of unclean hands is "a rule of equity to the effect that under certain circumstances, one of which is after-discovered fraud, relief will be granted against judgments regardless of the term of their entry." *Hazel-Atlas Glass Co. v. Hartford Empire Co.*, 322 U.S. 238, 244 (1944). The trio of Supreme Court cases addressing the doctrine in patent cases "dealt with particularly egregious misconduct, including perjury, the manufacture of false evidence, and the suppression of evidence." *TheraSense, Inc. v. Becton Dickinson & Co.*, 649 F.3d 1276, 1287 (Fed. Cir. 2011) (citing *Precision Instr.*, 324 U.S. at 816-20; *Hazel-Atlas*, 322 U.S. at 240; *Keystone Driller*, 290 U.S. at 243). The guiding "maxim" for the Court's decision is that "he who comes into equity must come with clean hands." *Precision Instr.*, 324 U.S. at 814. It requires that all parties in

a lawsuit act “fairly and without fraud or deceit as to the controversy in issue.” *Id.* at 814-15 (citing *Keystone Driller*, 290 U.S. at 245). Application of the doctrine is not formulaic, but based on the sound discretion of the Court. *Id.* at 815 (citing *Keystone Driller*, 290 U.S. at 246). A conclusion that a party acted with unclean hands acts to bar the litigant; it does not affect a litigant’s interest in a patent property right. See *Aptix Corp. v. Quicturn Design Sys., Inc.*, 269 F.3d 1369, 1375 (Fed. Cir. 2001).

Because Adkins’ allegations of unclean clean hands incorporates its Motion for Sanctions and seeks to include those allegations to support its argument, the Court considers that motion first. Adkins asserts that CleanTech wrongfully withheld approximately 164,000 pages of documents until two or three weeks prior to CleanTech filing a motion for summary judgment, despite having told Adkins multiple times that production was complete. MDN 810 at 2-10. Adkins contends that the nondisclosure is particularly egregious in light of the materiality of the documents to the issues raised in CleanTech’s motion for summary judgment. *Id.* at 8-10, 13-15. Adkins requests that the Court deny CleanTech’s motion for summary judgment;⁷⁰ deem established that as of April 18, 2007, CleanTech was in breach of the Corn Oil Agreement; order CleanTech to pay Adkins’ reasonable expenses, including attorneys’ fees, for taking depositions of CleanTech’s witnesses; and order CleanTech to pay Adkins’ attorneys’ fees for filing the motion for sanctions. *Id.* at 15-16.

In contrast, CleanTech claims that its delay was justified and that Adkins’ own failure to participate in the consolidated discovery process ordered by the Court caused any perceived prejudice. MDN 817 at 5-13. In any event, according to CleanTech there

⁷⁰ On May 21, 2013, the Court denied CleanTech’s motion for summary judgment on the merits. MDN 843.

is no prejudice because Adkins knew that discovery was ongoing even when it filed its own motion for summary judgment on the breach of contract counterclaim and, the documents Adkins cites as prejudicial were found in Adkins' own production. *Id.* at 7-9, 12. CleanTech also takes issue with Adkins' failure to confer with CleanTech regarding the dispute prior to filing the motion. *Id.* at 13-14. CleanTech asserts its own request for relief from "Adkins' [a]busive [b]ehavior," *id.* at 18-19; but, other than complaining about Adkins' litigation tactics, CleanTech makes no specific request for sanctions.

Adkins' Motion for Sanctions is brought pursuant to Rule 37(c) of the Federal Rules of Civil Procedure ("Rule 37(c)"). Rule 37(c) states, in relevant part:

[I]f a party fails to provide information . . . as required by rule 26(a) or (e), the party is not allowed to use that information . . . to supply evidence on a motion, at a hearing, or at trial, unless the failure was substantially justified or is harmless. In addition to or instead of this sanction, the court, on motion and after giving an opportunity to be heard, may order payment of the reasonable expenses, including attorney's fees, caused by the failure.

Fed. R. Civ. P. 37(c). A sanction determination under this rule is guided by the following factors: (1) the prejudice or surprise to the opposing party; (2) the ability to cure the prejudice; (3) the likelihood of disruption of the trial; and (4) the bad faith or willfulness involved in the party's failure timely to disclose the evidence. *David v. Caterpillar, Inc.*, 324 F.3d 851, 857 (7th Cir. 2003).

In weighing these factors, the Court concludes that minimal sanctions are required. Under the guidance of this Court, the parties have engaged in coordinated discovery, particularly with respect to electronically stored information or "ESI." Although it is clear that Adkins and CleanTech agreed to ESI search terms in June 2011, it is equally clear that the parties each thought that agreement would be carried out differently. CleanTech believed it was searching all relevant terms for all

Defendants, MDN 811-6; Adkins believed CleanTech would work with Adkins independently of the remaining Defendants on ESI specific to Adkins. MDN 811-7. Adkins' belief that all documents, including ESI, had been produced was also predicated on multiple assertions by CleanTech's counsel and witnesses that everything had been produced, but a double-check of sorts would be performed and anything new turned over promptly. MDN 824 at 7 (listing various assertions by counsel or witnesses as to the status of document production). But, Adkins cannot claim total ignorance of the status of production of ESI in particular because, as CleanTech points out, it was discussed, at least, at a January 9, 2013, status conference with the Magistrate Judge. MDN 817 at 15-16. Further, there is no evidence that Adkins did any follow up of its own regarding CleanTech's production until CleanTech announced its intention to file a motion for summary judgment on Adkins' breach of contract counterclaim. *Id.* at 15-16.

In addition, some of the documents Adkins claims prevented it from adequately deposing CleanTech's witnesses or from preparing its opposition to CleanTech's motion for summary judgment were already in Adkins' possession. *Id.* at 12. The Court recognizes that the documents Adkins references are only a small portion of the total documents CleanTech produced; however, there was no evidence in the briefing of CleanTech's motion for summary judgment that Adkins could not adequately respond to CleanTech's allegations that no material questions of fact existed. See, e.g., MDN 801 at 9-15, 28-39 (setting forth the material facts, including material facts in dispute). In fact, the Court overwhelmingly concluded in Adkins' favor that many facts related to Adkins' breach of contract counterclaim remained in dispute. MDN 843.

The Court is concerned, however, that some of the ESI documents produced two weeks before CleanTech filed its motion for summary judgment were internal documents between employees at CleanTech for which Adkins had no other source. Further, some of the documents will undoubtedly be used by Adkins at any trial on the merits of its breach of contract counterclaim (and, perhaps, other defenses) and Adkins did not have them when it took depositions of CleanTech's key witnesses. Despite CleanTech's protestations regarding rolling discovery and agreements to depose witnesses without complete discovery, there is prejudice to Adkins regarding the late production of these key internal documents. If CleanTech had reminded Adkins at the depositions that ESI discovery was still ongoing or otherwise mentioned at the time of the depositions that further discovery was probable, or even possible, Adkins could have adequately assessed the risk of proceeding with depositions without the totality of CleanTech's production. But CleanTech's vague references do not amount to notice that significant disclosure remained. As previously mentioned, Adkins is not completely blameless for its assumptions, but the great weight of the inferences raised by CleanTech's attorney's and witnesses comments about production was that CleanTech had produced the relevant documents, or would do so soon after the depositions if something needed to be clarified. Now that discovery is closed, absent leave of the Court, Adkins is prejudiced by the delayed disclosure because it cannot adequately prepare for CleanTech's witnesses responses regarding those internal documents. Moreover, it is likely that the documents and testimony about them could shift the settlement positions of the parties; therefore, Adkins is further prejudiced for having to prepare for a settlement conference without the benefit of the documents and testimony.

The Court concludes that any prejudice can be cured by allowing Adkins some additional time to depose CleanTech's witnesses on the late-disclosed documents at CleanTech's expense. Such a sanction would provide Adkins the opportunity to investigate further the content and meaning of the documents and adequately prepare for further settlement discussions as well as any trial on the merits. The Court will not exclude the documents, enter judgment against CleanTech or otherwise summarily decide the dispute between Adkins and CleanTech; such a sanction is too harsh in light of the obvious miscommunication between the parties and the availability of a cure for the prejudice. Adkins and CleanTech shall have twenty-eight days from the date this Order is entered to agree on a schedule to depose CleanTech's witnesses on the late-disclosed documents. No deposition shall exceed one and one-half hour absent leave of Court. Absent agreement, the parties shall file a Joint Motion for Status Conference asking the Court to resolve the issue. Accordingly, Adkins' Motion for Sanctions is **GRANTED in part and DENIED in part**. CleanTech's motion for relief of any kind related to the Motion for Sanctions is **DENIED**.

That issue being decided, the Court turns to Adkins' Motion for Summary Judgment on Unclean Hands. Assessing all of CleanTech's conduct to date, the Court concludes that factual issues remain and summary judgment is not appropriate. The crux of a decision to bar a plaintiff's claim under the doctrine of unclean hands is the egregious nature of the misconduct. See *TheraSense*, 649 F.3d at 1287. Although there are facets of Adkins' argument that bear close resemblance to the circumstances in the Supreme Court's trio of cases, the most egregious allegations here, which relate to CleanTech's failure to produce the July 31 Proposal (and attendant circumstances

surrounding disclosure of the document and/ or others to the USPTO), CleanTech's correspondence to Sommers in 2010 requesting confirmation of Agri-Energy's understanding of the July 31 Proposal, and the potential conflict of interest of certain CleanTech experts, have not been proven with certainty. Questions remain on scienter, for lack of a better term, particularly with respect to the failure to produce the July 31 Proposal (discovery about which is ongoing), which is not an issue the Court will decide without hearing live testimony from the relevant witnesses. To the extent that CleanTech expects the unclean hands issue to be heard by a jury, the Court could find no case in which a court asked a jury to opine on such a defense, which is not a surprise because it is an equitable doctrine that speaks to fraud on the court, *see Hazel-Atlas Glass*, 322 U.S. at 244-45 (discussing the power of a court to set aside judgments that are "manifestly unconscionable" or "fraudulently begotten"), and, therefore, is not an issue for a jury.

In summary, the Court is troubled by the evidence that suggests CleanTech has engaged in a pattern of obfuscation, possible deceit, and ever-shifting positions, but is unwilling at this juncture to cry foul and declare the proceedings "manifestly unconscionable" or "fraudulently begotten." Such a determination does not preclude Adkins, or the other Defendants if they pled it, to argue for application of the doctrine at a later time, or at trial. For these reasons, Adkins' Motion for Summary Judgment on Unclean Hands, MDN 925, is **DENIED**.

XI. CONCLUSION

For the reasons stated herein, the Court makes the following rulings:

Master Docket Number	Motion	Disposition
809	Adkins Energy LLC Motion for Sanctions	GRANTED in part and DENIED in part
864	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Ace Ethanol	DENIED
865	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Adkins Energy LLC	DENIED
866	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Al-Corn Clean Fuel	DENIED
867	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Blue Flint Ethanol, LLC	DENIED
868	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Big River Resources West Burlington	DENIED
869	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Bushmills Ethanol, Inc.	DENIED
870	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Cardinal Ethanol, LLC	DENIED
871	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Chippewa Valley Ethanol Company, LLLP	DENIED
872	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Big River Resources Galva, LLC	DENIED
873	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Heartland Corn Products	DENIED
874	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Iroquois Bio-Energy Company, LLC	DENIED
875	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Lincolnland Agri-Energy, LLC	DENIED
876	GS CleanTech Corp. Motion for Summary Judgment of Infringement – Lincolnway Energy LLC	DENIED
877	GS CleanTech Corp. Motion for Summary Judgment of Infringement – United Wisconsin Grain Producers, LLC	DENIED
923	Iroquois Bio-Energy Company, LLC Motion for Summary Judgment Claims 2 and 9 of the '516 Patent; Claim 14 of the '484 Patent	GRANTED in part and DENIED in part
925	Adkins Energy LLC Motion for Summary Judgment on Fourth Affirmative Defense of Unclean Hands	DENIED

Master Docket Number	Motion	Disposition
930	Licolnway Energy, LLC Motion for Joinder Regarding Iroquois Bio-Energy Company, LLC Opposition and Motion, Document 923	GRANTED as to Joinder; GRANTED as to Motion for Summary Judgment
931	Plant Defendants' Motion for Summary Judgment of Non-Infringement	GRANTED
933	Al-Corn Clean Fuel Motion for Summary Judgment as to Claim 4 of the '516 Patent and Claims 6 and 13 of the '484 Patent	GRANTED
934	Ace Ethanol, LLC & GEA Mechanical Equipment US, Inc. Motion for Summary Judgment on the Issue of Liability for Inducing or Contributing to Infringement	GRANTED
940	Defendants' Motion for Summary Judgment of Invalidity and to Dismiss Plaintiff's Claim for Provisional Remedies and Damages for Willful Infringement	GRANTED in part and DENIED in part
980	GS CleanTech Corporation Motion for Summary Judgment of Infringement of U.S. Patent No. 8,168,037 – Big River Resources Galva	DENIED
981	GS CleanTech Corporation Motion for Summary Judgment of Infringement of U.S. Patent No. 8,168,037 – Big River Resources West Burlington, LLC	DENIED
982	GS CleanTech Corporation Motion for Summary Judgment of Infringement of U.S. Patent No. 8,168,037 – Blue Flint Ethanol, LLC	DENIED
983	GS CleanTech Corporation Motion for Summary Judgment of Infringement of U.S. Patent No. 8,168,037 – Cardinal Ethanol, LLC	DENIED
984	GS CleanTech Corporation Motion for Summary Judgment of Infringement of U.S. Patent No. 8,168,037 – Lincolnland Agri-Energy, LLC	DENIED
985	GS CleanTech Corporation Motion for Summary Judgment of Infringement of U.S. Patent No. 8,168,037 – Lincolnway Energy, LLC	DENIED
1005	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Bushmills Ethanol, Inc.	DENIED
1008	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Heartland Corn Products	DENIED
1009	GS CleanTech Corporation Cross Motion for	DENIED

Master Docket Number	Motion	Disposition
	Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Cardinal Ethanol, LLC	
1010	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Chippewa Valley Ethanol Company, LLLP	DENIED
1011	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Adkins Energy, LLC	DENIED
1012	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Lincolnland Agri-Energy, LLC	DENIED
1013	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Big River Resources West Burlington, LLC	DENIED
1014	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Blue Flint Ethanol, LLC	DENIED
1015	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – United Wisconsin Grain Producers	DENIED
1016	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Ace Ethanol, LLC	DENIED
1017	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Lincolnway Energy, LLC	DENIED
1018	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Big River Resources Galva, LLC	DENIED
1019	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Al-Corn Clean Fuel	DENIED
1020	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Iroquois Bio-Energy Company, LLC	DENIED
1021	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – GEA Mechanical Equipment US, Inc.	DENIED
1022	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – ICM, Inc.	DENIED

Master Docket Number	Motion	Disposition
1023	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – Flottweg Separation Technology, Inc.	DENIED
1024	GS CleanTech Corporation Cross Motion for Summary Judgment Regarding 35 U.S.C. § 112 Defenses – David J. Vander Griend	DENIED
1071	'037 Defendants' Motion for Summary Judgment of Invalidity and Noninfringement of U.S. Patent No. 8,168,037	GRANTED in part and DENIED in part
1142	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Big River Resources Galva	GRANTED
1143	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Big River Resources Galva	DENIED
1144	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Big River Resources West Burlington, LLC	DENIED
1145	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Big River Resources West Burlington, LLC	GRANTED
1146	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Blue Flint Ethanol, LLC	GRANTED
1147	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Blue Flint Ethanol, LLC	DENIED
1148	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Cardinal Ethanol, LLC	DENIED
1149	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Cardinal Ethanol, LLC	GRANTED
1150	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Lincolnland Agri-Energy, LLC	GRANTED
1151	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Lincolnland Agri-Energy, LLC	DENIED
1152	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Lincolnway Energy, LLC	DENIED

Master Docket Number	Motion	Disposition
1153	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Lincolnway Energy, LLC	GRANTED
1154	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – Flottweg Separation Technology, Inc.	GRANTED
1155	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – Flottweg Separation Technology, Inc.	DENIED
1156	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity Under 35 U.S.C. § 112 – David VanderGriend	DENIED
1157	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – David VanderGriend	GRANTED
1158	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102(e) – ICM, Inc.	GRANTED
1159	GS CleanTech Corporation Cross Motion for Summary Judgment of No Invalidity under 35 U.S.C. § 102 – ICM, Inc.	DENIED

The Court **DENIES** all requests for oral argument, **Master Docket Numbers 1089, 1095, 1180 and 1186**, on the grounds that the briefs adequately summarized the relevant evidence and arguments for disposition of the matters raised therein.

The Court is issuing this Order under seal; however, the parties must **SHOW CAUSE within fourteen days, on or before November 6, 2014**, why the Court should not unseal the entirety of the document for public access.

Counterclaims remain undecided; therefore, no judgment shall issue at this time.

IT IS SO ORDERED this 23d day of October, 2014.

Electronically distributed to all registered attorneys via ECF.

APPENDIX D

NOTE: This order is nonprecedential.

**United States Court of Appeals
for the Federal Circuit**

GS CLEANTECH CORPORATION,
Plaintiff-Appellant

v.

ADKINS ENERGY LLC,
Defendant-Cross-Appellant

2016-2231, 2017-1838

Appeals from the United States District Court for the Northern District of Illinois in No. 1:10-cv-04391, Judge Larry J. McKinney.

GS CLEANTECH CORPORATION, GREENSHIFT CORPORATION,
Plaintiffs-Appellants

CANTOR COLBURN LLP
Interested Party

v.

BIG RIVER RESOURCES GALVA, LLC, BIG RIVER RESOURCES WEST BURLINGTON, LLC, LINCOLN LAND AGRI-ENERGY, LLC, IROQUOIS

2 GREENSHIFT CORPORATION v. BIG RIVER RESOURCES GALVA,
LLC

**BIO-ENERGY COMPANY, LLC, CARDINAL
ETHANOL, LLC, LINCOLNWAY ENERGY, LLC,
ICM, INC., BUSHMILLS ETHANOL, INC., AL-CORN
CLEAN FUEL, LLC, CHIPPEWA VALLEY
ETHANOL COMPANY, LLP, HEARTLAND CORN
PRODUCTS, GEA MECHANICAL EQUIPMENTUS,
INC., AS SUCCESSOR-IN-INTEREST TO GEA
WESTFALIA SEPARATOR, INC. PURSUANT TO
THE NOTICE OF MERGER FILED ON 4/28/2011,
ACE ETHANOL, LLC, BLUE FLINT ETHANOL LLC,
UNITED WISCONSIN GRAIN PRODUCERS, LLC,
FLOTTWEG SEPARATION TECHNOLOGY, INC.,
ADKINS ENERGY LLC, AEMETIS, INC., AEMETIS
ADVANCED FUELS KEYES, INC., LITTLE SIOUX
CORN PROCESSORS, LLLP, GUARDIAN ENERGY,
LLC, WESTERN NEW YORK ENERGY, LLC,
SOUTHWEST IOWA RENEWABLE ENERGY, LLC,
PACIFIC ETHANOL MAGIC VALLEY LLC,
PACIFIC ETHANOL STOCKTON, HOMELAND
ENERGY SOLUTIONS, LLC, PACIFIC ETHANOL,
INC., DAVID J. VANDER GRIEND,
*Defendants-Appellees***

2017-1832

Appeal from the United States District Court for the
Southern District of Indiana in Nos. 1:10-cv-00180-RLM-
DML, 1:10-cv-08000-RLM-DML, 1:10-cv-08001-RLM-
DML, 1:10-cv-08002-RLM-DML, 1:10-cv-08003-RLM-
DML, 1:10-cv-08004-RLM-DML, 1:10-cv-08005-RLM-
DML, 1:10-cv-08006-RLM-DML, 1:10-cv-08007-RLM-
DML, 1:10-cv-08008-RLM-DML, 1:10-cv-08009-RLM-
DML, 1:10-cv-08010-RLM-DML, 1:10-cv-08011-RLM-
DML, 1:10-ml-02181-RLM-DML, 1:13-cv-08012-RLM-
DML, 1:13-cv-08013-RLM-DML, 1:13-cv-08014-RLM-
DML, 1:13-cv-08015-RLM-DML, 1:13-cv-08016-RLM-

GREENSHIFT CORPORATION v. BIG RIVER RESOURCES GALVA, LLC 3

DML, 1:13-cv-08017-RLM-DML, 1:13-cv-08018-RLM-DML, 1:14-cv-08019-RLM-DML, 1:14-cv-08020-RLM-DML, Judge Larry J. McKinney.

ON PETITION FOR REHEARING EN BANC

Before PROST, *Chief Judge*, NEWMAN, LOURIE, DYK, MOORE, O'MALLEY, REYNA, WALLACH, TARANTO, CHEN, HUGHES, and STOLL, *Circuit Judges*.

PER CURIAM.

O R D E R

Appellants Greenshift Corporation and GS Cleantech Corporation filed a petition for rehearing en banc. A response to the petition was invited by the court and filed by the appellees. The petition was first referred as a petition for rehearing to the panel that heard the appeal, and thereafter the petition for rehearing en banc was referred to the circuit judges who are in regular active service.

Upon consideration thereof,

IT IS ORDERED THAT:

The petition for panel rehearing is denied.

The petition for rehearing en banc is denied.

The mandate of the court will issue on July 7, 2020.

FOR THE COURT

June 30, 2020
Date

/s/ Peter R. Marksteiner
Peter R. Marksteiner
Clerk of Court