

Nos. 16-2231, 17-1832, 17-1838

IN THE
United States Court of Appeals
FOR THE FEDERAL CIRCUIT

(Nos. 16-2231, 17-1838)

GS CLEANTECH CORPORATION,

—v.—

Plaintiff-Appellant,

ADKINS ENERGY LLC,

Defendant-Cross-Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF ILLINOIS
JUDGE LARRY J. MCKINNEY
1:10-CV-04391

(Caption continued on inside cover)

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Ace Ethanol, LLC

(Counsel continued on inside cover)

(No. 17-1832)

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, 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 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.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF INDIANA

JUDGE LARRY J. MCKINNEY

1:10-CV-00180, 1:10-CV-08000, 1:10-CV-08001, 1:10-CV-08002, 1:10-CV-08003, 1:10-CV-08004, 1:10-CV-08005,
1:10-CV-08006, 1:10-CV-08007, 1:10-CV-08008, 1:10-CV-08009, 1:10-CV-08010, 1:10-CV-08011,
1:10-ML-02181, 1:13-CV-08012, 1:13-CV-08013, 1:13-CV-08014, 1:13-CV-08015,
1:13-CV-08016, 1:13-CV-08017, 1:13-CV-08018, 1:14-CV-08019, 1:14-CV-08020

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Rev. 10/17**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT****GS CleanTech Corp.** v. **Big River Resources - Galva LLC**Case No. **17-1832****CERTIFICATE OF INTEREST**

Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
GEA Mechanical Equipment US, Inc.	GEA Mechanical Equipment US, Inc.	See Attachment A
Ace Ethanol, LLC	Ace Ethanol, LLC	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

Patterson Belknap Webb & Tyler LLP: Gregory L. Diskant, Brian N. Lasky, Edward R. Tempesta, Sean R. Marshall

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5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. See Fed. Cir. R. 47.4(a)(5) and 47.5(b). (The parties should attach continuation pages as necessary).

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GS Cleantech Corp. v. Adkins Energy LLC, No. 17-1838 (Fed. Cir.)

GS Cleantech Corp. v. Adkins Energy LLC, No 10 C 4391 (N.D. Ill.)

Date

Please Note: All questions must be answered

cc: _____



Signature of counsel

Michael F. Buchanan

Printed name of counsel

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Attachment A

GEA North America, Inc. is the direct parent corporation of GEA Mechanical Equipment US, Inc. and owns 10% or more of its stock. GEA Group Aktiengesellschaft, a company publicly traded on the German Stock Exchange, is an indirect parent corporation of GEA Mechanical Equipment US, Inc.

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Rev. 10/17**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT****GS CleanTech Corporation v. Big River Resources Galva**Case No. 16-2231 / 17-1832**CERTIFICATE OF INTEREST**

Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

Al-Corn Clean Fuel, LLC

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Al-Corn Clean Fuel, LLC	Al-Corn Clean Fuel, LLC	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

Jonathan C. Miesen and John J. Brogan (former Stoel Rives LLP partner and associate no longer with the Firm)

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GS Cleantech Corp. v. Adkins Energy LLC, Case No. 10 C 4391 (N.D. Ill.)

/s/ Marc A. Al

Date

Signature of counsel

Marc A. Al

Printed name of counsel

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Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

Blue Flint Ethanol LLC

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Blue Flint Ethanol LLC	Blue Flint Ethanol LLC	Midwest AgEnergy, LLC

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

Donald T. Campbell of Stinson Leonard Street LLP

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GS CLEANTECH CORPORATION V. ADKINS ENERGY LLC, Case No. 10 C 4391 (N.D. Ill.)

s/Ruth Rivard

Signature of counsel

Ruth Rivard

Printed name of counsel

Please Note: All questions must be answered

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Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

Bushmills Ethanol, Inc., Chippewa Valley Ethanol Company LLLP, Heartland Corn Products, LLC and United Wisconsin Grain Producers, LLC

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Bushmills Ethanol, Inc.	Bushmills Ethanol, Inc.	None
Chippewa Valley Ethanol Company LLLP	Chippewa Valley Ethanol Company, LLLP	None
Heartland Corn Products, LLC	Heartland Corn Products, LLC	None
United Wisconsin Grain Producers, LLC	United Wisconsin Grain Producers, LLC	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

None

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GS Cleantech Corp. v. Adkins Energy LLC, No. 17-1838 (Fed. Cir.)

GS Cleantech Corp. v. Adkins Energy LLC, No. 10 C 4391 (N.D. Ill.)

/s/ John C. Scheller

Date

Signature of counsel

John C. Scheller

Printed name of counsel

Please Note: All questions must be answered

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Rev. 10/17**UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT****GS CLEANTECH CORPORATION v. BIG RIVER RESOURCES GALVA**Case No. 17-1832**CERTIFICATE OF INTEREST**

Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Homeland Energy Solutions, LLC	Homeland Energy Solutions, LLC	None
Pacific Ethanol, Inc.	Pacific Ethanol, Inc.	None
Pacific Ethanol Stockton, LLC.	Pacific Ethanol Stockton, LLC.	Pacific Ethanol, Inc.
Aemetis, Inc.	Aemetis, Inc.	None
Aemetis Advanced Fuels Keyes, Inc.	Aemetis Advanced Fuels Keyes, Inc.	Aemetis, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

Camille L. Urban and Michael A. Dee of Brown, Winick, Graves, Gross, Baskerville & Schoenbaum PLC

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5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. See Fed. Cir. R. 47.4(a)(5) and 47.5(b). (The parties should attach continuation pages as necessary).

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GS CleanTech Corp. v. Adkins Energy LLC, Case No. 10 C 4391 (N.D. Ill.)

/s/ Camille L. Urban

Date

Signature of counsel

Camille L. Urban

Printed name of counsel

Please Note: All questions must be answered

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Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

certifies the following (use "None" if applicable; use extra sheets if necessary):

(to be continued)

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
ICM, Inc.	ICM, Inc.	ICM Holdings, Inc.
David Vander Griend	David Vander Griend	n/a
Flottweg Separation Technology, Inc.	Flottweg Separation Technology, Inc.	Flottweg SE
Cardinal Ethanol, LLC	Cardinal Ethanol, LLC	None
Big River Resources West Burlington	Big River Resources West Burlington	Big River Resources, LLC
Big River Resources Galva	Big River Resources Galva	Big River Resources, LLC
Lincolnland Agri-Energy	Lincolnland Agri-Energy	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

DICKE, BILLIG & CZAJA, PLLC; Paul P. Kempf

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

GS CLEANTECH CORPORATION _____ v. BIG RIVER RESOURCES GALVA

v.

Case No. 17-1832**CERTIFICATE OF INTEREST**

Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

certifies the following (use "None" if applicable; use extra sheets if necessary): (to be continued)

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Little Sioux Corn Processors	Little Sioux Corn Processors	None
Guardian Energy LLC	Guardian Energy LLC	None
Western New York Energy	Western New York Energy	None
Southwest Iowa Renewable Energy	Southwest Iowa Renewable Energy	Bunge North America, Inc.
Pacific Ethanol Magic Valley	Pacific Ethanol Magic Valley	Pacific Ethanol, Inc.

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

Dicke, Billig & Czaja, PLLC: Paul P. Kempf,

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GS CleanTech Corp. v. Adkins Energy LLC, Case No. 10 C 4391 (N.D. Ill.)

/s/John M. Weyrauch

Date

Signature of counsel

John M. Weyrauch

Printed name of counsel

Please Note: All questions must be answered

cc: _____

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Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

Iroquois Bio-Energy Company, LLC

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Iroquois Bio-Energy Company, LLC	Iroquois Bio-Energy Company, LLC	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

None.

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GS CleanTech Corporation v. Adkins Energy LLC, No. 16-2231 (Fed. Cir.)
GS CleanTech Corporation v. Adkins Energy LLC, No. 17-1838 (Fed. Cir.)
GS CleanTech Corporation v. Adkins Energy LC, Case No. 10-cv-4391 (N.D. Ill.)

/s/Spiro Bereveskos

Date

Signature of counsel

Spiro Bereveskos

Printed name of counsel

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UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT**GS Cleantech Corporation v. Big River Galva**Case No. 17-1832**CERTIFICATE OF INTEREST**

Counsel for the:

(petitioner) (appellant) (respondent) (appellee) (amicus) (name of party)

Lincolnway Energy, LLC

certifies the following (use "None" if applicable; use extra sheets if necessary):

1. Full Name of Party Represented by me	2. Name of Real Party in interest (Please only include any real party in interest NOT identified in Question 3) represented by me is:	3. Parent corporations and publicly held companies that own 10% or more of stock in the party
Lincolnway Energy, LLC	Lincolnway Energy, LLC	None

4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court (**and who have not or will not enter an appearance in this case**) are:

None

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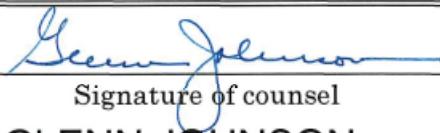
5. The title and number of any case known to counsel to be pending in this or any other court or agency that will directly affect or be directly affected by this court's decision in the pending appeal. *See Fed. Cir. R. 47.4(a)(5) and 47.5(b).* (The parties should attach continuation pages as necessary).

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GS CleanTech Corp. v. Adkins Energy LLC, Case No. 10 C 4391 (N.D. Ill.)

Date



Signature of counsel

GLENN JOHNSON

Printed name of counsel

Please Note: All questions must be answered

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I. STATEMENT OF RELATED CASES

No other appeals have been taken from the civil actions at issue here. Counsel for Appellees are unaware of any pending cases which will directly affect or be directly affected by this Court's decision in these appeals.

II. INTRODUCTION

Four of the five patents-in-suit would not have issued but for the inequitable conduct of the inventors and their counsel. The inventors successfully practiced their invention twice in June and July 2003, prepared detailed descriptions and a detailed drawing of it, and then offered it for sale in August 2003, more than one year before they filed their first application.

But the inventors and their counsel never told this to the PTO. The first patent issued without the PTO knowing *anything* about the sale offer or the surrounding circumstances. Instead, the PTO was falsely told that first testing occurred in May 2004. That misrepresentation was never corrected. The inventors and their counsel attempted to coerce and intimidate the cooperation of a key witness and then, in the remaining prosecutions, the inventors and

their counsel filed a blatantly false declaration claiming the sale offer was delivered the day after the critical date. The next two patents issued without this falsehood being corrected. When the Appellees proved the sale offer was made before the critical date, did *nothing* in the PTO for eight months to correct the false declaration. They then buried this fact in a mountain of paperwork, failing to call attention to the declaration's lies or that the sale offer was sent before the critical date and was prior art. And they *never* told the PTO about the successful tests in 2003 or about the drawing and other written descriptions showing the invention was ready for patenting. Instead, each patent issued without the PTO having all of the information about an invalidating sale offer.

The primary question on this appeal is: did the District Court commit clear error in finding, after an eight-day bench trial, that the inventors and their counsel committed inequitable conduct? Appellees submit the answer is “no.” Affirmance on inequitable conduct disposes of all issues for four of the five patents-in-suit.

Should this Court reach any of the other eleven issues CleanTech has raised regarding any of the patents-in-suit, it will find they lack

merit. As the Sixth Circuit has observed “[w]hen a party comes to us with nine grounds for reversing the district court, that usually means there are none.” *Fifth Third Mortg. Co. v. Chi. Title Ins. Co.*, 692 F.3d 507, 509 (6th Cir. 2012).

That is true here -- all patents-in-suit are invalid for myriad reasons and there is no admissible evidence of infringement. This was not because evidence “was ignored, excluded or simply waved away by the district court” or because of “a clear injustice. . . worked upon CleanTech.” Br. at 13. It is because of the extraordinary weakness of CleanTech’s patents and its case. It is Appellees who have been subjected to the injustice of defending for nearly a decade against patents obtained through fraud and that are invalid. This Court should affirm the District Court’s judgments below.

III. STATEMENT OF FACTS

A. BACKGROUND

Appellants GS CleanTech Corp. and Greenshift Corp. (together, “CleanTech”) sued 27 defendants asserting that all Appellees have willfully infringed and are infringing U.S. Patent Nos. 7,601,858, 8,008,516, 8,008,517 and 8,283,484 (collectively the “858 Family”).

These patents relate to a method for recovering corn oil from the concentrated thin stillage (“syrup”)¹ produced by evaporators in a conventional dry-mill ethanol plant. The claimed methods centrifuge this syrup to recover oil. Claim 8 of the ‘858 patent is illustrative:

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 90% by weight; and centrifuging the concentrate to recover oil.

CleanTech sued certain defendants² under U.S. Patent No. 8,168,037 (the “037 Patent”, and collectively with the “858 Family,” the “Patents-in-Suit”), which is directed to removing additional water from the de-oiled syrup via the evaporator process before it is mixed with wet grains and dried to form animal feed. It discloses the use of multiple evaporators to process thin stillage and form syrup, and that syrup may be subject to an oil removal step prior to completion of the entire evaporation process. ‘037 Patent 3:3-12.

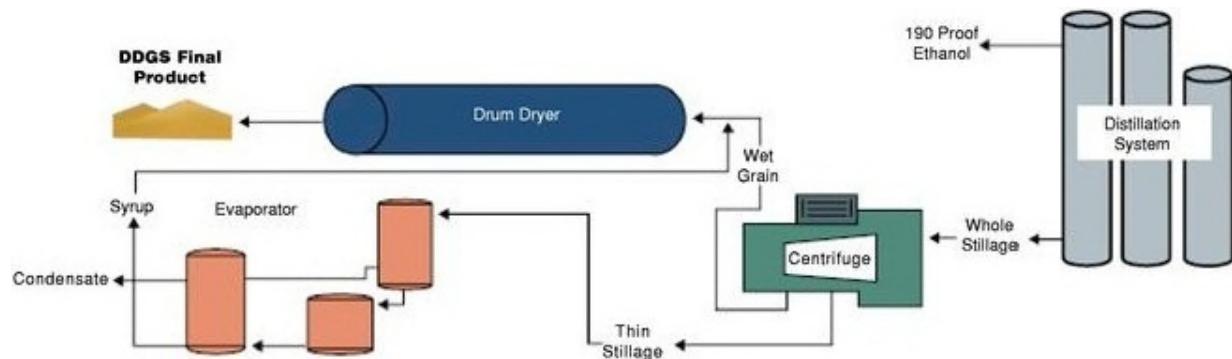
¹ “Concentrated thin stillage” and “syrup” are used interchangeably in the industry and throughout this brief, as are “oil” and “fat.”

² Cardinal Ethanol, LLC, Lincolnway Energy, LLC, Blue Flint Ethanol, LLC, Lincolnland Agri-Energy, LLC, Big River Resources Galva, LLC, and Big River Resources West Burlington, LLC

The relevant facts are extensive and span almost a decade. Because CleanTech fails to provide or glosses over the vast majority of them, a detailed statement of facts is provided.

B. THE CONVENTIONAL DRY-MILL ETHANOL PROCESS

The patents relate to the stillage treatment process in a conventional dry-mill ethanol plant. That treatment process predates the invention by years and is not in dispute, though CleanTech's description of it requires some correction:



Whole stillage is processed through a decanter centrifuge, to separate the stillage into “wet grains” and “thin stillage.” Wet grains, which are mostly solids, are sent to a drum dryer where they are dried to form “Dried Distillers Grains” or “DDG.” Thin stillage, which

consists of water, oil,³ and solids, Appx102-105, is then processed through an evaporation process to remove water and form syrup. Historically, ethanol plants have mixed syrup with the wet grains and dried the mixture to form an animal feed called Dried Distillers Grains with Solubles (“DDGS”). Syrup increases the nutritional value and market price of DDGS. The sale of DDGS is an important revenue source for an ethanol plant. Appx906 at 1:43-51.

The temperature, pH, and moisture content⁴ of syrup in the conventional prior art plant is well known: temperature range of 150°F–212°F, Appx17044 at 10:58-59; pH range of 3.0–6.0, Appx17059 at 9:49-51; Appx17066, and moisture content of about 55% to about 80% by weight. Appx17086 at 1:57-59.⁵

C. THE NAMED AND UNNAMED INVENTORS

David Cantrell and David Winsness both have technical degrees and in the early- to mid-2000s worked for Vortex Dehydration

³ The presence of oil in thin stillage has been known for many years, as described in the ‘858 Patent. Appx906 at 1:43-51.

⁴ “Moisture content” is the amount of water in a mixture, as measured by mass or volume. Its inverse is “solids concentration.” Appx106.

⁵ CleanTech did not dispute below these ranges for syrup in a conventional ethanol plant. Appx52019; Appx26442, not disputing SOF 18-34.

Technology (VDT), also known as Vortex Dehydration Systems (VDS). Appx20186 at 46-47; Appx20254 at 111-12. VDT tested and marketed a dryer for processing waste streams from various industrial processes. Appx20191 at 74:4-76-13. From 2001 through 2005, Cantrell was a VDT board member, Executive Vice President, and salesman. Appx20210 at 220:11-221:15; Appx20211 at 232:15-235:1. Winsness was VDT's Chief Technology Officer and later its CEO. Appx20255 at 121:19-22.

Greg Barlage was an employee of Alfa Laval, a company that sells separation technology for use with "every type of oil-bearing crop such as plant material, seeds, and olives," and "in the fish and meat industries." Appx20267; Appx20280 at 22:1-19, 23:23-24:12, 25:5-15. Barlage sold centrifuges for removing oil from waste streams in the fish, meat, and vegetable processing industries. Appx20280 at 22:1-19.

D. THE POULTRY OIL REMOVAL SYSTEM

In 2001, Cantrell, Winsness, and Barlage built a test facility for a system that used VDT's dryer, an Alfa Laval centrifuge, and an evaporator to remove oil from waste streams from industrial processes and began marketing an oil recovery system for use in the chicken

rendering industry. Appx20244-20245 at 925:10 – 928:11; Appx20284 at 42:20-44:11; Appx20285 at 50:3-7. In 2001, Alfa Laval performed a “spin test”⁶ for VDT on a sample of a waste stream from Case Farms, a chicken rendering plant. This waste stream comprised water, solids, and oil. Based on the test results, VDT determined the requirements for an oil recovery system (including a centrifuge), Appx17223 at 212:22-25, predicted its output, provided an economic payback analysis, and offered to sell the system to Case Farms. Appx21392.

In November 2002, VDT sold a system to Case Farms to remove oil from the heated waste stream using an Alfa Laval disc stack centrifuge. Appx21313. Cantrell and Winsness recognized this system would also work in the poultry, fish, beef, and swine industries. Appx20979.

⁶ A spin test uses a lab or desk-top centrifuge to separate components of a fluid. Conducting spin tests was a common practice at Alfa Laval. Appx20291-20292 at 141:25-142:10; Appx20152-20153 at 81:12-16, 82:22-83:3; Appx20157 at 139:7-140:3; Appx20159 at 172:2-8; Appx20160 at 183:1-11.

**E. THE INVENTORS TRY TO COMMERCIALIZE THEIR
“INVENTION” AND FILE A FALSE DECLARATION**

i. The “Discovery” of the invention⁷

Agri-Energy LLC operated a dry-mill ethanol plant in Luverne, Minnesota. Appx20337-20338 at 21:35-23:6; Appx18217-18218. Its syrup had a pH of about 4.2, Appx20179-20180 at 21:16–22:16, a moisture content of about 70–80%, *Id.* at 23:21–24:1, and a temperature of about 180° F. *Id.* at 20:18–21:5.

Cantrell met Gerald Winter, an Agri-Energy board member, when Winter brought samples of Agri-Energy’s syrup and wet distiller’s grains to VDT’s test site. Appx20194-20195 at 97:20-98:3, Appx20212-20213 at 251:18-252:7. The syrup clogged VDT’s dryer, indicating to Cantrell that it contained oil. Appx20195 at 99:1-9, Appx20213 at 253:21-254:17. Cantrell wanted to remove the oil from the byproducts. Appx20223 at 421:2-11.

On June 5, 2003, Cantrell emailed Agri-Energy’s plant manager Jay Sommers and Winter a photo of the oil removal system VDT had sold to Case Farms. He told them the disc stack centrifuge shown “will

⁷ A visual timeline of events is available at Master Docket No. 1526-2 in 1:10-ml-02181-RLM-DML.

be similar to the one needed to separate the fat from your syrup.” Appx110040. Cantrell included the operational costs of the Case Farms system, which VDT provided as a “sales tool.” Appx17285-17286 at 89:11-90:13.

That same day, Cantrell emailed Barlage that Agri-Energy was shipping samples of its thin stillage and syrup to Alfa Laval for testing. Appx110000. Cantrell sent an email to Winsness, Barlage, and members of VDT’s Marketing Team, Appx21350, telling them “[t]he prospect looks good for the recovery of the oil from ethanol production.” Appx110715. Cantrell asked “[s]hould we separate before or after the evaporator” and stated “I believe that if anyone can separate the oil from the solubles, our partner Alfa Laval will be up to the task.” *Id.* Cantrell noted “[o]nce we design the modules, we will strike fast for a head start on the competition.” *Id.*

On June 10, Winsness reported that “VDS . . . has discovered a Potentially Large Market in the Ethanol Industry using Alfa Laval Components (VDS System).” He described it as a “simple solution” that other centrifuge manufacturers will “want to tap.” Appx110134.

Barlage heated samples of Agri-Energy's thin stillage and syrup to 80°C (176°F) and performed a spin test. Appx110086-110106. Barlage found that oil could be easily separated from the syrup. (*Id.*; Appx20943. Barlage was not surprised by this. Appx20292 at 144:4-15. In the conclusion of his test report, Barlage wrote:

Something in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily. . . Further in plant testing will be required to fully determine the best method of commercialization for this process.

Appx110092.

Barlage's spin test practiced the patented method, Appx20138 at 577:8-24: the syrup had pH of approximately 4, moisture content of between 70 and 80% Appx20179-20180 at 21:24-22:11, 23:21-24:1, and a temperature of 176°F, within the parameters of the claims in the '858 Family.⁸

In marketing materials, CleanTech identified Barlage as "a co-inventor of [CleanTech's] corn oil extraction technologies," Appx21546; Appx21552, and named him as co-inventor on an application directed toward the same technology as the Patents-in-Suit. Appx18684-18685

⁸ For example, claim 8 of the '858 patent, claim 1 of the '516 patent, claim 1 of the '517 patent and claim 30 of the '484 patent.

at GCS_003033-40.⁹ In June 2004, Winsness labeled Barlage's report the "original discovery of oil separation June 2003." Appx111098.

On June 29, Cantrell wrote to Agri-Energy "about the potential to remove the oil from your waste syrup," stating "[w]e are optimistic that we can recover over 80% of this oil." Appx110043. He explained that "taking the product from the top of the feed tank that feeds the drier may be the most logical option ... [t]he 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.*¹⁰ Cantrell wrote "the next logical step is to do a small spin test at your plant with a Gyro tester and fresh product." *Id.* He told Agri-Energy that Barlage was "available to conduct the gyro test on Thursday 7/10/03." *Id.* Cantrell concluded that "[t]he technology is available to remove the oil, and the quick payback from the new revenue stream, makes this a very viable program." *Id.*

⁹ Barlage was removed as inventor shortly before this lawsuit was filed. Appx18257-18261.

¹⁰ Cantrell cribbed Barlage's report, stating that "we are considering a nozzle machine" and ... "a decanter and centrifuges" to handle the solid content. *Id.* The patents disclose the use of nozzle and decanter centrifuges. Appx908, 5:50-55.

Barlage and VDT Marketing Team member Mark Lauderbaugh again practiced the patented method on July 10, 2003 at Agri-Energy. Appx110116; Appx20300-20301 at 237:22-238:9. Agri-Energy staff collected pitchers of syrup from the syrup tank (pH about 4, moisture content about 70-80%, and temperature about 180° F) and poured it into a bench-top centrifuge (“gyro”). Appx20341 at 58:23-59:5, 61:1-18; Appx20181 at 31:13-25. The gyro separated oil from the syrup. Appx20341-20342 at 61:19-62:5, 64:8-11; Appx20181 at 33:2-14. There was no agreement requiring Agri-Energy to keep the testing confidential. Appx20342 at 64:19-25.

This test led the inventors “to believe that the process would work on a commercial scale.” Appx111089. They knew “if the little gyro tester works then the large machines definitely work.” Appx20171.

The next day, Sommers reported to Agri-Energy’s board that “[t]hings still look promising here,” Appx110280, because the gyro had recovered oil from syrup. Appx20342 at 63:19-64:18.

By July 11, Cantrell and Winsness had drafted an offer to sell an oil recovery system to Agri-Energy.¹¹ Appx110028-110031 (the “Draft Offer”). The Draft Offer included a photo of the centrifuge used in the Case Farms system, stating “[t]he module shown below is very similar to the unit designed for Agri-Energy.” Appx110030; Appx17287 at 97:5-20).

Around this time, Winsness directed Jerry Dyer, another member of VDT’s Marketing Team, to prepare a drawing of an ethanol oil recovery system. Appx21351; Appx21308; Appx17278 at 36:20-24. Winsness gave Dyer the Draft Offer and instructed him to use the Case Farms system as a template. Appx17288 at 99:8-13. He told Dyer which components and flows to depict, Appx17289 at 102:7-103:11, and instructed him to include digital images of an Alfa Laval AFPX 610 disk stack centrifuge,¹² Appx17289 at 103:15-105:5 -- the centrifuge used in the Case Farms system. Appx110044; Appx17289 at 103:18-104:21; Appx17291 at 128:25-129:16.

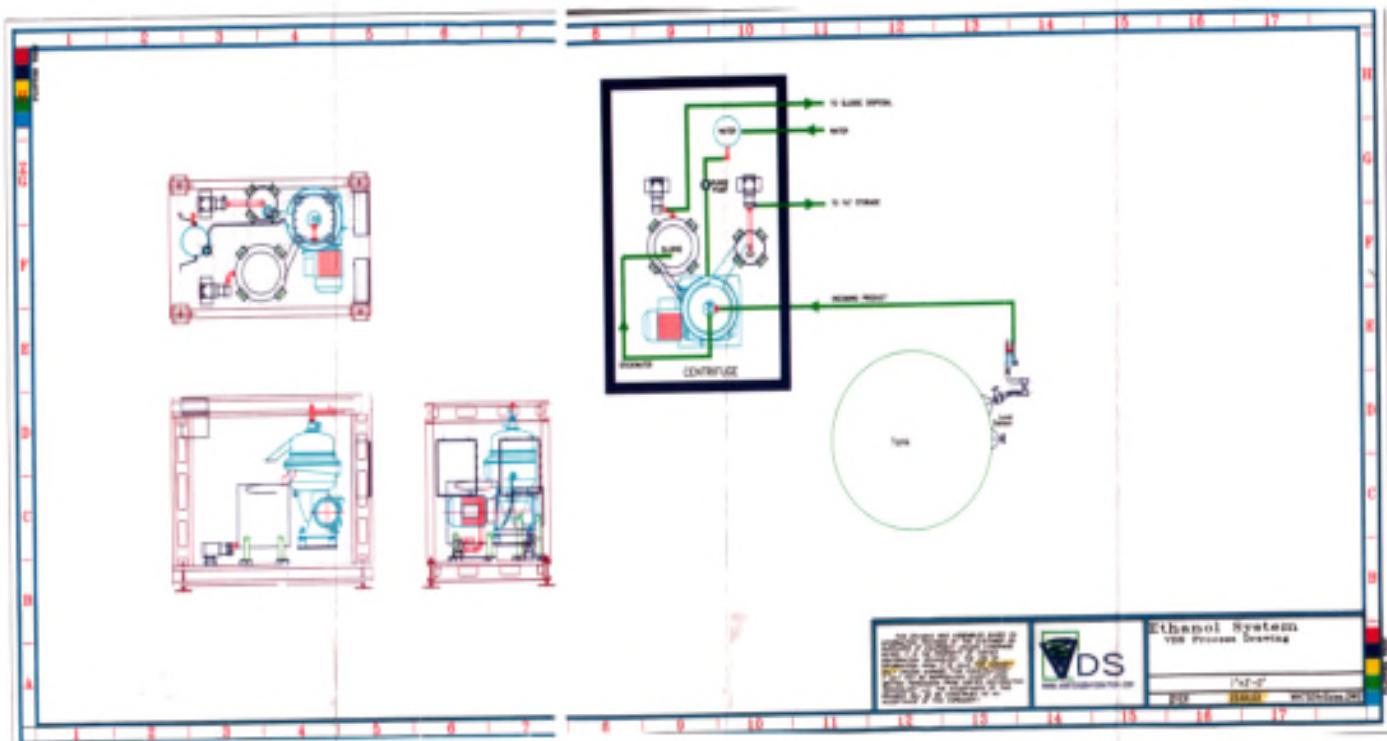
¹¹ Reminiscent of their dealings with Case Farms, the inventors prepared an offer letter based on a spin test.

¹² The AFPX 610 is a solids ejecting disk stack centrifuge “mainly used in the animal and fish processing industry” for “Fats and oils purification.” Appx18578.

Dyer often prepared drawings for Cantrell to use as a sales tool and understood the diagram “was intended to become a sales drawing.” Appx17278 at 36:3-19. Dyer labeled the computer file for the drawing “Wh73Ethl**Sales.**” *Id.*; Appx21306 (emphasis added). Dyer described Cantrell as focused on “[s]ales and very willing to exploit something that had value and would pursue it with a vengeance.” Appx17277 at 28:21-29:3.

Dyer completed the diagram (the “Ethanol System Diagram”), shown below, on July 22, 2003. Appx110044; Appx17288 at 99:14-100:22.¹³

¹³ A large, color version of this Diagram is available at Appx110044. By viewing this page of the Appendix, the Court will be able to read the text on the Diagram, see its title, date, and different views of the system depicted there.



The Ethanol System Diagram depicts syrup from the feed tank (labeled “incoming product”) being processed in a disk stack centrifuge and oil being sent to “fat storage.” Appx110044; Appx20343-20344 at 69:22-72:24; Appx20122-20123 at 174:24-175:21, 182:5-21).

ii. The Inventors Offer to Sell an Oil Recovery System to Agri-Energy

VDT always struggled financially, Appx17281 at 56:8-15, and relied on cash investments from shareholders to meet expenses. Appx21311.¹⁴ In July 2003, VDT was attempting to transition from a

¹⁴ On August 5, 2003, VDT requested a \$1 million investment from its investors. Appx21349.

“professional test company” to one that made sales. Appx17284 at 77:3-15; Appx21317 at 4, 8-11. On July 28–29, VDT held its first “System Sales Training Session.” Appx21364-21387.

On August 1, Cantrell emailed a “proposal” to Agri-Energy. The “proposal,” dated July 31, 2003, stated “[VDT] would like to offer Agri-Energy a No-Risk trial ‘Oil Recovery System.’” (the “Offer Letter”). Appx110020-110023 at 2. The Offer Letter stated “[t]he module will contain all items necessary to separate the oil, and pump the resulting oil and sludge to their respective destinations.” Appx110021. The module had to be located “within 50’ from the evaporator.” Appx110022. The Offer Letter touted that the system “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 \$532,000 per year,” and “allow[ed] Agri-Energy 60 days to operate the unit and confirm its value.” Appx110021 (emphasis in original). Agri-Energy could “purchase the system” for \$423,000 or “return the skid to [VDT] (no questions asked).” *Id.* VDT also provided the Ethanol System Diagram to Agri-Energy. Appx20343-20344 at 69:22-72:24.

VDT frequently used no-risk trials as a sales technique, and they were common in the industry. Appx17292 at 133:10-133:19; Appx21388-21391; Appx20369 at 41:2-21. The Offer Letter was similar to other letters VDT prepared to sell systems that included centrifuges to recover oil from waste streams. Appx20376-20378; Appx21388-21391. Others in the industry used sales offers containing this level of detail. Appx20169 at 115:5-13.

Sommers understood the Offer Letter permitted Agri-Energy to purchase the system depicted in the Ethanol System Diagram. Appx20346 at 82:8-83:2; Appx20360 at 236:27-237:20. The system included a disk stack centrifuge to process hot syrup and separate oil, and pumps to recover the oil. Appx20345-20346 at 79:17-22, 80:4-22, 85:6-24; Appx20340 at 48:3-22; Appx20183 at 82:7-23.

The technology to recover oil from syrup had existed for decades. But in 2003, it was unclear whether oil recovery was economically viable for the ethanol industry because of limited demand for the oil in the feed industry and challenges to using it for biodiesel production. Appx21570; Appx20373 at 64:3-65:2; Appx20366 at 460:22-462:22. Oil was not recovered from the process because the value of this commodity

was unknown. Agri-Energy was also concerned that removing oil from its syrup would negatively affect the price of its DDGS. Appx20346 at 84:13-85:5, 108:25-110:23; 461:1-7; 462:3-20; Appx20247-20248 at 955:19-956:15; Appx21119-21120.

In early August 2003, Cantrell assembled an oil sales and marketing team to address these concerns and “to remove all obstacles to [Agri-Energy] saying no to the offer.” Appx21428; Appx18279-18280; Appx20249 at 997:18-21; Appx20347 at 100:19-101:14. The team consisted of three companies: one to provide sales agents, one to handle logistics, and one to establish prices and provide technical support to customers. Appx21432-21434. A formal agreement executed in October 2003 stated 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.” Appx21432.

On August 18, Cantrell traveled to Agri-Energy. Appx110024. The next morning (the day before the cash call), 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).” Appx110211.

Cantrell presented Agri-Energy's Board with an offer for "a process where the corn oil is pulled off," Appx110282-110286, telling them the system worked and would generate additional income. Appx20349 at 111:3-19. The Board minutes contain no reference to "testing" or "experimenting." Appx110285.

That night, Winsness announced to VDT's shareholders 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." Appx110209 (emphasis added).¹⁵ Dyer understood this to be a reference to a potential sale by VDT of an ethanol oil recovery system. Appx17283 at 72:16-73:14.

Agri-Energy postponed a decision on the offer because of internal issues. Appx110285; Appx20348 at 105:17-106:9; 118:25-119:15.

¹⁵ Cantrell later reported to VDT's Chairman that "we have made an offer to Agri-Energy." Appx110207. He "attached . . . the offer to Agri-Energy." *Id.*

iii. Cantrell and Winsness Pursue a Patent

On February 4, 2004, Winsness emailed Cantrell regarding the “Ethanol Oil Patent” and described the method: syrup (the “product exiting an Evaporator”) would be processed using a centrifuge to separate oil. Appx110214. The temperature, pH, and moisture content of the syrup would be the standard values in a conventional ethanol plant (temperature of 150 to 212°F, pH of 3 to 6, moisture content of 60% to 85%). *Id.* As Winsness stated, “it 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 February 8, Cantrell called Attorney Andrew Dorisio and requested information about the patent process, and he or Winsness printed out an excerpt from the PTO website stating that a patent application could be filed up to one year following the first offer for sale. On February 9, Dorisio emailed Cantrell that an invention could not be patented if it had been offered for sale more than one year before filing a patent application and inquired about such events. Appx111057; Appx111059

iv. Agri-Energy Installs An Oil Recovery System

In early 2004, Agri-Energy wanted to install a centrifuge to recover oil, but VDT's module was no longer available. Appx20350 at 119:16-25. In May 2004, Agri-Energy rented a centrifuge, installed it using information that Cantrell disclosed in the summer of 2003, and recovered oil from syrup. Appx110380. While an Alfa Laval representative operated the centrifuge and made standard adjustments to optimize its performance, Agri-Energy performed the method without any supervision or assistance from Cantrell or Winsness. Appx110288-110290; Appx20351 at 125:12-24; Appx20352 at 135:3-16; Appx20353 at 154:21-156:19. At one point, Agri-Energy fed thin stillage to the centrifuge *before* the evaporators and recovered oil from that stream. Appx20384 at 31:5-12; Appx20385 at 35:19-36:21. Agri-Energy did not tell Cantrell or Winsness about this pre-evaporation oil recovery process. Appx20384 at 31:5-15. Cantrell and Winsness did not observe the operation of the system and did not gather data or information about its performance. Appx20182 at 71:19-72:17; Appx20355 at 191:8-13. Agri-Energy did not sign a confidentiality agreement with VDT. Appx20342 at 64:19-25; Appx20365 at 349:24-350:6.

v. Prosecution of the ‘858 Family

a. The inventors tell their first attorney their invention date was June 2003

On July 29, 2004, Winsness contacted Dorisio about preparing a patent application and provided Dorisio with information about the invention. Appx63881. He provided a copy of Barlage's June 2003 test report with a caption he added reading "original discovery of oil separation June 2003." Winsness also described Barlage's 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 (sic) were able to separate the oil from the water cleanly.

WHAT IS UNIQUE ABOUT THIS?

Disk-Stack Centrifuges 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 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.

Appx111089.

Dorisio explained the on-sale bar. Appx111059. Without being told of the inventors' dealings with Agri-Energy in 2003, the Offer

Letter, or Dyer's Ethanol System Diagram,¹⁶ Dorisio filed a provisional patent application on August 17, 2004. Appx900.

In April 2005, Dorisio received the results of a prior art search and notified the inventors of U.S. Patent Publication No. 2004/0087808 by John Prevost ("Prevost") describing and claiming methods for recovering corn oil at a conventional dry-mill ethanol plant. Appx18286-18296; Appx111060; MediaAppx200001 at 13:38:27-13:45:02. Prevost was filed on July 15, 2003. Appx18286-18296.

Prevost described methods for recovering corn oil from various points during stillage processing, Appx110965-110967 at ¶¶ 0005, 0013, 0014 and 0026, including from thin stillage and syrup. Figure 1 identified the oil recovery points, which are circled:

¹⁶ Dorisio testified that his explanation of the on-sale bar should have elicited this information from them. MediaAppx200001 at 15:45:15-15:54:39.

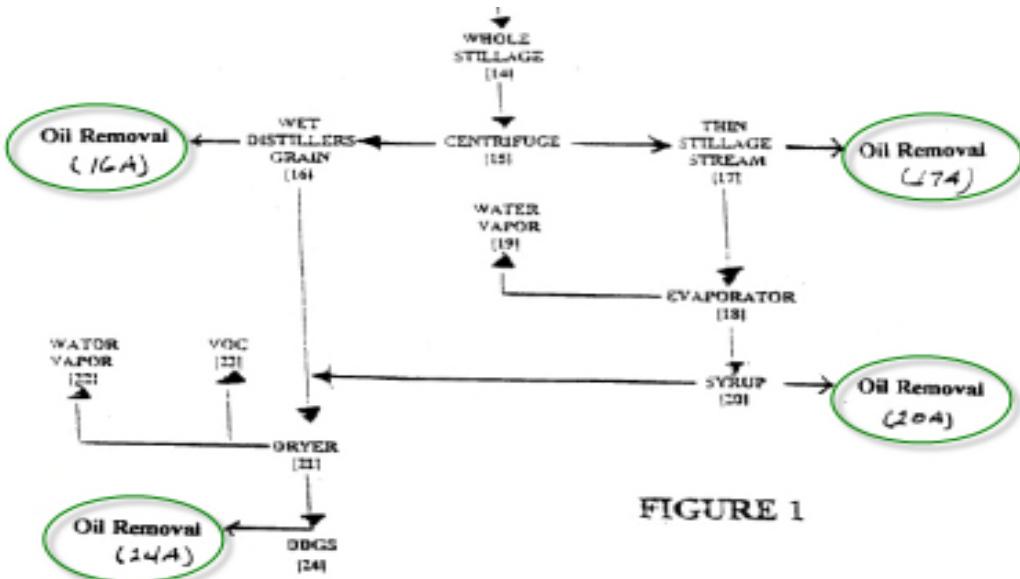


FIGURE 1

Claim 20 claims centrifuging the syrup produced by the evaporator to remove oil.

20. The process of claim 19¹⁷ wherein the oil is removed from the syrup by centrifugation to produce a mixture of oil and water stream.

Dorisio evaluated Prevost while preparing a patentability and freedom to operate opinion. Appx111060-111068. His associate noted the presence of claims 12, 19 and 20 and identified a “mistake” in claim

¹⁷ Claim 19 provides:

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 of the oil is removed from the syrup.

19 regarding the moisture content. Appx110971¹⁸ Dorisio determined that July 15, 2003 (the earliest filing date for Provost) was the date the inventors needed to “swear behind for [claim] 12.” Appx110963.

On July 1, 2005, Dorisio, working with an associate, drafted a clearance opinion, Appx111060-111074, premised on information the inventors provided that their invention was reduced to practice in June 2003, and opined they could swear behind Prevost. Appx111060. The opinion stated:

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. If accurate, this date of invention precedes the filing date of the '808 published.

Appx111065.

Dorisio filed a non-provisional application on May 5, 2005, permitting the inventors to “swear behind” Prevost, which published on

¹⁸ Neal Hammond, Prevost’s co-inventor, testified that Claim 19 contains two errors: (1) the blank space should refer to the amount of oil removed from the syrup, Appx17092-17097 at ¶ 13, and (2) “a syrup stream containing less than 15 wt. % water” should have read “15 wt. % oil.” *Id.*

May 6, 2004.¹⁹ The same day, Dorisio also filed a letter with the PTO stating that Prevost “may be found to claim the same invention as at least one claim in the instant application.” Appx18299.

In 2006, CleanTech acquired the Patents-in-Suit. Appx20311-20327. Cantrell and Winsness, who joined CleanTech as Vice President and Chief Technology Officer, respectively, are entitled to a portion of any royalties received under the Patents-in-Suit. Appx39779 at 134:10-21; Appx20255-20256 at 121:23-122:2; Appx35686 at 213:17-2.

b. The Inventors Hire Hagerty and Attempt to Distinguish Prevost

In March 2008, prosecution was transferred to Peter Hagerty at Cantor Colburn (“Cantor”). Hagerty advised Cantrell and Winsness of their duty of candor and explained the on-sale bar to them. Appx54666 at 42:3-18. He was sure that his explanation of the on-sale bar should have prompted them to disclose the Offer Letter. Appx71218:9-19; Appx71312:2-23.

On June 13, 2008, the Examiner rejected all of the claims in the application leading to the ‘858 patent, based in part on Prevost.

¹⁹ A reference published more than 1 year prior to an applicant’s effective filing date is a “statutory bar” under pre-AIA 35 U.S.C. § 102(b).

Appx120142. On September 14, 2008, Winsness emailed Hagerty several documents, including the invention description he had provided to Dorisio in July 2004. Appx111075-111104. Winsness told Hagerty he was including “testing we did in June 2003 to discover that a sequence of evaporation followed by centrifugation allows for oil recovery.” Appx111075. He included Barlage’s June 2003 test report, labeled as “the original discovery of oil separation June 2003.” Appx111098. Winsness acknowledged a June 2003 reduction to practice, writing:

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 (sic) were able to separate the oil from the water cleanly.

Appx111089.

He reported that this bench-top test “led us to believe that the process would work on a commercial scale.” *Id.*

On September 15, instead of swearing behind Prevost, Hagerty amended the claims and distinguished Prevost, arguing it did not teach heating and mechanically processing syrup to remove oil “as claimed”

(despite the fact that Prevost did claim that). Appx120129. The examiner subsequently issued a final office action maintaining the rejection based on Prevost. Appx120112-120113.

In response, Hagerty represented that “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.” Appx17946. Hagerty took this conclusion from Barlage’s June 2003 test report, which found “[s]omething in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily.” Appx111104.

In April 2009, the PTO issued a notice of allowance for the ‘858 patent and CleanTech paid the issue fee in May 2009. Appx63881.

c. Raymon Bean Conducts Due Diligence

By May 2009, CleanTech was in dire financial straits. Appx70826-70827. Raymon Bean, a potential investor, conducted due diligence on the pending applications. On May 15, Bean’s attorney requested any “pre-filing disclosures of the inventions,” “. . . pre-filing offers for sale,”

and “information relating to any inventorship.” Appx111023. Hagerty explained the importance of this information to Cantrell and Winsness. Appx71312:10-23. Cantrell and Winsness denied having any relevant information and they did not provide the Offer Letter to Hagerty. Appx71218:12-13. Hagerty wrote to Bean’s attorney, “[t]o 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; . . . no known inventorship issues; and no known information that affects validity/and/or enforcement.” Appx111025.

On May 29, Bean’s attorneys had a lengthy call with Winsness and Cantrell to discuss these issues. Appx111005. Winsness emailed Cantrell and Barlage the next day with action items regarding questions raised during the call. *Id.* Cantrell and Winsness were to review their files for evidence that VDT had released its invention rights to them and for a nondisclosure agreement between VDT and Agri-Energy. Appx111007. At that time, Cantrell had a signed copy of the Offer Letter and Winsness had a copy on his computer. Appx262; Appx63882 at ¶¶15-17; Appx110929-110930; Appx110934-110953.

Nonetheless, this information was not provided to Bean's attorney or Hagerty. Appx262-263.

d. Hagerty and the Inventors falsely imply that testing first occurred in May 2004

On June 5, Hagerty withdrew the pending '858 patent application from issue to address concerns raised by Bean. Appx71338:1-20. He filed a letter with the PTO stating in part that:

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.

Appx110380.

This letter referred to Agri-Energy's installation of a centrifuge in May 2004, but does not state that the testing was done in a commercial setting or an ethanol plant. It falsely implies their first reduction to practice was in May 2004. Hagerty also filed the "Feasibility Test Letter" in the prosecution of the '516, '517 and '484 patents. Appx110371-110378; Appx110697-110699.

Because the priority date of the ‘858 Family was August 17, 2004, the disclosure of testing in May 2004 was irrelevant to the PTO, as no information about a potential sale bar was before it at this time. Appx71339:7-14.

The inventors did not disclose (1) their dealings with Agri-Energy in 2003, (2) Barlage’s June and July 2003 testing, (3) Barlage’s test report, (4) Dyer’s Ethanol System Diagram, (5) the Offer Letter or (6) the creation of a sales and marketing team. Instead, the Feasibility Test Letter implied that the invention was not ready for patenting until May 2004. On October 13, 2009, the ‘858 patent issued. Appx900.

vi. CleanTech Learns Others Know of the Offer Letter

In March 2010, after Cantor filed several of these lawsuits but while the ‘516 and ‘517 patents were pending, Winsness collected records from Cantrell’s home, including a signed copy of the Offer Letter dated July 31, 2003. Appx63882 at ¶¶15-17. He emailed it to counsel on March 24. Appx63882 at ¶18. Believing Cantrell had delivered the Offer Letter before the critical date, counsel began researching the on-sale bar. *Id.* at ¶24.

In mid-May to June 2010, Winsness and Ed Carroll, a CleanTech executive, held meetings with Solution Recovery Services (“SRS”). SRS disclosed that it had an opinion of counsel that the ‘858 Family was invalid due to an offer to Agri-Energy more than one year before the filing date. Appx20371-20372 at 57:11-58:5; Appx20418-20419 at 80:18-83:16.

Around this time, Cantor prepared a memo regarding the on-sale bar. Hagerty drafted a two-page submission to the PTO, wrongly claiming the method was “never disclosed, carried out or performed” and arguing the Offer Letter was irrelevant because it related to the sale of an apparatus, not a method. Appx110793-110795. Cantor’s litigation team took responsibility for disclosing the Offer Letter to the PTO; Hagerty’s submission was never filed.

vii. CleanTech attempts to buy Agri-Energy’s complicity that the “experimental use” exception applied

Following the meeting with SRS, Winsness appeared unannounced at Agri-Energy and met with its maintenance manager. Winsness offered a royalty-free license in exchange for Agri-Energy’s

assistance in proving the patents were valid. Agri-Energy rejected this offer. Appx146; MediaAppx200005 at 4:45:37-4:51:14.

In July, four months after learning about the Offer Letter, litigation counsel wrote to Agri-Energy's counsel, offering a release if Agri-Energy would "confirm" these "facts":

1. VDT had not provided Agri-Energy with drawings or diagrams of a proposed system in 2003;
2. VDT had not described a specific system or method for recovering oil in 2003 other than that it would include a disc stack centrifuge;
3. The proposed use of the system in 2003 was experimental and confidential;
4. Agri-Energy understood in 2003 that VDT had not proved its oil recovery system worked; and
5. There was a need for testing to determine whether the system would work.

Appx110322-110323. Agri-Energy refused to "confirm" these statements because they were untrue. Appx20361-20363 at 242:11-250:10.

viii. Cantrell and Counsel falsely represent that the Offer Letter was delivered after the critical date

From June to late-August 2010, litigation counsel drafted several lengthy submissions to the PTO regarding the on-sale bar. They

detailed arguments as to why the experimental-use exception applied, why the invention was not ready for patenting, and why the letter was not a sales offer. Appx110891-110903. They discussed the June and July 2003 testing and Dyer's Ethanol System Diagram.

On August 12, litigation counsel sent CleanTech a draft submission, Appx110806, and an assessment of the strength of the arguments.²⁰ Appx70865-70866. Between August 12 and August 20, counsel drafted additional submissions of up to 14 pages that discussed in detail the June 2003 testing and Dyer's Ethanol System Diagram and argued that the on-sale bar did not apply. Appx110812-110820; Appx110830-110875; Appx110891-110903; Appx110904-110917.

On or about August 20, five months after the Offer Letter emerged, Cantrell suddenly "recalled" that he first delivered it by hand on August 18, 2003. Counsel was skeptical because the letter was dated weeks earlier, because of the late timing of Cantrell's recollection, and because it conveniently solved the on-sale bar problem by one day. Appx71065. Cantrell obtained his credit card receipts, which showed

²⁰ That same day, Winsness emailed an electronic version of the Offer Letter and Barlage's test report to Cantrell, Appx110934-110953, without copying counsel.

that he was in Luverne on August 18–19, 2003, but did not corroborate Cantrell’s hand delivery or that the Letter was not previously delivered. Litigation counsel O’Brien admitted the credit card records did not alleviate his skepticism. Appx71065-70166.

Despite counsel’s concerns, they failed to: (1) investigate why Cantrell possessed the ink-signed original Offer Letter when he claimed to have hand delivered it; (2) contact witnesses with knowledge, including Mark Lauderbaugh who was present at the July 10 demonstration and Cantrell’s August 2003 meetings with Agri-Energy; (3) subpoena Agri-Energy; or (4) cross-check the hand delivery story with Agri-Energy.

Counsel submitted a copy of the signed Offer Letter to the PTO for the first time on November 9, 2010 along with:

1. A three-page “Supplemental Response” signed by Hagerty;
2. A four-page declaration executed by Cantrell (the “First Cantrell Declaration”); and
3. Cantrell’s credit card statement.

Appx110008-110019.

Cantrell falsely declared that “the first time that the Letter was shown to Agri-Energy” was at a meeting on August 18, 2003. *Id.* at 125; *see also* Appx20202 at 141:5-14.

In the “Supplemental Response,” Hagerty represented that “(a)lthough the Letter is dated July 31, 2003, it was nonetheless first disclosed to Agri-Energy on August 18, 2003...” and therefore “is not material to the above-noted patent application because it is not prior art . . .” Appx18029-18031. Hagerty stated he was submitting the Offer Letter and Cantrell’s First Declaration “in an abundance of caution.” *Id.*

Applicants did not provide any technical details, drawings, or description of the system offered for sale or the method performed by the “Oil Recovery System.” They did not submit Barlage’s test report, the Ethanol System Diagram, or their other communications with Agri-Energy and did not disclose Barlage’s June and July 2003 testing.

Based on this false, misleading and incomplete information, the PTO had no reason to evaluate an on-sale bar. The ‘516 and ‘517 patents issued on August 30, 2011.

The First Cantrell Declaration was also filed in the ‘484 application on June 21, 2011. Appx63883 at ¶34.

ix. The First Cantrell Declaration is proven false

On September 21, 2011, Defendants deposed Cantrell and confronted him with his August 1, 2003 email sending the Offer Letter to Agri-Energy. Appx70145 at 146:5-147:4.²¹ Cantrell testified that the email was not authentic, and counsel instructed him not to answer questions about it and ended the deposition early. Appx20207-20208 at 170:18-171:3. Hagerty later testified that “it sen[t] a chill up [his] spine” when he saw the email. Appx63883 at ¶36; Appx20334 at p.213.

Cantrell eventually admitted the authenticity of the email, meaning the First Cantrell Declaration was undeniably false. Appx70601.

x. CleanTech and Cantor fail to correct the false declaration

For several months, CleanTech and counsel did not disclose that the First Cantrell Declaration was false. Nor did they correct the Feasibility Testing Letter, which implied there was no reduction to

²¹ The August 1, 2003 email was not produced by CleanTech in this litigation even though it was authored by Cantrell and copied to Winsness. Appx248.

practice until May 2004. They also did not disclose Barlage's testing in June and July 2003 or Dyer's Diagram. Rather, they prosecuted the '484 patent to allowance.

On December 13, 2011, the PTO issued an office action. Appx111030. Hagerty responded on February 10, 2012, Appx110353, and the PTO issued a notice of allowance on April 13, 2012. The day before the issue fee was due, Appx111036, Hagerty withdrew the '484 application from issue and filed a second, tersely worded declaration (the "Second Cantrell Declaration"). Appx111038; Appx63883 at ¶40. Cantrell claimed he had forgotten about his August 1 email when he filed the first declaration, pointed out that the letter attached to the email was unsigned, and reaffirmed that he hand delivered the Offer Letter on August 18, 2003.²² CleanTech did not submit a Supplemental Response, as it did with the First Cantrell Declaration.

²² Agri-Energy denies ever receiving a signed versions of the Offer Letter. MediaAppx200002 at 9:32:47-9:38:42.

CleanTech also inundated the PTO with redacted court filings from this litigation²³ and three emails from 2003, while failing to disclose other pre-critical date documents. *See e.g.*, Appx121691-121694. CleanTech did not explain the significance of the emails and did not disclose Barlage's June/July 2003 testing or Dyer's Ethanol System Diagram and did not correct the misleading representations in the Feasibility Test Letter.

The late disclosure failed to state that the First Cantrell Declaration was false and did not acknowledge the significance of the August 1 email—that it presented an on-sale bar. And because Applicants never disclosed Barlage's June/July 2003 testing or the Ethanol System Diagram, but rather told the PTO that the invention was not ready for patenting until May 2004, the PTO did not have sufficient or accurate information to evaluate the on-sale bar. Indeed, Applicants did not make clear that further examination may be required. The PTO issued the '484 patent in October 2012.

²³ CleanTech selectively disclosed versions of Defendants' pleadings in which key passages quoting the Barlage test report were redacted, even though unredacted versions had been publicly filed months earlier.

F. THE SUMMARY JUDGMENT DECISION

In 2013, CleanTech moved for summary judgment of infringement against all Appellees, various Appellees cross-moved for summary judgment of no infringement, and all Appellees moved for summary judgment of invalidity.

In a 233-page decision, the court granted summary judgment of non-infringement for all Defendants for all claims in suit. Appx83; Appx86–92; Appx96. The court found that CleanTech had no admissible evidence of infringement despite years of discovery. It also held all claims in suit invalid for one or more of the following reasons: on-sale bar, Appx174, anticipation, Appx181, obviousness, Appx192, 217, incorrect inventorship, Appx202, inadequate written description, Appx195, lack of enablement, Appx197, Appx219, and indefiniteness, Appx205. The court also granted summary judgment for Appellees on the indirect and willful infringement allegations. Appx208.

G. THE INEQUITABLE CONDUCT TRIAL

Following summary judgment, all parties except Adkins agreed to submit to the MDL Court's jurisdiction for trial on inequitable conduct. Appx61150. They engaged in additional discovery and, on the eve of

trial, the court ordered CleanTech to produce various documents previously withheld on privilege grounds. CleanTech does not challenge that ruling here. The MDL Court conducted an eight-day bench trial that included live testimony from Cantrell, Winsness, Hagerty and O'Brien, and deposition testimony from Dorisio, Dyer, Sommers, Lauderbaugh, and SRS executive Czartoski.

In a 78-page decision, the court concluded that additional evidence at trial buttressed the court's conclusion at summary judgment that the invention was ready for patenting when the inventors made their sale offer to Agri-Energy. Appx294. The court further concluded the inventors committed inequitable conduct by a "complete lack of regard for their duty to the patent office." Appx261. The court found 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." Appx299. They "acted to deceive the PTO about the facts of the discovery process of the invention" and "purposefully withheld the information about their dealings with Agri-Energy." Appx261;

Appx263. The fact that Cantrell and Winsness “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 [July 31, 2003] offer” demonstrates “they intended to deceive the PTO.” Appx292. And “[w]ith respect to the ‘516, ‘517, and the ‘484 patents, the inventors allowed Hagerty to file a false declaration 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.” Appx292-293; *see also* Appx303 (“The Court can only conclude that Winsness and Cantrell intentionally allowed Hagerty to create this false impression . . .”).

The Court found that the lawyers at Cantor participated in this fraud. Along with CleanTech, they “chose to aggressively pursue patent infringement suits in multiple forums while simultaneously prosecuting further family patents.” Appx299. In so doing, they “chose advocacy over candor.” Appx308. From the beginning, “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.” Appx296. By

concentrating on “pre-critical date documents . . . Hagerty’s focus was purposefully and, in [the] Court’s view improperly narrow.” Appx300.

The Court also found that, “[i]n the face of Cantrell’s poor health, Winsness’ and Cantor’s reliance on Cantrell’s recollection of the events surrounding the [Offer Letter] and the credit card receipts, as well as their lackluster investigation of events is solid evidence of purposeful behavior.” Appx307. The Court found that “the lawyers ignored the red flags waiving [sic] before them” including that Winsness “threatened Agri-Energy with legal action if it did not corroborate his and Cantrell’s story” after learning that a competitor had determined the patents were invalid because of the on-sale bar. Appx307-308. Instead of taking this as evidence that Cantrell’s story was amiss, Attorney Rye doubled down by sending Agri-Energy a “thinly-veiled threat.” Appx308. In the end, “[t]he only reasonable inference is that [Cantor] believed the inventors had made an offer for sale and, with the feasibility testing letter already before the PTO in both prosecutions, which implied a later reduction to practice date, they chose advocacy over candor.” *Id.* (internal citation omitted).

The MDL Court repeatedly noted the unreliable testimony from Cantrell,²⁴ Winsness,²⁵ Hagerty²⁶ and litigation counsel Charles O'Brien.²⁷ The Court reaffirmed its on-sale bar ruling based on the

²⁴ See e.g., Appx242 “[T]he Court found Cantrell’s testimony on any topic of little credible value.”); Appx276 “Cantrell’s testimony on any issue related to the relevant time period is not credible . . .”); Appx297 (“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.”).

²⁵ See e.g., Appx255 (Winsness’s testimony “is belied by contemporaneous documents dating back to June, July and August of 2003 . . .”); Appx266 (“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.”); Appx299 (“Winsness’s 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 . . .”).

²⁶ See e.g., Appx259 (Hagerty’s testimony that 2003 testing was unimportant to patentability “was unconvincing”); Appx263 (Hagerty’s testimony that his understanding that the 2003 bench testing was unsuccessful was not credible); Appx265 (“The Court found Hagerty’s testimony about [the feasibility testing] filing canned and evasive . . .”); Appx295 (“The Court also found implausible Hagerty’s testimony about documents he found either not material or ‘cumulative,’ . . .”).

²⁷ See e.g., Appx278 (O’Brien’s testimony that he doubted the veracity of the August 1, 2003 email “only further eroded” his credibility); Appx309-310 (“[Hagerty] 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.”); Appx311 (O’Brien’s “rambling justification for [Cantrell’s Second Declaration] and repeated claims that he intended it to be ‘clear,’ in addition to the lack of drafts,

evidence it received at trial, Appx294, and held the ‘858 Family unenforceable due to inequitable conduct. Appx313.

H. SUMMARY OF THE ASSERTED ‘858 FAMILY CLAIMS

The ‘858 Family claims a simple idea: “essentially . . . the addition of a centrifuge downstream of the evaporator in a conventional system.” Appx909 at 5:27-30.

All issued claims are method claims. The ‘858 patent has four independent claims: 1, 8, 10, and 16. Claim 8 requires using any centrifuge to recover largely or mostly oil from syrup. Claims 1, 10, and 16 include a separate post-evaporation heating step. The dependent claims variously specify conventional temperature, pH, or moisture content ranges for the syrup or the use of a disk stack centrifuge. Claim 14 is the only one to claim a continuous process. Claim 15 requires the step of drying the syrup after the oil is recovered. Appx908 at 5:65-6:64.

The ‘516 patent has two independent claims. Claim 1 “consist[s] essentially of” the use of substantially only a mechanical process on the syrup to recover largely or mostly oil. Appx920 at 6:11-19. Claim 7

evidenced a carelessness and lack of sincerity that clinches the inference that he was trying to cover up his misdeeds with compounded complexity.”).

requires processing the syrup through a disk stack centrifuge to form a substantially oil free concentrate. Appx920 at 6:34-42. Dependent claim 9 claims a continuous process. Appx920 at 6:46-47. The other claims variously specify conventional temperature, pH, or moisture content ranges for the syrup. Appx920 at 6:20-53.

The ‘517 patent contains one independent claim. It requires only using any centrifuge to recover largely or mostly oil from syrup. This claim extends the moisture concentration range down to 15%. Dependent claim 2 specifies the use of a disk stack centrifuge. Appx931 at 6:32-39.

The ‘484 patent has 5 independent claims: 1, 8, 16, 19, and 30. Except for claim 30, all of the claims require the additional step of “drying the [syrup]” after oil is recovered from it. Except for this 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 a separate heating step). Claim 30 only requires mechanical processing of syrup to recover largely or mostly oil. The dependent claims specify various conventional

temperature, pH, or moisture content ranges or the use of a disk stack centrifuge. Dependent claims 26, 27, 28, and 29 require that after the syrup is dried, it is combined with the wet distiller grains before that mixture is also dried. Appx964-965 at 6:9-8:37.

I. SUMMARY OF THE '037 PATENT

The '037 patent issued on May 1, 2012. Winsness was the sole named inventor. It claims an “improvement” to the ‘858 patent and uses “the ‘858 patent’s oil-recovery method as a starting point.” Br. 70. The disclosure in the ‘858 patent is substantially repeated in the ‘037 written description for Figures 1-4. Appx216. Below, CleanTech admitted that the oil recovery step in all ‘037 claims was a joint concept of Winsness and Cantrell, Appx50988, and it is undisputed that the ‘858 patent was prior art under 35 U.S.C. § 102(e). Appx50995-50997.

The improvement to the '858 patent is that “[e]very ‘037 claim recites a post-oil recovery step, in which de-oiled syrup ... is ‘subsequently evaporat[ed] ... in an evaporator to further reduce [its] moisture content” before it “is mixed ... with distillers wet grains’ and ‘delivered to the dryer” to form DDGS. Br. 79. As discussed below, the efficiencies in using an evaporator to remove water from syrup before

mixing with wet distillers grains and drying to form DDGS were known in the prior art.

The District Court held that none of the asserted claims of the '037 Patent were infringed (*infra* at 132) and all of the asserted claims were obvious (*infra* at 112) and invalid as not being enabled (*infra* at 121).

IV. SUMMARY OF ARGUMENT

CleanTech tries to avoid the misconduct of the inventors and its counsel during prosecution of the ‘858 Family, the weakness of its case, and its patents by disparaging Judge Larry McKinney as engaging “in improper, result-driven judicial practices.” Br. 12. Nothing could be further from the truth.

Rather than respond to dozens of frivolous, unsupported and far-flung arguments raised by CleanTech on appeal, Appellees provide a roadmap for efficiently resolving this case. First, because CleanTech cannot show that the District Court’s factual findings were clearly erroneous or that it misapplied the law, this Court should affirm the inequitable conduct decisions finding the ‘858 Family unenforceable. It should then find the ‘037 patent invalid as obvious, as indefinite, not enabled and for failing to satisfy the written description requirement. It should also find this patent is not infringed.

Should the Court move beyond the inequitable conduct ruling, it should find the ‘858 Family invalid as anticipated, obvious, indefinite, not enabled and for failing to satisfy the written description

requirement and name Barlage as an inventor. It should also find the ‘858 Family is not directly or indirectly infringed.

Because CleanTech failed to provide the Court with the relevant facts, a large portion of Appellees’ brief is devoted to “setting the record straight.” In the remaining space, Appellees have tried to address each of the dozens of poorly developed arguments raised by CleanTech. Appellees do not concede or waive any argument not expressly discussed below.

V. ARGUMENT

A. The District Court Correctly Found the ‘858 Patent Family Unenforceable Due to Inequitable Conduct

The District Court’s finding that the ‘858 Family is unenforceable is case dispositive with regard to those patents. This Court should affirm that ruling because CleanTech cannot show that the District Court’s findings of fact were clearly erroneous or that it misapplied the law. *Energy Heating, LLC v. Heat On-The-Fly, LLC*, 889 F.3d 1291, 1299 (Fed. Cir. 2018). And this Court need not reach the many of other issues that CleanTech has raised regarding the ‘858 Family. *Id.* at 1308 (affirming inequitable conduct ruling and declining to consider validity, claim construction, and infringement issues).

i. Legal Standards

a. The Standard for Proving Inequitable Conduct

“To prevail on a claim of inequitable conduct, the accused infringer must prove that the patentee acted with the specific intent to deceive the PTO.” *Therasense, Inc. v. Becton, Dickinson & Co*, 649 F.3d 1276, 1290 (Fed. Cir. 2011). “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.” *Id.* (emphases in original). “Because direct evidence of deceptive intent is rare, a district court may infer intent from indirect and circumstantial evidence.” *Id.* “The specific intent to deceive must be ‘the single most reasonable inference able to be drawn from the evidence.’” *Id.*

The materiality standard for withheld references is “but-for materiality,” *i.e.*, that the PTO would not have allowed a claim if it had been aware of the undisclosed prior art. *Id.* at 1291. “In making this patentability determination, the court should apply the preponderance of the evidence standard and give claims their broadest reasonable construction.” *Id.* at 1291–92. There is an exception to “but-for”

materiality “in cases of affirmative egregious misconduct.” *Id.* “When the patentee has engaged in affirmative acts of egregious misconduct, such as the filing of an unmistakably false affidavit, the misconduct is material.” *Id.* (citing *Rohm & Haas Co. v. Crystal Chem. Co.*, 722 F.2d 1556, 1571 (Fed. Cir. 1983) (“there is no room to argue that submission of false affidavits is not material”)). “[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.” *Therasense*, 649 F.3d at 1292.

If an applicant makes intentional material misrepresentations, “a complete ‘cure’ must . . . be demonstrated by clear, unequivocal, and convincing evidence.” *Rohm & Haas*, 722 F.2d at 1572. This requires “expressly advis[ing] the PTO of its existence, stating specifically wherein it resides.” *Id.*

[I]f the misrepresentation is of one or more facts,” the patentee must advise the PTO “what the actual facts are” while “making it clear that further examination in light thereof may be required if any PTO action has been based on the misrepresentation.

Id.

b. Inequitable conduct determinations are reviewed under a deferential 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*, 889 F.3d at 1299. This Court “will not substitute [its] judgment for that of the trial court in relation to the discretionary ruling of inequitable conduct unless the appellant establishes that the ruling is based on 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 district court.” *Id.*

“The trial court’s assessment of credibility is typically given great weight.” *Baxter Int’l, Inc. v. McGaw, Inc.*, 149 F.3d 1321, 1330 (Fed. Cir. 1998) (accepting finding that inventors’ testimony was “self-serving and inconsistent with the documentary evidence”); *see also U.S. v. Hickok*, 77 F.3d 992, 1007 (7th Cir. 1996) (“Special deference is given to findings based upon credibility determinations, which ‘can virtually never be clear error.’” (quoting *Anderson v. Bessemer City*, 470 U.S. 564, 575 (1985)). “[T]he drawing of inferences, particularly in respect of an

intent-implicating question . . . is peculiarly within the province of the fact finder that observed the witnesses.” *Baxter*, 149 F.3d at 1330.

ii. This Court can affirm the materiality finding without reviewing summary judgment of on-sale bar

At summary judgment, the District Court found the claims of the ‘858 Family invalid because “the undisputed contemporaneous evidence” showed by clear and convincing evidence that the on-sale bar applied. Appx167. If this Court reaches this issue it should affirm that finding, in which case materiality is definitively established. *Therasense*, 649 F.3d at 1292.

But this Court need not rely on the summary judgment decision for the materiality finding required by *Therasense* because the District Court held an eight-day bench trial on inequitable conduct, placing materiality squarely before it. The District Court heard additional evidence not before it at summary judgment: first, the court ordered the production of two documents that had been withheld under privilege claims and that exposed CleanTech’s false assertion that Barlage’s June/July 2003 test was a failure and that the invention was not ready for patenting prior to the critical date. Appx40144-40155. Second, the

District Court heard testimony from Cantrell, Winsness, and their attorneys. After trial, with respect to materiality, the court held:

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. *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. . . .* The Court adopts herein by reference the findings of fact and conclusions of law in the Summary Judgment Order. . . . *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.*

Appx294 (internal citations omitted, emphasis added).

Invalidity and materiality assess overlapping issues but through different evidentiary standards. Invalidity must be shown by clear and convincing evidence. But materiality requires only a finding by *a preponderance of the evidence* that a patent would not have issued had the PTO been made aware of the information at issue. *Therasense*, 649 F.3d at 1291-92; *see also* Appx291. Because of this lower standard, withheld information may be material but not invalidating: “if a claim

is properly invalidated in district court based on [a] 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. However, even if a district court does not invalidate a claim based on a deliberately withheld reference, the reference may be material if it would have blocked issuance under the PTO's different evidentiary standards.” *Therasense*, 649 F.3d at 1292; *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 768 F.3d 1185, 1189 (Fed. Cir. 2014) (“*Calcar II*”) (“District courts and the PTO employ different evidentiary standards The jury’s verdict finding the patents at issue non-obvious thus does not weigh on the determination of materiality for inequitable conduct.”); *Am. Calcar, Inc. v. Am. Honda Motor Co.*, 651 F.3d 1318, 1335 (Fed. Cir. 2011) (“*Calcar I*”) (“Even though the jury rejected Honda’s invalidity arguments . . . the withheld information may be material if it would have blocked patent issuance under the PTO’s preponderance of the evidence standard.”).

Unlike summary judgment, the District Court’s inequitable conduct decision is reviewed for abuse of discretion, and its fact findings are reviewed for clear error. *Energy Heating*, 889 F.3d at 1299.

CleanTech claims materiality must rise and fall with the summary judgment decision because materiality “exceeded the scope of the bench trial, which was only on ‘inequitable conduct.’” Br. at 105. This is incorrect—materiality is one of the two prongs of inequitable conduct. CleanTech also wrongly claims the court “**barred** CleanTech from re-litigating materiality” because the court excluded evidence that the PTO allowed a continuation application in the ‘858 Family. Br. at 105–06 (emphasis in original). This was the *only* evidence excluded on this subject, and it was excluded not because CleanTech was “barred” from relitigating materiality, but under Federal Rule of Evidence 403 because “its probative value is outweighed by the way it would confuse and prolong this trial,” a ruling CleanTech has not appealed. Appx71952-71953.

Indeed, CleanTech put materiality at issue. Its pretrial brief argued “Defendants will also not be able to establish that any of the alleged errors and omissions, aside from the misstatements found in

Cantrell's first declaration, would have been 'but-for' material" and that "[n]otwithstanding this Court's finding to the contrary, . . . any alleged omissions were not 'but for' material to patentability of the earlier patents." Appx63467–63468. As the court explained, CleanTech argued at trial that Defendants "failed to prove *both* materiality and intent to deceive," and specifically, that "neither the inventors nor the attorneys believed that the invention had been reduced to practice until May 2004." Appx293 (emphasis added). And CleanTech's brief admits that "[a]t trial, CleanTech *tried* to show that the July 31 Proposal was not 'material.'" Br. at 105 (emphasis in original).

CleanTech next claims the trial findings as to materiality violated its right to a jury trial on invalidity. But a patentee is not entitled to a jury on materiality even when there is overlap with invalidity issues that do require a jury. *Calcar I*, 651 F.3d at 1334 ("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."); *Calcar II*, 768 F.3d at 1192.²⁸

²⁸ Nor is a patentee entitled to a jury on invalidity if it can be resolved by summary judgment. CleanTech did not take an interlocutory appeal and consented to the District Court conducting a bench trial on

In sum: to reverse the District Court's materiality finding, this Court must find that after considering all the evidence, including the District Court's credibility determinations, it was clear error to have found that the '858 Family would not have issued had the PTO known the true facts regarding the Offer Letter, Barlage's June/July 2003 testing, the Ethanol System Diagram, and the inventors' communications and dealings with Agri-Energy.

iii. The materiality finding was not clear error

"A patent is invalid under the on-sale bar if, before the critical date, 1) the product is the subject of a commercial offer for sale, and 2) the invention is ready for patenting." *Meds. Co. v. Hospira, Inc.*, 881 F.3d 1347, 1351 (Fed. Cir. 2018). The invalidation is broader than the particular method or apparatus offered for sale: a claim is invalid if "the subject matter of the sale or offer to sell fully anticipated the claimed invention or would have rendered the claimed invention obvious by its addition to the prior art." *Tec Air, Inc. v. Denso Mfg. Mich., Inc.*, 192 F.3d 1353, 1358 (Fed. Cir. 1999).

inequitable conduct. It cannot complain that this case "never should have reached the inequitable conduct phase" or about the District Court sitting as a fact finder on issues of materiality. Br. 127, 105.

a. The invention was ready for patenting

“An 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 person of ordinary skill in the art to practice the invention.”

Hamilton Beach Brands, Inc. v. Sunbeam Prods., 726 F.3d 1370, 1375 (Fed. Cir. 2013). The District Court correctly determined the invention was ready for patenting under both tests.

1. The invention had been reduced to practice twice before the critical date

An invention is reduced to practice if the inventor (1) “constructed an embodiment or performed a process that met all the limitations” and (2) “determined that the invention would work for its intended purpose.” *z4 Techs., Inc. v. Microsoft Corp.*, 507 F.3d 1340, 1352 (Fed. Cir. 2007). The District Court’s conclusion, Appx167; Appx295, that this happened before August 17, 2003 is not clearly erroneous.

In June 2003, Barlage took syrup with pH and moisture contents within the claimed ranges, heated it to 176°F, and separated oil from the syrup with a centrifuge. Appx171; Appx125. Barlage reported that “*the oil can be taken out easily.*” Appx126 (emphasis added). On June

29, 2003, Cantrell told Agri-Energy “[t]he technology *is available* to remove the oil” from syrup. Appx127 (emphasis added).²⁹ CleanTech’s expert testified it was “clear” that Barlage practiced the method claimed in the ‘858 Family in June 2003. Appx20138 at 577:8–24.

Winsness sent Barlage’s June 2003 test report to Dorisio in July 2004 labeled as “the original discovery of oil separation June 2003.” Appx255; Appx111087; Appx111098. He sent that same annotated version to Hagerty in September 2008, stating it showed “testing we did in June 2003 to discover that a sequence of evaporation followed by centrifugation allows for oil recovery,” Appx301; Appx111075, and wrote that the June 2003 test “led us to believe that the process would work on a commercial scale.” Appx301; Appx111089.

In July 2003, Barlage practiced the method again in his “gyro test” at Agri-Energy. Appx245. At the plant, syrup with a pH of about 4, moisture content of about 70–80%, and a temperature of about 180°F

²⁹ This email proposed additional testing to determine “the true quality of the product and the quantity of solids that make it to the top of the tank.” Appx110043. The claimed method does not have any limitations regarding these characteristics. Appx167-168.

was poured it into a bench-top centrifuge (or “gyro”). Appx128-129. The centrifuge separated oil from the syrup. Appx129.

This test was successful and further confirmed the method worked. Appx171. The day after the in-plant test, Agri-Energy’s plant manager told his board of directors that “[t]hings look promising here.” Appx245; Appx110280. That same day, Winsness moved forward on drafting a sales offer. He directed Dyer to prepare the Ethanol System Diagram. Appx246. Dyer understood his diagram “was intended to become a sales drawing . . .” Appx132; Appx246. Cantrell assembled an oil sales and marketing team. Appx135.

These actions make no sense had the tests been failures. The inventors also told their lawyers these tests were successful. As described above, Winsness told Hagerty the June 2003 testing was successful. In a July 2005 clearance opinion, Dorisio wrote “[p]ast 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.” Appx256; Appx111065.

Closely reviewing the ‘858 Family, the District Court found “the method of the patented invention, . . . had been performed,” because “the concentrated thin stillage Barlage tested was at about 180°F, pH of about 4, and moisture content of about 70% to 80%.” Appx171. There is no merit to CleanTech’s claim that the court failed to find the tests met all the elements of any claim. Br. at 46.

After trial, the court found that “[f]urther evidence at trial only buttresses the Court’s earlier conclusion, particularly with respect to the ready for patenting element of the on-sale bar.” Appx294. The Court pointed in particular to Winsness’ memo to Hagerty regarding the date of discovery and the rush to make a sales offer after the July 2003 testing. Appx59-60. The court found “[t]he 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.” Appx60.

On appeal, CleanTech argues that determining whether “the invention would work for its intended purpose” requires testing the invention in an ethanol plant. Br. at 46. But the court correctly

rejected that argument because the claims do not require a commercially-acceptable embodiment. In fact, as the court pointed out, CleanTech admitted in its summary judgment brief that “a patent need not enable a commercially acceptable embodiment unless the claims require it, and the claims here do not.”³⁰ Appx172 (quoting Appx26410-26411); *see also Cygnus Telecomms. Tech., LLC v. Telesys Communs., LLC*, 536 F.3d 1343, 1355 (Fed. Cir. 2008) (affirming invention was ready for patenting despite not having been proven on a commercial scale). Regardless: the July 2003 bench test did take place in an ethanol plant and the inventors’ contemporaneous writings show that it “would work on a commercial scale.” Appx111089. Indeed, CleanTech admits elsewhere in its brief that Barlage’s tests were “part of ‘the discovery that [the] invention *actually works*’” and “were ‘part of reduction to practice.’” Br. at 93 (emphasis added).

³⁰ CleanTech again states, “[h]ere, the claims do not require ‘commercial viability.’” Br. 86.

iv. Testimony of the inventors and their attorneys regarding reduction to practice was not credible

At trial, CleanTech presented testimony from the inventors and its lawyers that the June and July 2003 tests were failures. The District Court rejected this testimony as not credible.

“[T]he Court doubted Cantrell’s testimony in its entirety,” and “his testimony about the development process was contradicted by so many other contemporaneously-produced documents that it was not credible.” Appx297; *see also* Appx7. Winsness’s testimony on the date of discovery was “belied by contemporaneous documents. . . . 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.” Appx255. “Winsness’ credibility was severely undermined when he disavowed that the invention disclosure he wrote would be relied upon by the attorneys,” and “as to the key paragraphs of that disclosure, where he describes the [June 2003] bench-top testing as a success, Winsness had no good answer for why he failed to correct the statement when he sent the statement to Hagerty in 2008, but corrected other information showing oil recovery in the Barlage centrifuge tests.” Appx299.

Testimony from CleanTech's attorneys fared no better. Dorisio was "less than credible." Appx256. His handwritten notes on the Prevost application, Appx110963, indicated "he believed Cantrell's and Winsness' 'invention' pre-dated anything that Prevost had done," and "[t]he only reasonable inference is that Dorisio was attempting to swear behind the Prevost application." Appx256. Hagerty's testimony was of little value because he "admitted that he did not ask the inventors who witnessed Barlage perform the bench-top test at Agri-Energy, or to explain the [Ethanol System Diagram] to him, or to explain the equipment discussed in the July 31, 2003, offer letter. . . . [He] never asked the inventors key questions about their invention or the meaning of contemporaneous documents." Appx296. O'Brien's testimony lacked veracity and was implausible. Appx278-280; Appx309-310.

By any standard, the evidence shows that the invention was reduced to practice before August 1, 2003, and CleanTech cannot show it was "clear error."

1. Drawings and writings would have permitted a person of ordinary skill in the art to practice the invention as of the date of the sale offer

In addition, the District Court found that the invention was ready for patenting under the second *Pfaff* test. It found that Cantrell (1) had sent Agri-Energy a photo of a VDT system for poultry processing and told them their oil recovery system would look similar, (2) told Agri-Energy the system would be placed after the evaporators, (3) that it would draw syrup from the top of the feed tank to the dryer, (4) that it would include a disc stack centrifuge, and (5) that it would process the syrup to remove the oil. Appx172-173; Appx110040; Appx110043; Appx110021-110023. The Ethanol System Diagram showed where to place the module (after the evaporators but before the dryer), the input to the module (syrup), the use of a solids-ejecting disc stack centrifuge and other equipment, and the process flow and outputs. Appx110044. And the pH, moisture content, and temperature ranges claimed are all standard operating conditions of an ethanol plant and are therefore inherent. Appx173. The patents do not teach adjusting any of these parameters.

All parties' experts agreed these written descriptions and drawings would have permitted them to have practiced the claimed invention by August 17, 2003. *See, e.g.*, Appx20085-20086 at ¶151; Appx20124 at 189:17–190:18; Appx20125 at 196:14–200:7. The District Court correctly found that a person of skill in the art had enough information, to have practiced the methods disclosed in the '858 patent family. Appx173-174.

b. The Offer Letter was not primarily for experimentation

The question of “whether a commercial offer for sale has occurred” looks to “traditional contract law principles.” *Allen Eng’g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1352 (Fed. Cir. 2002). “It also involves an assessment of whether the circumstances surrounding the transaction show the transaction was not primarily for purposes of experimentation.” *Id.* at 1352-53. In its post-trial decision, the District Court found the Offer Letter was a commercial offer and was not primarily for testing. Appx294-299. This finding is not clearly erroneous and, on appeal, CleanTech does not dispute that the July 31

Proposal was a commercial offer for sale.³¹ Instead, it contends it fell within the “experimental use” exception and that there are “special rules” for method claims. Those arguments are incorrect.

1. Method claims are invalidated by the sale of equipment that practices the method

Although not argued below, and thus waived,³² a cornerstone of CleanTech’s appeal is that there are “special rules for on-sale bar of method claims.” Br. at 39. Namely, CleanTech claims 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.’” Br. at 36 (quoting

³¹ CleanTech hints that, because Agri-Energy could operate the system for 60 days before committing to purchasing it, payment would have come due after the critical date. The District Court correctly found the Offer Letter was a “sale on approval,” as recognized by the Uniform Commercial code. Appx169 (citing U.C.C. § 2-326). Because this Court looks to the UCC to determine whether a commercial offer has been made for purposes of the on-sale bar, the District Court correctly found the offer was made before the critical date, even if payment could have followed it. Appx169.

³² This Court applies the law of the regional circuit as to procedural matters not unique to patent law. *Info-Hold, Inc. v. Muzak LLC*, 783 F.3d 1365, 1371 (Fed. Cir. 2015). Following Seventh Circuit law, this Court “will not decide an issue raised for the first time on appeal.” *Innogenetics, N.V. v. Abbot Labs.*, 512 F.3d 1363, 1376 n.5 (Fed. Cir. 2008).

Plumtree Software, Inc. v. Datamize, LLC, 473 F.3d 1152, 1162–63 (Fed. Cir. 2006)).

This is wrong and it is waived.³³ In *Plumtree*, this Court found, *based on the facts of that case*, that there were two ways the party asserting invalidity might have proven it. *Plumtree*, 473 F.3d at 1162 (“In our view, Plumtree could meet the first prong of the *Pfaff* test under either of two alternative theories . . .”). It created no rule that a party can *only* invalidate method claims under the on-sale bar by performing the method or offering to perform the method.

A method claim is invalidated by an offer to sell a device for the carrying out of the method. *See Robotic Vision Sys. v. View Eng’g, Inc.*, 249 F.3d 1307, 1310–13 (Fed. Cir. 2001) (affirming application of on-sale bar to method claims for sale of device for carrying out method); *Robotic Vision Sys. v. View Eng’g, Inc.*, 112 F.3d 1163, 1167 (Fed. Cir.

³³ CleanTech cites *Plumtree* extensively in its brief and gripes that “[i]n its 10-page discussion of the on-sale bar issue, the district court **never** addressed *Plumtree* [and] **never** acknowledged the special rules for on-sale bar of method claims.” Br. at 39. But CleanTech did not make these arguments below. Rather, CleanTech spent one sentence on *Plumtree* in its summary judgment opposition and never referred to “special rules”: it cited *Plumtree* to argue the Offer Letter is not invalidating because it “did not unambiguously require use of Plaintiffs’ patented methods.” Appx26364.

1997) (“The claimed invention in this case is a method. What Robotic is accused of putting on sale in March 1991 is a device for carrying out that method. Thus, an offer to sell the device (or otherwise provide it in a commercial context), if it met the requirements for an on-sale bar, would constitute a bar to the patentability of the claimed method.”).³⁴

2. The experimental use exception does not apply

“[O]nce the invention is reduced to practice, there can be no experimental use negation.” *Allen Eng’g*, 299 F.3d at 1354 (internal citations omitted). Because the District Court’s finding that the invention had been reduced to practice before the critical date is not clearly erroneous, the experimental use exception does not apply.

Even without a reduction to practice, the offer would still not meet the experimental use exception. “[T]he question posed by the experimental use doctrine . . . is not whether the invention was under development, subject to testing, or otherwise still in its experimental

³⁴ CleanTech cites *Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1311 n.12 (Fed. Cir. 2006) to argue the sale of a device cannot invalidate a method claim. Br. at 37–38. *Ormco* discusses direct infringement, not the on-sale bar, stating “[m]ethod claims are only infringed when the claimed process is performed, not by the sale of an apparatus that is capable of infringing use.” *Ormco*, 463 F.3d at 1311 (emphasis added). *Ormco* said nothing about invalidating sales.

stage at the time of the asserted sale. Instead, the question is . . . whether the *primary purpose* of the inventor at the time of the sale, as determined from an objective evaluation of the facts surrounding the transaction, was to conduct experimentation.” *Id.* (internal citations omitted) (emphasis added). Further, the experimentation must relate to claimed features of the invention. *EZ Dock, Inc. v. Schafer Sys., Inc.*, 276 F.3d 1347, 1353 (Fed. Cir. 2002).

The primary purpose here was to generate income, not experimentation, for a company struggling financially and desperate for cash. Appx127; Appx17281 at 56:8-15.

As the District Court recognized, the contemporaneous records show that there was no need for experimentation because the inventors knew the method worked on a commercial scale and understood the offer to Agri-Energy was a “first sale” that would lead to additional sales. Appx170-172. As the court noted, the “risk free trial” was intended to prove the economic value of the system, not its efficacy: “Any questions that remained related only to the ‘value of the system,’ or commercial viability, which are not aspects that are addressed by the claims of the ‘858 patent family.” Appx171 (internal citations omitted);

see also *Allen*, 299 F.3d at 1353–55; *Energy Heating*, 889 F.3d at 1301 (“[E]ven if the court assumes that the primary purpose of the [sales] was experimentation, the purported improvements that were the focus of the alleged experimentation were unrelated to any claim in the ‘993 patent.”).

CleanTech relies heavily on the *Allen* factors to isolate discrete pieces of evidence and distract from the clear import of the facts above: when all of the evidence is viewed as a whole, the primary purpose of the sales offer was commercial, not experimental. See *Allen*, 299 F.3d at 1354. Furthermore, the District Court considered these factors in rejecting the experimental-use exception. Appx165; Appx170-171. That ruling is not clearly erroneous.

Tellingly, CleanTech never actually lists the *Allen* factors. It is only by misrepresenting the factors and the evidentiary record that CleanTech can claim “**nearly all**” the factors point toward an experimental use. Br. at 40. In addition, it relies heavily on discredited testimony to support this argument.

CleanTech says “factors (1) and (10) ask whether the inventors ‘ne[ded]’ to experiment with the invention ‘under actual conditions of

use.” Br. at 40 (quoting *Allen*, 299 F.3d at 1353). It similarly argues that factor (3) is met because “the invention is a process for extracting corn oil at an ethanol plant.” Br. at 43. That is not what those factors require. More importantly, none of the claims require the method to be practiced in a plant, under actual conditions, or on a commercial scale. Besides, in-plant testing had already been done at Agri-Energy in July 2003, leading the inventors to conclude the invention was viable on a commercial scale. Appx111089.

Factors (2), (7) and (12) relate to the level of control, recordkeeping and monitoring the inventors retained. As the court found, the Offer Letter did not permit VDT to retain *any* control over the system, to access the plant or monitor the system, or require Agri-Energy to keep any records. Appx171. CleanTech conflates these factors and declares them met because the Offer Letter states discoveries would belong to VDT—a fact irrelevant to these or any other *Allen* factor.

Factor (4) is “the length of the test period.” CleanTech cites a statement from Cantrell that 60 days was “specifically” intended to “ensure we had sufficient time to test the hypothetical method.” (Br. at

43; Appx31419 ¶32. The District Court rejected Cantrell's testimony in its entirety, and there is no support for why 60-days would be necessary to confirm the method worked. It is more likely that Cantrell considered 60 days to be enough time for Agri-Energy to confirm "the value" of the system, as the Offer Letter states.

Factor (5) does not apply because no payment was made -- Agri-Energy decided not to proceed. That VDT quoted a substantial and specific purchase price (\$423,000) confirms this was a commercial offer, not an experimental one.

The "Confidentiality/Non-Compete" section of the Offer Letter does not satisfy factor (6) "secrecy obligation" because VDT's primary concern was barring Agri-Energy from purchasing equipment from someone else. As Winsness recognized, the invention was a "simple solution" that centrifuge manufacturers will "want to tap." Appx110134. The Offer Letter provided that "Agri-Energy agrees . . . not to purchase a reverse-engineered system from any other organization that infringes on the VDS process and/or process patent." Appx110021. VDT's attempt to protect its bottom line further reveals this was a commercial offer.

Factor (13) is “the nature of contacts made with potential customers.” As discussed above, Cantrell and Winsness had assembled a sales team and informed their investors that a sale to Agri-Energy would be the first of many. Appx110207.

CleanTech ignores the remainder of the *Allen* factors, which make it even clearer this was a commercial offer. Factor (8) is “who conducted the experiment.” There was no experiment, but Agri-Energy was to operate the system. Factor (9) is “the degree of commercial exploitation during testing.” Again, there was no testing contemplated, but VDT asked Agri-Energy to pay \$423,000 and then planned to parlay that sale “into 10 additional units.” Appx110209. Factor (11) is “whether testing was systematically performed.” No testing was suggested at all—and certainly nothing systematic.

The District Court did not clearly err by finding this exception did not apply. *See Barmag Barmer Maschinenfabrik AG v. Murata Mach., Ltd.*, 731 F.2d 831, 839 (Fed. Cir. 1984) (exception only applies where “the commercial exploitation is merely incidental to the primary purpose of experimentation to perfect the invention.”).

1. The sale offer met one or more of the claims in the ‘858 Family

CleanTech claims that the court “**never** evaluated whether the July 31 Proposal met all the elements of any claim.” Br. at 39 (emphasis in original). For the purpose of inequitable conduct, it is enough that the sales offer was material to one or more claims of the ‘858 Family and it plainly was. Furthermore, CleanTech did not argue at trial and does not argue here that none of the invalidated patent claims were embodied by what was offered to Agri-Energy.

For the on-sale bar to apply, “there is no requirement that the offer specifically identify [the] limitations” in the claim. *Scaltech, Inc. v. Retec/Tetra, LLC*, 178 F.3d 1378, 1384 (Fed. Cir. 1989). And “[i]f the process that was offered for sale inherently possessed each of the claim limitations, then the process was on sale, whether or not the seller recognized that his process possessed the claimed characteristics.” *Id.* “[I]f the natural result flowing from the operation of the process offered for sale would necessarily result in achievement of each of the claim limitations, then [the] claimed invention was offered for sale.” *Id.*

CleanTech improperly narrows its focus on the Offer Letter. The Offer Letter must be viewed in conjunction with Cantrell and

Winsness's other activities in 2003, including the Ethanol System Diagram, testing, email communications and witness testimony. See *Sonoscan, Inc. v. Sonotek, Inc.*, 936 F.2d 1261, 1263 (Fed. Cir. 1991) (“That the offered product is in fact the claimed invention may be established by any relevant evidence, such as memoranda, drawings, correspondence, and testimony of witnesses.”). The District Court correctly observed that “[t]here is no mystery or dispute that the pH, moisture content and temperature ranges in the ‘858 patent family are those that occur at the standard operating conditions of a dry-mill ethanol plant. As a result, those elements are inherent in the descriptive material provided to Agri-Energy about the process prior to the offer” Appx173. And the Ethanol System Diagram and other communications with Agri-Energy made clear that the system would be placed after the evaporators, would draw syrup from the top of the feed tank to the dryer, and would use a disc stack centrifuge to recover oil from syrup.³⁵

³⁵ Thus, the “Oil Recovery System” offered to Agri-Energy would practice, for example, claim 8 of the ‘858 patent, claim 1 of the ‘516 patent, claim 1 of the ‘517 patent and claim 30 of the ‘484 patent. See Appx52095-52096.

The District Court distinguished the claims embodied by the sales offer from those which were not. All but one of the claims in the ‘484 patent require the separate drying of the reduced-oil syrup exiting the mechanical processing step. Appx81-83; Appx235. Because defendants presented “no evidence that documents contemporaneously produced when the July 31 Proposal was made disclose this step,” the court initially determined “the on-sale bar does not invalidate the ‘484 patent claims” but invalidated all other claims in the ‘858 Family. Appx174. Demonstrating its exacting analysis, the District Court corrected itself in a separate order: because claim 30 of the ‘484 patent does not require the extra drying step, it is also invalid under the on-sale bar. Appx234-235.

c. The inventors’ 2003 activities were material to patentability

CleanTech argues there was no inequitable conduct by looking at each document withheld from the PTO or each misleading statement made to it and arguing that none of them, in isolation, are material. Br. at 104–128. The District Court criticized this approach: it found Hagerty’s testimony “purposefully looked at each document in isolation without reference to the total understanding of the inventors or Agri-

Energy at the time.” Appx296. And it found “the lawyers’ repeated statements that they concentrated on ‘pre-critical date documents’ only heightens the notion that Hagerty’s focus was purposefully and in this Court’s view improperly, narrow.” Appx300 (internal citations omitted).

The District Court properly considered the entire history of the inventors’ testings and interactions with Agri-Energy in connection with the Offer Letter. Appx168-170. That history includes, not just the Offer Letter, but also documents such as the Ethanol System Diagram, Appx110044, the June 2003 Barlage test report, Appx110086-110092, emails explaining how the process works, Appx110043; Appx110214, Winsness’s memo confirming the discovery was made in 2003, Appx111075, and Winsness’s email describing the Offer Letter as a “first sale,” Appx110209. *See* Appx294-299; *see also Sonoscan*, 936 F.2d at 1263 (“That the offered product is in fact the claimed invention may be established by any relevant evidence, such as memoranda, drawings, correspondence, and testimony of witnesses.”). Viewed together, they indisputably establish the on-sale bar.

“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.” Appx300. Though limited information was disclosed in later prosecutions (without explanation as to its relevance or a request for further examination), “[p]artial disclosure of material information about the prior art to the PTO cannot absolve a patentee of intent if the disclosure is intentionally selective.” *Calcar II*, 768 F.3d at 1190.

CleanTech cites heavily to testimony from the inventors and their attorneys to prove there was no inequitable conduct. But the District Court rejected this testimony. CleanTech must live with the facts as the court found them because it cannot show they were made in clear error. *See Hickok*, 77 F.3d at 1007 (“[s]pecial deference is given to findings based upon credibility determinations, which ‘can virtually never be clear error.’”).

v. The District Court’s determination that the inventors and their attorneys intended to deceive the PTO is not clear error

“Absent explanation, the evidence of a knowing failure to disclose sales that bear all the earmarks of commercialization reasonably supports an inference that the inventor’s attorney intended to mislead

the PTO. The concealment of sales information can be particularly egregious because, unlike the applicant's failure to disclose, for example, a material patent reference, the examiner has no way of securing the information on his own." *Paragon Podiatry Lab., Inc. v. KLM Labs., Inc.*, 984 F.2d 1182, 1192–93 (Fed. Cir. 1993); *see Refac Int'l Ltd. v. Lotus Dev. Corp.*, 81 F.3d 1576, 1582 (Fed. Cir. 1996) ("The inference [of an intent to mislead] arises not simply from the materiality of the affidavits, but from the affirmative acts of submitting them, their misleading character, and the inability of the examiner to investigate the facts.").

CleanTech argues there was no intent to deceive by taking each withheld document and each misleading statement and arguing none of them, viewed in isolation, are material. Br. at 104–28. The District Court criticized this approach and found this narrow focus demonstrated deceptive intent. Appx296. It also found additional evidence to support this conclusion.

a. Cantrell and Winsness knew their offer to Agri-Energy endangered their patents

In February 2004, Cantrell contacted Dorisio to discuss obtaining a patent. Appx251-252. "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.” Appx252; Appx111048. On February 9, 2004, “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.” Appx111057; Appx111059.

The court rightly concluded “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.” Appx299; *see also* Appx263 (“[T]he 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.”).)

Repeating an argument rejected at trial, Appx63446–63447, Appx63449–63450; Appx63452–63453, CleanTech claims Cantrell and Winsness are too unsophisticated to have intended to deceive the PTO

because they could not have “*independently* analyze[d] the July 31 Proposal, and *independently* conclude[d]—without help from attorneys—that it met all elements of the on-sale bar.” Br. at 107. There is no such requirement. *See, e.g., Energy Heating, LLC v. Heat On-The-Fly, LLC*, No. 4:13-cv-10, 2016 U.S. Dist. LEXIS 193994, at * 9 (D.N.D. Jan. 14, 2016), *aff’d*, 889 F.3d 1291 (Fed. Cir. 2018) (finding layperson knew of materiality of sales based on conversation with business partner). If there were, only experienced patent attorneys could commit inequitable conduct. Besides, telling the truth to the PTO does not require a sophisticated knowledge of patent law.

b. Cantrell, Winsness, and Hagerty withheld evidence of successful testing in 2003 and implied the invention was not reduced to practice until 2004

In March 2008, Hagerty took over the patent prosecution. Appx257. By at least September 2008, Hagerty was aware of Barlage’s successful June–July 2003 testing. Appx259; Appx111075. Winsness told Hagerty that “testing we did in June 2003” showed that “a sequence of evaporation followed by centrifugation allows for oil recovery.” Appx111075. This memo stated that in June 2003 they “poured ‘syrup’ into a disk-stack centrifuge [and] were able to separate

the oil from the water cleanly,” which “led us to believe that the process would work on a commercial scale.” Appx263. Hagerty also had the Ethanol System Diagram and Barlage’s test report. Appx301. During prosecution, he cribbed the conclusion from Barlage’s test report in response to an Office Action. Appx302 (“[T]his statement clearly has its roots in the June 2003 Barlage test results conclusion . . .”).

Despite relying on Barlage’s conclusion for patentability, Hagerty never informed the PTO of the successful 2003 testing in the prosecutions of any of the ‘858 Family. Appx301-302; Appx304-306; Appx309. The court found “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.” Appx302. “Based on Hagerty’s arguments that incorporated the Barlage test result conclusions,” the District Court found “the examiner would have found those results material.” *Id.* Hagerty’s testimony that the 2003 testing was unimportant to patentability was “unconvincing” in light of his reliance on the Barlage test report in presenting the

invention “to the patent office as a ‘discovery’ not as a theory.” Appx259; *see also* Appx120100.

The patentees and Hagerty went further: in each prosecution, they created the misimpression there was no reduction to practice until May 2004, well after the offer to Agri-Energy. After the PTO issued a notice of allowance for the ‘858 patent, Hagerty withdrew the patent from issue and filed the Feasibility Test Letter. Appx264. “This information had no relevance to prosecution of the ‘858 patent application.” Appx303. This “irrelevant letter . . . created a false impression that the first time information existed to confirm the method was May 2004.” Appx303. The same “admittedly irrelevant statement” was filed in the prosecutions of the ‘516, ‘517, and ‘484 patents. Appx265; Appx304-305; Appx309. The court found “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.” Appx303.

c. Cantrell and Winsness withheld evidence of their sale offer to Agri-Energy

The PTO was never told *anything* about the offer to Agri-Energy in the prosecution of the '858 patent. Appx300-303. This was intentional, not negligent. In May 2009, before the patent issued the attorney for investor Bean asked Hagerty, Cantrell, and Winsness for information relevant to any pre-filing sales offer. Appx261-262. Cantrell and Winsness both had copies of the Offer Letter. Appx262. "The letter was clearly relevant and responsive to the inquiry from Bean's attorney." Appx262-263. But despite "repeated inquiries from Hagerty about responsive documents," Cantrell and Winsness did not disclose the Offer Letter or other information regarding Agri-Energy. The court found "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." Appx263. And the inventors allowed Hagerty to file the Feasibility Test Letter, which created the false impression that the invention was not ready for patenting until after the critical date. Appx303.

d. Winsness and Cantor threatened Agri-Energy to coerce its support

The District Court found the inventors' and counsel's conduct after the Offer Letter surfaced provided strong evidence of deceptive intent. Hagerty and Cantor learned of the Offer Letter in March 2010, while the '516 and '517 patents were pending. Appx267. They assumed it had been delivered to Agri-Energy before the critical date and began researching the on-sale bar and drafting lengthy submission to the PTO laying out the inventors' 2003 dealings with Agri-Energy. Appx268.

In June, Winsness traveled to Agri-Energy after hearing that SRS knew of the on-sale bar and "offered Agri-Energy a royalty-free license in exchange for Agri-Energy's willingness to admit that the pending patents were valid." Appx269. The court determined that "Winsness threatened Agri-Energy with legal action if it did not corroborate his and Cantrell's testimony." Appx308.

On July 27, attorney Rye sent Agri-Energy a letter 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." Appx270; Appx110322-110323. Rye asked for a statement "confirming

and clarifying” certain “facts” relating to the on-sale bar. Agri-Energy’s manager testified he “did not accept the offer from Rye/GreenShift because the statements were not true.” Appx271.

The court determined “Rye’s letter was a thinly-veiled threat and not a truth-seeking inquiry.” Appx308. The court also found it “striking that Rye failed to request that Agri-Energy provide any documents” regarding its interactions with the inventors and found Cantor’s attempts to contact Agri-Energy “inadequate in light of the uncertainty regarding the July 31 Proposal at this point in time, *which raises an inference that counsel was avoiding the truth.*” Appx271 (emphasis added).

e. Cantrell, Winsness, and Cantor filed a false declaration claiming the Offer Letter was delivered after the critical date

For months, Cantor assumed the Offer Letter had been sent before the critical date and labored over how to position it as something other than an invalidating offer for sale. Appx268-272. But in late August 2010, Cantrell told attorney O’Brien he recalled he first delivered the letter to Agri-Energy on August 18, 2003 in person at a board meeting. Appx272. “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." Appx272-273.

In November 2010, Cantor filed the First Cantrell Declaration in the prosecutions of the '516 and '517 patents with almost no investigation. Appx274-277. In July 2011, Cantor filed it in the prosecution of the '484 patent. Appx277. Cantrell's statement that Agri-Energy first received the Offer Letter on August 18, 2003 is "patently false." Appx276. The declaration was accompanied by "the Cantor Colburn litigation team's explanation of why the [Offer Letter] is irrelevant." Appx305; Appx110008-110019. "[T]he 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." Appx307.

The "filing of an unmistakably false affidavit" is an "affirmative act[] of egregious misconduct" and *per se* material. *Therasense*, 649

F.3d at 1292 (citing *Rohm & Haas*, 722 F.2d at 1571) (“there is no room to argue that submission of false affidavits is not material”).³⁶

CleanTech claims there is no evidence of deceptive intent because Cantrell, Winsness, and Cantor truly believed the Offer Letter was not delivered until August 18. Br. at 118–122. Once again CleanTech, citing heavily to explicitly rejected testimony, refuses to accept the facts as determined by the District Court or show how they are clearly erroneous. Furthermore, as the court found, any evidence Cantrell actually hand delivered the letter—regardless of whether he had previously sent it—was “suspiciously absent.” Appx274. “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.” Appx273. And

³⁶ CleanTech wrongly argues that the District Court did not find the First Cantrell Declaration “material” under this standard. Br. at 117, n.18. The District Court’s opinion stated “[t]he filing of an unmistakably false affidavit . . . is considered egregious misconduct that supports a finding of materiality” and triggers corrective obligations under *Intellect Wireless* and *Rohm & Haas*. Appx291. It then found the First Cantrell Declaration “patently false,” Appx276, and that CleanTech did not satisfy its *Rohm & Haas* obligations. Appx285-286; Appx311.

[t]he 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.

Appx274 (emphasis added). “[T]he lawyers ignored the red flags waiving [sic] before them.” Appx307. “Winsness’ and Cantor Colburn’s reliance on Cantrell’s recollection . . . as well as their lackluster investigation of events is *solid evidence of purposeful behavior.*” *Id.* (emphasis added). This finding is not clearly erroneous. *See Brasseler, U.S.A. I, L.P. v. Stryker Sales Corp.*, 267 F.3d 1370, 1385 (Fed. Cir. 2001) (“Attorneys must conduct meaningful inquiries when the surrounding factual circumstances would cause a reasonable attorney to understand that relevant and questionable material information should be assessed.”).

CleanTech also argues there is “no evidence that the documents were omitted with ‘deceptive intent’” because “the inventors and Cantor maintained a good faith belief that the July 31 Proposal did **not** invoke

an on-sale bar.” Br. at 112–114. CleanTech makes much of the fact that Cantor spent months “drafting documents explaining why” the letter did not invoke the on-sale bar. Br. at 112–114. But again CleanTech argues against the facts as determined by the District Court without showing how those findings are clearly erroneous. Moreover, if the inventors and Cantor truly believed the Offer Letter was not an offer for sale, as they claim, “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?” Appx308. “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, which implied a later reduction to practice date, they chose advocacy over candor.” *Id.* (emphasis added).

And “[d]espite earlier intentions to disclose the whole story to the PTO, . . . 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.” Appx277. Without this information, the PTO remained unaware the invention was ready for patenting in 2003 and did not have evidence confirming the commercial nature of the sale offer. To leave the Feasibility Testing Letter unrebuted, “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 . . . , and the Ethanol System Diagram.” Appx307.

f. Cantrell, Winsness, and Cantor failed to correct the false declaration

At Cantrell’s September 21, 2011 deposition, “the inventors and Cantor knew for certain that Cantrell’s First Declaration [was] false.” Appx309. When an applicant becomes aware of a misrepresentation, he must “expressly advise the PTO of its existence, stating specifically wherein it resides” and then advise the PTO of “what the actual facts are” and request further examination in light of them. *Rohm & Haas*, 722 F.2d at 1572. But for over eight months, the inventors and Cantor did nothing. Appx280. The District Court found “*strong evidence of intentional deceit* in the ensuing delay by Cantor Colburn in investigating the facts and Winsness’ equally nonchalant response.” *Id.*

And “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.” Appx281.

O’Brien drafted the Second Cantrell Declaration, which Hagerty filed with the PTO on July 12, 2012. Appx281-282; Appx110274. Cantrell’s declaration passively states “[a]ttached is an e-mail sent from my e-mail account on August 1, 2003” and that “[t]he July 31 Letter attached to the August 1 email was unsigned.” Appx110274. The court chided the declaration for creating “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.” Appx283. More importantly, it “repeats false information” and “fails to distinctly point out and/or explain the false information previously provided to the examiner.” *Id.*

The Second Declaration and accompanying IDS never make clear that the Offer Letter was sent before the critical date. Appx283-284. The attorneys “failed to provide any explanation with the declaration as had been done with Cantrell’s First Declaration or as required by *Rohm*

& Haas . . . and *Intellect Wireless.*" *Id.* Instead, the attorneys provided "selected, redacted filings from the MDL proceedings and three emails from 2003 that Defendants had produced in discovery." *Id.*

The court found O'Brien's "rambling justification" for the Second Cantrell Declaration and his "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.*" Appx311 (emphasis added). Hagerty "failed to answer in any cogent way . . . why unredacted versions or the documents referenced in the litigation papers were withheld from the examiner." Appx285. "[T]he best source of the information was the documents themselves rather than Defendants' arguments and allegations about them," and "without the redacted information, there was no meaningful disclosure of some relevant information." *Id.*

The court determined that "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" constituted "*strong evidence of an intent to*

deceive." *Id.* And it found "none of the requirements" of *Rohm & Haas* were met: "it is not enough . . . to simply inundate the PTO with paper when the purpose of the filing is to correct a prior misrepresentation." Appx285-286; *see also* Appx311 ("[I]nundating 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*.").

And as with all previous prosecutions, the PTO never received the information necessary to assess the materiality of the Offer Letter. "Partial disclosure of material information about the prior art to the PTO cannot absolve a patentee of intent if the disclosure is intentionally selective." *Calcar II*, 768 F.3d at 1190. Here, "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 disk stack centrifuge." Appx312. This

information would have shown the method was ready for patenting at the time of the offer and confirmed the commercial nature of the offer.

It is little surprise and certainly not clear error that the court concluded “the inventors and the attorneys intentionally withheld material information from the PTO during the prosecution of the ‘484 patent.” *Id.*

vi. If this Court affirms only some inequitable conduct findings, it should remand for a determination as to whether to extend unenforceability to related patents

“[T]he taint of a finding of inequitable conduct can spread from a single patent to render unenforceable other related patents and applications in the same technology family.” *Therasense*, 649 F.3d at 1288. Whether to extend unenforceability to related patents is within the discretion of the district court. *Ohio Willow Wood Co. v. Alps South, LLC*, 813 F.3d 1350, 1361 (Fed. Cir. 2016). As CleanTech notes, the District Court found that each patent in the ‘858 Family was separately unenforceable due to inequitable conduct committed in the prosecution of each patent. Br. at 102. It therefore had no occasion to determine whether the unenforceability should spread to related patents. If this Court affirms the unenforceability of some patents but reverses others,

it should remand to the District Court to determine whether unenforceability should be extended to related patents. Otherwise, it should affirm the District Court’s finding of unenforceability of the ‘858 Family.

B. The District Court Correctly Granted Summary Judgment of On-Sale Bar

The Court need not reach this issue, but if it does, it should affirm summary judgment of on-sale bar for all the reasons set forth above regarding materiality. *See Therasense*, 649 F.3d at 1292; *see also* Br. at 104–05. At summary judgment, the District Court correctly disregarded the inventors’ self-serving testimony that their 2003 testing failed—testimony it later determined was not credible. *See* Br. at 46 n.6. As the court found, supported by the evidence cited above, “the *undisputed* contemporaneous evidence supports only one conclusion, the on-sale bar applies. . . .” Appx167 (emphasis added). “When opposing parties tell two different stories, one of which is blatantly contradicted by the record, so that no reasonable jury could believe it, a court should not adopt that version of the facts for purposes of ruling on a motion for summary judgment.” *Scott v. Harris*, 550 U.S. 372, 380 (2007); *see also* *William Charles Constr. Co. v. Teamsters Local 627*, 827 F.3d 672, 678–

79 (7th Cir. 2016). The court properly rejected this testimony, as it was contradicted by all contemporary evidence, all of which showed everyone involved considered the tests successful.

As the court found, the evidence available at the time of the initial summary judgment decision establishes invalidity by clear and convincing evidence. And the District Court made that determination even without two key pieces of evidence that it later found “buttresse[d]” its initial finding, Appx294, notably Winsness’s September 2008 email to Hagerty stating he was attaching “testing we did in June 2003 to discover that a sequence of evaporation followed by centrifugation allows for oil recovery,” in which he labeled Barlage’s test report as “the original discovery of oil separation June 2003” and wrote that it lead the inventors “to believe that the process would work on a commercial scale.” Appx111075; Appx111098. It also included Dorisio’s July 2005 clearance opinion in which he wrote “[p]ast 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.” Appx111065.

This Court may consider these documents in affirming summary judgment even though they were not before the District Court at the time of its initial summary judgment order. They are now part of the record, and appellate courts may affirm summary judgment on any ground that finds support in the record. *See Liberles v. Cty. of Cook*, 709 F.2d 1122, 1130 (7th Cir. 1983). And “[d]istrict courts have inherent power to reconsider interlocutory orders and reopen any part of a case before entry of a final judgment. A district court may modify, or even rescind, such interlocutory orders.” *Mallory v. Eyrich*, 922 F.2d 1273, 1282 (Fed. Cir. 1991) (internal citation omitted). In particular, district courts may reconsider summary judgment decisions and even do so *sua sponte*. *Kelly v. City of Fort Thomas*, 610 F. Supp. 2d 759, 779 (E.D. Ky. 2009).

The District Court already modified its initial summary judgment order once before. Appx234. After trial, it did so again by reaffirming its prior decision in light of new documentary evidence. After trial, the District Court “confirm[ed] its conclusion” that the contemporaneous documents “evidence both elements of the on-sale bar.” Appx294. Pointing in particular to Hagerty’s September 2008 e-mail, the court

stated that the new evidence “only buttresses the Court’s earlier conclusion, particularly with respect to the ready for patenting element of the on-sale bar.” *Id.* It would be inefficient for this Court to close itself off to this probative evidence, which is properly in the record. *Cf. Liberles*, 709 F.2d at 1129 (“Appellate courts should not strain to find the existence of genuine issues of material facts when none exist.”). Moreover, it would reward CleanTech for presenting false testimony at summary judgment under the belief it could keep the truth hidden by asserting privilege over definitive evidence to the contrary.³⁷

But the District Court’s initial summary judgment decision was made without the benefit of those two additional documents and is still plainly correct. The evidence of both prongs of the on-sale bar is overwhelming and counterbalanced only by testimony that is sharply contradicted by an unambiguous record. *See Scott*, 550 U.S. at 380. This Court should reject CleanTech’s arguments for the reasons explained above with respect to materiality and affirm summary judgment of on-sale bar.

³⁷ CleanTech’s continued reliance on testimony flatly contradicted by all contemporaneous evidence is remarkable.

C. The '858 Family Claims Are Anticipated by Prevost

To anticipate, a single prior art reference must disclose each and every limitation of the claimed invention, either explicitly or “inherently.” *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008). Summary judgment of anticipation is reviewed *de novo*. *U.S. Ethernet Innovations, LLC v. Acer, Inc.*, 646 Fed. App'x 929, 932-33 (Fed. Cir. 2016). The District Court’s decision that Prevost anticipates claim 8 of the ‘858 patent, all asserted claims of the ‘516 patent except claims 5 and 6, all claims of the ‘517 patent, and claim 30 of the ‘484 patent was correct.

CleanTech’s arguments focus on Prevost claim 19, ignoring the full extent of Prevost’s disclosure and CleanTech’s key admission. It was undisputed that:

- 1) Prevost describes the conventional dry-mill ethanol production process. Appx18291 at ¶5.
- 2) Prevost defines “syrup” as the product exiting the evaporators having an oil content of 8-15 wt. % fat. *Id.* at ¶¶5, 11.

- 3) Syrup in the conventional dry-mill plant, like the one disclosed in Prevost, is within the ranges claimed in the patents-in-suit. Appx179.³⁸

Standard Operating Conditions of Syrup in A Conventional Dry Milling Process	
Temperature	150-212 °F
Acidity (pH)	3.0 to 6.0
Moisture Content (wt. percent)	55 to 80

- 4) Prevost discloses an oil removal step (“20A”) performed “on the syrup after evaporation.” Appx18291 at ¶9; Appx18292 at ¶14, Appx10893 at ¶26; Figure 1.

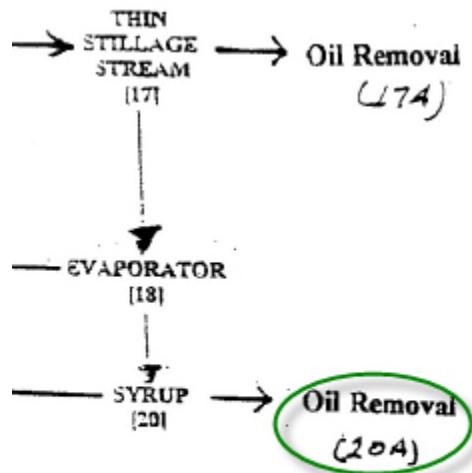


FIGURE 1

³⁸ Below, CleanTech did not dispute these ranges for “syrup” in a conventional ethanol plant. Compare Appx52018-52019 at ¶¶30-34 with Appx26291-26292.

- 5) Prevost discloses “non-limiting examples of oil removal techniques that can be used,” including centrifugation. Appx18292 at ¶0013.
- 6) Prevost claimed the use of centrifugation to recover oil from syrup produced by the evaporator. Appx18296 at Claim 20.

Thus, Prevost anticipates the claimed invention: the use of a centrifuge to recover oil from the syrup produced by the evaporators in a conventional dry-mill ethanol plant, with the syrup being within the temperature, pH, and moisture content ranges of the claims of the ‘858 Family. The applicants recognized this when they admitted to the PTO that Prevost “may be found to claim the same invention.” Appx18299.

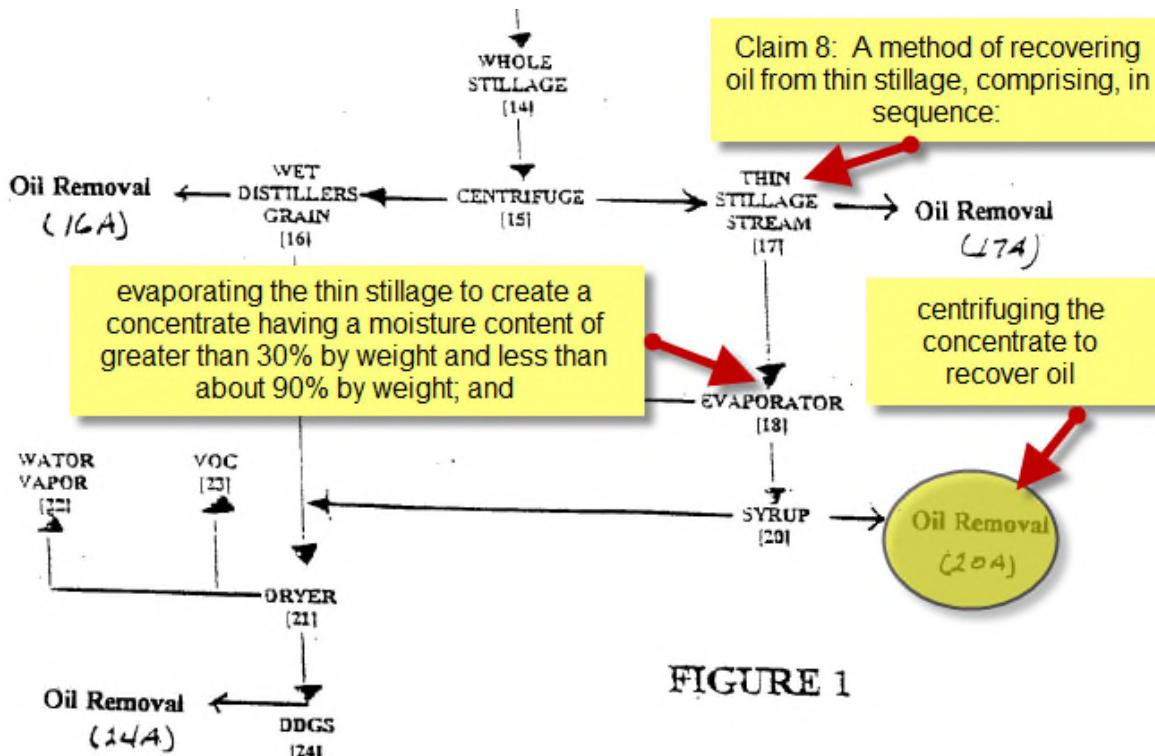
CleanTech advances four arguments on appeal. First, it argues that Prevost cannot anticipate claimed moisture ranges above 15% because Claim 19 recites removing oil from a stream that is “15 wt. % water.” But Prevost specifically describes and depicts oil removal from “the syrup after evaporation” and defines “syrup” as the product exiting the evaporators.³⁹ As CleanTech admitted below, syrup from a conventional dry-mill plant falls within the parameters it claimed, and the District Court correctly held that Prevost anticipates the invalidated claims.

³⁹ Winsness also described “syrup” as “the product exiting an Evaporator.” Appx110214.

Second, CleanTech argues the moisture ranges in a conventional plant are not inherent in Prevost by again focusing exclusively on Claim 19. But Prevost describes a “conventional ethanol production process” and illustrates that the “syrup” subject to an “oil removal step (20A)” is the product exiting the evaporator at the conventional plant, *i.e.*, syrup falling within the claimed ranges. CleanTech also argues, Br. At 51, that just because these ranges are typical for a conventional plant doesn’t mean that they “are **necessarily** present.” (emphasis in original). But this misrepresents the inherency standard. As depicted below, “the disclosure [of Prevost] is sufficient to show that *the natural result flowing from the operation* [in a conventional dry-mill ethanol plant] *as taught* [in Prevost] would result in the claimed [method].”

SmithKline Beecham Corp. v. Apotex Corp., 403 F.3d 1331, 1343 (Fed. Cir. 2005) (*quoting In re Oelrich*, 666 F.2d 578, 581 (C.C.P.A. 1981)).

That is all that the law requires.



As the District Court correctly noted, “[t]he entirety of the Prevost specification is devoted to the discussion of the invention in relation to ‘a conventional ethanol production process utilizing corn.’” Appx179.

Third, CleanTech argues that the District Court “rewrote” Prevost. It did no such thing. Reading Prevost as a whole and considering that all experts agreed it is not feasible to remove oil from a product having 15% moisture content (essentially powder) using a centrifuge, the Court correctly determined that the person of skill in the art (“POSA”) would read Claims 19 and 20 in light of Fig. 1 as the centrifugation of syrup stream produced by the evaporator having 15%

fat or oil. *See ArthroCare Corp. v. Smith & Nephew, Inc.*, 406 F.3d 1365, 1373-74 (Fed. Cir. 2005) (“[E]ven if a piece of prior art does not expressly disclose a limitation, it anticipates if a person of ordinary skill in the art would understand the prior art to disclose the limitation and could combine the prior art description with his own knowledge to make the claimed invention”).

Further, there is clear precedent for correcting a typographical error in a claim.⁴⁰ *See CBT Flint Partners, LLC v. Return Path, Inc.* 654 F.3d 1353, 1358-59 (Fed. Cir. 2011) (district courts may correct obvious errors in patent claims “from the point of view of one skilled in the art” considering what the specification indicates “is the proper meaning of the claim.”); *see also Ultimax Cement Mfg. Corp. v. CTS Cement Mfg. Corp.*, 587 F.3d. 1339, 1353 (Fed. Cir. 2009) (a court can correct a patent if the correction is “not subject to reasonable debate based on consideration of the claim language and the specification” and “the prosecution history does not suggest a different interpretation of the claim[].”); *In re Yale*, 434 F.2d 666, 668-669 (C.C.P.A. 1970).

⁴⁰ CleanTech did not contest below the testimony from Prevost’s co-inventor that Claim 19 had a typographical error and should have read 15% fat, not 15% water.

Fourth, citing Prevost’s “preference” for solvent extraction, CleanTech argues that Prevost “**does not** teach oil recovery from syrup via a centrifuge” and “teaches away” from centrifugation. It defies law and common sense to suggest that a reference *claiming* centrifugation of syrup somehow *teaches away* from it. *See Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013). And “whether a reference ‘teaches away’ from an invention is inapplicable to an anticipation analysis.” *ClearValue, Inc. v. Pearl River Polymers, Inc.*, 668 F.3d 1340, 1344 (Fed. Cir. 2012) (internal quotations omitted). Even so, a reference does not “teach away” unless it criticizes or discredits an aspect of the invention and, as shown in Figure 1 and recited in Claim 20, Prevost embraced the use of a centrifuge to remove oil from syrup produced by the evaporator. A POSA reading Prevost would understand that Prevost teaches centrifuging the syrup produced by the evaporators at a conventional ethanol plant.

The ‘858 Family disclose a method that “essentially require[s] the addition of a centrifuge downstream of the evaporator in a conventional system.” Appx908 at 5:27-30. Prevost discloses and claims the identical process under identical conditions. Because the invalidated

claims of the ‘858 Patent Family add nothing to Prevost, they are anticipated.⁴¹

D. The Claims of the ‘858 Patent Family are Obvious

The idea of using a centrifuge to recover oil from the waste stream of industrial processes has been known for decades and has been used in scores of applications, including in the fruit, vegetable, grain, seed, olive (Lachle, Appx17014), fish (Westfalia Industrial Fish Processing reference, Appx17123, UN Fish Paper), dairy (Westfalia Whey Processing reference), animal (Holm, Appx17117, GB reference and Case Farms) and ethanol (Rosten) processing industries. The claimed “invention” applies this well-known process to the syrup produced by a conventional dry-mill plant⁴² by adding “a centrifuge downstream of the evaporator in a conventional system.” Appx908 at 5:27-30. The district court properly concluded that the claims of the ‘858 Family were

⁴¹ CleanTech argues in the enablement section of its brief that ways to heat syrup post-evaporation are “perfectly obvious.” Br. at 80-81. If this Court finds that the “heating” claims of the ‘858 Family are inherently enabled, then those claims are also anticipated by Prevost, too, because Prevost contains the same level of disclosure regarding a heating step.

⁴² Dr. Eckhoff even identified process diagrams from the fish and whey industries as showing the method claimed in the Patents-in-Suit. Appx20131-20132 at 262:5-266:21; Appx21543-21544.

obvious in light of Prevost and/or Rosten in combination with Lachle and/or other prior art systems. Appx192.

To the extent Prevost does not anticipate the asserted claims, it renders them obvious. Even if, as CleanTech argues, a POSA were to read Prevost as centrifuging syrup of less than 15 wt. % water to recover oil, he would also realize (as CleanTech's expert and Winsness did) that centrifuging syrup at such a low moisture is not feasible. Compare Appx52025 at ¶47-49 with Appx26292 at ¶¶46-51. Accordingly, it would be obvious for a POSA to instead recover oil from syrup with a moisture content above 15 wt. % water. The obvious conclusion would be to centrifuge syrup at the moisture content at which it typically exits the evaporator.

CleanTech complains that the court did not analyze obviousness on a claim-by-claim basis. But a claim-by-claim analysis is unnecessary. *See Cubist Pharm., Inc. v. Hospira, Inc.*, 805 F.3d 1112, 1128 (Fed. Cir. 2015) (the district court's failure to analyze obviousness on a claim-by-claim basis did "not undermine its obviousness analysis.").

The District Court exhaustively evaluated the scope and content of the prior art and thoroughly analyzed the claims individually, Appx54-57; Appx156, and identified the references that rendered claims obvious. The court recognized that the pH, temperature, and moisture content were standard parameters of syrup and not separately patentable features. Its reliance on Prevost alone is supported by its analysis of anticipation. Given that Prevost anticipated most claims and, for those it did not anticipate, the alleged differences were infinitesimal, there is no mystery here how the court reached its obviousness decision.

The District Court clearly discussed claims directed to producing “a substantially oil free concentrate,” and found that Prevost specifically disclosed the production of “substantially fat free products” as one of its main goals and considered the known use of disk stack centrifuges in the animal and poultry processing industry as reflecting the state of knowledge of separating streams that contain solids, oil and water. The court’s analysis of obviousness of the ‘858 Family claims and the prior art was not lacking.

CleanTech also raises arguments not made below; they are not preserved and should be rejected. Below, CleanTech did not argue obviousness on a claim-by-claim or limitation-by-limitation basis, making instead only generalized arguments that the prior art did not teach oil removal from syrup, Appx26386, the use of centrifugation, Appx26388, and that a centrifuge could effectively process syrup due to solids in the syrup. Appx26390. CleanTech presented no arguments concerning claim limitations directed to pH, temperature, or moisture concentration levels, to the specific use of a disk stack centrifuge, or any other claim limitation. CleanTech fails to demonstrate how particular claims are non-obvious to justify reversal of summary judgment.

CleanTech next complains about the “wholesale dismissal” of secondary considerations of non-obviousness. But the court considered and rejected CleanTech’s evidence of secondary considerations because it did not overcome Defendants’ overwhelming showing of obviousness. Appx191; *see Asyst Techs., Inc. v. Emtrak, Inc.*, 544 F.3d 1310, 1316 (Fed. Cir. 2008). It is not error to grant summary judgment of obviousness where evidence of secondary considerations do not overcome a strong *prima facie* showing of obviousness. *Intercontinental*

Great Brands LLC v. Kellogg N. Am. Co., 869 F.3d 1336, 1345-46 (Fed. Cir. 2017). The district court decision was correct and should be affirmed.

E. All Claims of the '037 Patent Are Obvious.

i. Analysis of a representative claim was proper

CleanTech makes the same complaint about the District Court's decision regarding obviousness of the claims in the '037 patent, namely, that the court failed to analyze obviousness on a claim-by-claim basis, and specifically regarding claims that recite the use of a multi-stage evaporator. Br. at 73. As discussed above, this Court does not require a claim by claim analyses. *See Cubist Pharms, Inc.*, 805 F.3d at 1128.

In its brief in support of summary judgment, Defendants noted that the '037 patent issued with 15 claims, and set forth Claim 1 as a representative claim. Appx50052. That was proper. "Courts may treat a claim as representative in certain situations, such as if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim or if the parties agree to treat a claim as representative."

Berkheimer v. HP, Inc., 881 F.3d 1360, 1365 (Fed. Cir. 2018). CleanTech

did not oppose Defendants' use of a represented claim below. Instead, CleanTech only argued that the obviousness of all claims identified by Defendants rose or fell on whether the new art that Defendants asserted rendered the claims obvious. Appx50995. Thus, CleanTech has waived this new argument that the district court failed to analyze obviousness of claims 6, 7, 11, 13 and 15 that recite the use of a "multi-stage evaporator." *See supra* FN 32.

To the extent the Court considers this new argument, CleanTech's argument fails. CleanTech's response at summary judgment acknowledged that the use of multi-stage evaporators for removing water from thin stillage was known in the prior art. Appx50995 ("The disclosure of the relative efficiencies of a dryer vs. an evaporator was already considered by the PTO. (E.g., GB '672, Appx18820, p. 2, ll. 80-85) ('water' removal may be effected in a multi-stage evaporator which operates particularly economically with a heat consumption amounting to only half of what is required for evaporation in a dry-rendering plant or powder drier.'").

The District Court noted CleanTech's arguments concerning Great Britain Patent 1,200,672 ("GB '672 patent"), and therefore considered

that the use of multi-stage evaporators was known in the art.⁴³ Appx215. The District Court also noted that “the ‘858 patent teaches that the oil recovery method is performed on [syrup], which is formed using evaporators already in existence at an ethanol plant.” Appx216. Therefore, CleanTech’s assertion that claims to the use of a multi-stage evaporator were not independently analyzed for obviousness below is a canard and should be rejected.

ii. The district court did not use hindsight to find the claims of the '037 patent obvious

A multi-stage evaporation system was known to be part of the conventional dry-mill plant. The ‘037 Patent merely disclosed having the syrup subject to an oil removal step prior to completion of the evaporation process by sending it to a centrifuge and then reintroducing the de-oiled syrup exiting the centrifuge back into the evaporators for further evaporation. ‘037 Patent, 3:6-12. The District Court understood that sending the de-oiled syrup to complete the evaporation process was an obvious step, particularly in light of the efficiency provided in water removal using evaporators as compared to the dryer later used to make

⁴³ Moreover, CleanTech admitted during prosecution of the ‘037 application that the use of multi-stage evaporators was known in the prior art. Appx121285.

DDGS. Appx216. It also recognized that the Alcohol Textbook and the Willgohs patent disclose that an evaporator system is four or five times more efficient for removing water than a dryer, and that a POSA would have been motivated to lower the moisture content of the de-oiled syrup using evaporation. *Id.*

CleanTech does not challenge the District Court's finding that the Alcohol Textbook or Willgohs taught that thin stillage should be concentrated in an evaporator to a moisture concentration of 50-70% (30-50% solids) prior to mixing and drying it with distillers wet grains, and that the evaporator was more efficient than a drier to remove water. Appx214-216; Appx50453; SAppx1; Appx17086 at 1:57-59. Further, it was undisputed that the water removed by the evaporator system was known in the prior art to be important to the functioning of the plant and is captured and recycled back into the ethanol production process. Appx104-105.

As noted in Section G below, the claims of the '037 patent cover de-oiled syrup having a broad range of moisture content, and thus include syrup with moisture content well above the disclosed 50-70% moisture content range. The District Court correctly applied the

ordinary skill and common sense of the POSA in concluding that “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.” Appx216; *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 419 (2007).

The district court’s grant of summary judgment of invalidity of the ‘037 patent claims under 35 U.S.C. §103(b) was correct and should be affirmed.

F. The Heating and Mechanically Processing Claims Are Invalid For Lack of Written Description.

Certain claims of the ‘858 Family required a post-evaporation “heating and mechanically processing” step.⁴⁴ Based on the structure of these claims, and because the inventors identified it as “a critical feature” that differentiated the claimed invention from prior art, the court correctly construed these claims to require separate heating and mechanical processing steps that occur post-evaporation. Appx1679; Appx120099. CleanTech has not appealed this construction, yet it

⁴⁴ Claims 1-7 and 10-16 of the ‘858 patent; claims 5-6 of the ‘516 patent; and claims 19-25 and 29 of the ‘484 patent (the “heating and mechanical processing claims”).

complains that the court found this step to be unsupported by the written description and, therefore, invalid under Section 112.

The specification nowhere discloses an independent post-evaporation heating step or how it would be performed. Nonetheless, CleanTech argues a POSA would understand the specification to disclose the separate heating step based solely on the temperature range in the '858 Family. Br. at 78-79. This argument is premised on the syrup cooling and needing to be reheated, a hypothetical problem not disclosed in the specification. The District Court correctly determined that the specification only discloses that syrup is heated in the evaporation process prior to mechanical processing, and that during prosecution the inventors distinguished their oil recovery method as a post-evaporation process. The District Court correctly found these claims invalid based on the language of the specification. *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 927 (Fed. Cir. 2004).

Next, CleanTech asserts an argument not presented below: that original claim 4 disclosed the “heating” step. Original claim 4 merely repeats the portion of the specification that the District Court found did not disclose a separate heating step. Appx193-194.

CleanTech's further argues that "a POSITA would know of 'perfectly obvious' ways to heat syrup to 150-212°F." Br. at 80. But the written description must clearly allow POSAs to recognize that the inventors had possession of the claimed subject matter as of the filing date. *Ariad Pharms., Inc. v. Eli Lilly and Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010). The specification must demonstrate possession, and a written description that merely renders the invention obvious does not satisfy the requirement. *Id.* at 1352. The District Court's conclusion that the specification only discloses heating syrup during the evaporation process and that heating and mechanical processing claimed was a post-evaporation step, as the inventors argued to differentiate their invention from Prevost and Minowa, was correct. Invalidity of the heating and mechanically processing claims was proper. Appx195.

G. The Claims Are Not Enabled

i. The Law of Enablement

The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent specification coupled with information known in the art without undue

experimentation. *U.S. v. Telelectronics, Inc.*, 857 F.2d 778, 785 (Fed. Cir. 1988). If a claim fails to meet the utility requirement (35 U.S.C. § 101) because it is shown to be nonuseful or inoperative, then it fails to meet the how-to-use aspect of enablement requirement of Section 112(1). *In re Swartz*, 232 F.3d 862, 863 (Fed. Cir. 2000). The full scope of the claim must be enabled. *AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1244 (Fed. Cir. 2003). Enablement is a question of law based on underlying factual findings. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991).

ii. A Centrifuge Cannot Recover Oil From Syrup With A Moisture Content Below 40%

With regard to the '858 Family, CleanTech reargues on appeal facts it did not dispute below. The undisputed facts demonstrated that a centrifuge cannot recover oil from syrup at the low moisture content claimed and, therefore, those claims were inoperative and not enabled.⁴⁵

The court's determination that "CleanTech's expert [Dr. Eckhoff] 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%" was well supported. Appx196; compare Appx52025 ¶47-49 with Appx26292

⁴⁵ This argument relates 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.

¶¶46-51. Appellees' experts agreed. And Winsness concluded that syrup with a moisture content of 30% was too challenging to centrifuge because it would have the consistency of a thick paste and it was not cost effective to design a system to recover oil from syrup at a range of 15-30% moisture content. *Id.*

The court's finding that the moisture content range was not fully enabled was correct and should be affirmed for 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.

iii. The '037 Claims are not enabled

All of the '037 claims require subjecting "thin stillage concentrate" to an oil removal process. While that term encompasses moisture contents as low as 1% and above 90%, there is no disclosure of an oil removal step where the thin stillage concentrate has a moisture content below 60%. Furthermore, the patent disclaims oil recovery above 90% moisture content. The court correctly found the claims, as properly construed, covered thin stillage concentrate having a broad range of moisture content that the '037 patent did not disclose, and which was inoperative at certain levels of moisture content. This Court should

affirm the District Court's judgment that the claims of the '037 patent are invalid for lack of enablement.

The '037 patent describes the moisture content ranges of concentrated thin stillage that allegedly can be mechanically processed via a centrifuge to recover oil. In one embodiment, concentrated thin stillage having a moisture content of less than about 90%, but ideally about 60-85%, can be processed in a disk stack centrifuge to separate oil. Appx949 at 5:40-48. Other specific embodiments that fall within the "ideal" range include concentrated thin stillage at 80% moisture content, *Id.* at 6:18-26, and 60% moisture content. *Id.* at 6:50-52.

The claims, however, cover a method of processing thin stillage concentrate that include a step of recovering/separating oil from thin stillage concentrate. Appx951-952; Appx59-60; Appx218. The '037 patent only discloses using a centrifuge to perform the oil recovery step. Appx949 at 5:37-41, 6:65-68. The District Court construed "thin stillage concentrate"/ "concentrated thin stillage"/ "the concentrate" (the "concentrate terms") to mean "syrup containing water, oil and solids resulting from the concentrating or evaporating process." Appx61. CleanTech does not challenge this construction on appeal. The District

Court concluded that the claims covered concentrated thin stillage at moisture content ranges well below 60% and well above 90%. Appx218.

The undisputed evidence from Appellant's expert, Dr. Eckhoff, and Winsness demonstrated that that it would be impossible to recover oil from concentrated thin stillage with a moisture content below 30% using a centrifuge. Compare Appx52025 at ¶47-49 and Appx26292 ¶¶46-51.

The District Court found that, because the claims refer only to thin stillage concentrate, "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 construction for the term." CleanTech did not dispute Appellees' argument on this point, instead arguing only that "Defendants have offered no evidence to support their arguments." Appx50992-50993.

Appellant raised two arguments neither of which were presented below and, therefore, should not be considered. *See supra* FN 32. First, Appellant claims that, because no range was identified, moisture content was an "unclaimed element" that did not need to be enabled.

Second, Appellant argues that the claims are enabled because the patent discloses a specific moisture content, e.g., 60%-85% moisture, at which oil can be recovered with a centrifuge. Br. at 88.

To the extent this Court considers these arguments, they are contrary to this Court's clear precedent that if any portion of a claim range is not enabled, the entire range is invalid. *Alcon Research, Ltd. v. Apotex, Inc.*, 687 F.3d 1362, 1368 (Fed. Cir. 2012).

Thus, the District Court correctly found the full scope of the claims of the '037 patent are not enabled, Appx218-219, and the District Court's judgment of invalidity of the '037 patent claims should be affirmed.

H. Barlage is an Unnamed Inventor

The District Court properly found the '858 Family invalid under 35 U.S.C. § 102(f) for failure to name the correct inventors. Appx198-202. The legal question of inventorship "is reviewed without deference." *Univ. of Colo. Found., Inc. v. Am. Cyanamid Co.*, 342 F.3d 1298, 1304 (Fed. Cir. 2003). However, the findings of fact for inventorship decision are reviewed for clear error. See *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998).

Under pre-AIA 35 U.S.C. § 102(f), failure to name the correct inventors renders a patent invalid. *See Pannu v. Iolab Corp.*, 155 F.3d 1344, 1349 (Fed. Cir. 1998). To be deemed an inventor,

[a]ll that is required . . . is that [a person] (1) contribute in some significant manner to the conception or reduction to practice of the invention, (2) make a contribution to the claimed invention that is not insignificant in quality, when the contribution is measured against the dimension of the full invention, and (3) do more than merely explain to the real inventors well-known concepts and/or the current state of the art.

Id. at 1351.

It is undisputed that “on June 5, 2003, Cantrell and Winsness arranged for Agri-Energy to ship samples of its thin stillage and syrup to Barlage for testing and analysis, because Barlage was more knowledgeable about existing separation technologies.” Appx198. Cantrell and Winsness sought Barlage’s input because they did not know whether to separate oil before or after the evaporator. Appx52124.

Barlage answered this key question. Appx198. He heated each sample to a temperature of 80°C and “ran them through a lab centrifuge.” *Id.* Barlage’s “discovery,” which was used to distinguish the

prior art, was that “[s]omething in the evaporation process allows for the product to breakdown to a level where the oil can be taken out easily.” Winsness labeled Barlage’s report the “original discovery of oil separation June 2003.” Appx111098. The claimed process includes “taking thin stillage that had been concentrated by an evaporator and then heating and mechanically processing it to recover oil.” Appx52124. The post-evaporation mechanical processing Barlage “discovered” is included in every claim of the Patents-in-Suit and is explained in the specification as well. Appx52125.⁴⁶

CleanTech’s argument that one could reasonably find “that the named inventors conceived the invention without **any** input from Barlage, and that Barlage merely assisted them in reducing it to practice” is belied by the evidence. CleanTech “admitt[ed] that neither Cantrell nor Winsness knew from which stream to separate the oil prior to Barlage’s lab test.” Appx199. Barlage’s conclusion that oil be recovered after the evaporation process was critical to the inventors and the examiner’s decision to allow the claims. Appx52125. The inventors

⁴⁶ Barlage’s recommendation regarding the use of “a nozzle type centrifuge or decanter . . . to remove the heavy suspended solids” are included in the patents. Appx198.

specifically used his conclusion as the basis for patentability, stating to the PTO, “[T]he cited references fail to teach or suggest **evaporation followed by mechanical processing** as claimed.” *Id.* (emphasis added).

CleanTech’s asserts that “Barlage expressly disavowed being an inventor of the Patents-in-Suit,” Br. at 92, but as the District Court found, “whether Barlage objects to being named a co-inventor . . . is irrelevant because Barlage’s contribution formed the basis for allowance of the claims.” Appx199 (emphasis added). More importantly, VDT identified Barlage in contemporaneous documents as a co-inventor of “corn oil extraction technologies.” Appx21546; Appx21552; Appx17273. CleanTech also argues that Barlage was not omitted with “deceptive intent,” but this argument does not withstand scrutiny. Bean raised the issue of inventorship and Alfa Laval’s rights to the patents. Appx111006. Rather than risk that Barlage’s employment at Alfa Laval might jeopardize CleanTech’s sole ownership rights, it opted to hire Barlage and pay him off in royalties derived from the patents.

The District Court’s determination that the Patents-in-Suit are invalid under 35 U.S.C. § 102(f) should be affirmed.

I. The Oil Recovery/Separation Claims are Indefinite⁴⁷

The oil recovery/separation claims were correctly found indefinite and invalid. CleanTech urged the District Court to construe “oil” in this step to mean “substantially (meaning largely or mostly) oil.” It defended this construction after the U.S. Supreme Court’s decision in *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120 (2014) and in response to Appellees’ summary judgment motion of indefiniteness on this term.

In its summary judgment decision, the court carefully reviewed the intrinsic record and found no “qualifier” (i.e. “substantially”) in connection with the term “oil.” Appx63-65. The court also found “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.” Appx204; Appx64-65. As a result, the court concluded that the intrinsic record failed to inform

⁴⁷ The following claims of the ’858 Family are directed to the separation or recovery of oil: claims 1-16 of the ’858 patent; claims 1-6 of the ’516 patent; claims 1 and 2 of the ’517 patent; and claims 1-7 and 15-30 of the ’484 patent (the “oil recovery/separation claims”). Appx58.

POSA about the scope of the invention, and therefore found all “oil” recovery/separation claims to be invalid as indefinite.⁴⁸ Appx202-205.

CleanTech asserts three errors on appeal. First, CleanTech argues that the District Court erred in finding “substantially” to be indefinite because it is a term of degree that is permitted under *Nautilus* and because none of Appellees’ experts testified that POSA would not understand its scope in the context of the invention.⁴⁹ Br. at 98-99. While a term of degree may not be “inherently indefinite,” courts have invalidated as indefinite claims containing such terms. *See Space Data Corp. v. Alphabet, Inc.*, No. 16-cv-03260, 2018 U.S. Dist. LEXIS 152246, at *14-15 (N.D. Cal. Sep. 6, 2018); *see also In re Neurografix ('360) Patent Litig.*, 201 F. Supp. 3d 206, 223 (D. Mass. 2016) (“nothing in the '360 patent sheds light on the limits of proximity required by the [term at issue: ‘near’].”); *Abdou v. Alphatec Spine, Inc.*, No. 12-cv-1804, 2014 U.S. Dist. LEXIS 163044, at *25-27 (S.D. Cal. Nov. 19, 2014). The *Space Data* court recognized the term “substantially” to be a term of degree,

⁴⁸ Claims 7-11 of the ‘516 patent and claims 8-14 of the ‘484 patent, which were directed to removing oil to form a “substantially oil free concentrate,” were found not to be indefinite.

⁴⁹ Contrary to CleanTech’s claim, Rockstraw opined that the term was indefinite.

yet found the term “substantially a relative distance” to be indefinite because it found no guidance in the intrinsic record “on what kind of coverage constitutes substantial coverage over a geographic area.” *Space Data*, 2018 U.S. Dist. LEXIS 152246, at *14, 15, 20. The District Court here determined that a POSA would not understand the scope of the invention, and did not err in concluding that “substantially oil” is indefinite.

CleanTech’s argument that the District Court “completely ignored the expert evidence” is also without merit. The District Court properly rejected all of CleanTech’s arguments as “sophistic” because they were designed to reach one outcome for validity and another for infringement. Appx204-205. The District Court’s failure to mention CleanTech’s experts by name does not mean their testimony was not considered.⁵⁰ The District Court rejected that the meaning of

⁵⁰ And those experts do not support CleanTech’s arguments: Eckhoff testified that “substantially oil” “is not a very precise definition,” Appx20137 at 542:7-13, and that he would need further guidance from the Court to determine its application. Appx20136 at 540:4-7. McKenna testified that he “arbitrarily” used 50-51%. Rockstraw testified that, unless the term “requires removal of well over 90% of the oil” present in the pre-evaporation thin stillage stream, it has no definite meaning and is ambiguous. Appx18226.

“substantially oil” derived from the meaning of “substantially free of oil” and meant greater than 50%. Appx52605-52606; Appx68. Rather, the court held that “there is no principled way to limit the scope of the term ‘oil,’” so the claims “do not reasonably inform those skilled in the art about the scope of the invention.” Appx204-205.

CleanTech also argues that the court *sua sponte* should have excised “substantially” from CleanTech’s preferred construction. In the process, CleanTech proposes *an entirely new construction*: “**any** appreciable amount of oil.” Br. at 100. Not only is new claim construction untimely, it has no support in the intrinsic record and leads to further ambiguity. Furthermore, CleanTech’s reliance on *Cioffi v. Google, Inc.*, 632 F. App’x 1013 (Fed. Cir. 2015) is misplaced. If the term “oil” was subject to a “well-understood meaning,” CleanTech would not have proposed claim construction of the term. *See N. Telecom Ltd. v. Samsung Elecs. Co.*, 215 F.3d 1281, 1290 (Fed. Cir. 2000)(this Court “look[s] with ‘extreme disfavor’ on appeals that allege error in claim constructions that were advocated below by the very party now challenging them.”).

CleanTech asserts that “fairness and due process” required the court to reopen claim construction instead of ruling against it on summary judgment because it “was never given . . . an opportunity” to satisfy the *Nautilus* standard. This argument is both false and was waived. CleanTech advocated for the “substantially oil” construction during *Markman*. It doubled down on its preferred construction when the court re-opened claim construction after *Nautilus* issued. And it pressed this construction in opposition to summary judgment. Appx26414-26416. CleanTech never requested the alternative relief it seeks now.

For these reasons, this Court should affirm the District Court’s findings that various claims of the Patents-in-Suit are invalid as indefinite.

J. None of the Claims Are Infringed

i. CleanTech’s Expert Testimony was Inadmissible, and There Was No Admissible Evidence To Prove “Substantially Oil” and “Substantially Oil Free”

The District Court correctly found there was no admissible evidence that any of the Defendants infringed any of the asserted

claims that include the “oil limitation.”⁵¹ The District Court excluded testimony from CleanTech’s expert (McKenna) about sample data based on a single reading he took at Defendants’ ethanol plants under *Daubert* because the expert admitted that a proper analysis would have taken an average of readings over a 24-hour period. Appx91. CleanTech argues that the court erred in excluding CleanTech’s expert opinions *sua sponte*.

In *Lewis v. CITGO Petroleum Corp.*, 561 F.3d 698, 704 (7th Cir. 2009), the Seventh Circuit noted “the law grants the district court great discretion regarding the manner in which it conducts [the *Daubert*] evaluation.” (internal citations omitted). The *Lewis* Court stated: “[w]e have not required that the *Daubert* inquiry take any specific form and [has] in fact, upheld a judge’s *sua sponte* consideration of the admissibility of expert testimony.”) *Id.* This Court should affirm the *Daubert* ruling.

CleanTech next argues that the District Court erroneously relied on an excerpt of McKenna’s deposition unrelated to the “oil” claim term

⁵¹ ‘858 claims 1-3, 5-16; ‘516 claims 1-11; ‘517 claims 1-2; and ‘484 claims 1-3, 5, 6, 8, 10, 12-14, 16-17, 19-24, 26-30.

in making its ruling. Br. at 20. But the court's analysis also included McKenna's deposition testimony at Appx52501-52502. Appx91. This subsequent excerpt of McKenna's testimony confirmed that average analysis of samples over a 24-hour period is a typical analytical methodology. Appx52501 ("I mean, you know, again, I think I mentioned earlier that typically if you were going to do this on a time scale, you would do it over a 24-hour period.").

CleanTech's reliance on *English v. Cowell*, 10 F.3d 434 (7th Cir. 1993) is misplaced. In *English*, the opposing party, Local 46, and English served cross-motions, each on separate issues. Before English could respond to Local 46's motions, the district court granted Local 46's motion to dismiss, and denied English's motion for summary judgment. *English*, 10 F.3d at 437. The Seventh Circuit reversed stating "[w]hen a court treats a dismissal motion as a summary judgment motion, it must give the nonmovant a 'reasonable opportunity' to contradict the material facts asserted by the movant." *Id.* (internal citations omitted).

CleanTech also argues it was error for the District Court to grant summary judgment of non-infringement of all claims of the '858 Family and the '037 patent based on a lack of evidence that Appellees

recovered/separated oil. Summary judgment of noninfringement of the ‘037 was proper for the same reasons.

CleanTech presented only expert evidence to establish that Appellees met the “oil” limitation, which was excluded as unreliable. On appeal, CleanTech argues that evidentiary ruling was error, but fails to specify any other evidence of infringement. It was proper to grant summary judgment after the only evidence presented was found inadmissible. *See O'Connor v. Commonwealth Edison Co.*, 13 F.3d 1090, 1107 (7th Cir. 1994). It is not the case that CleanTech did not have “a ‘reasonable opportunity’ to contradict the material facts asserted by the movant.” *English*, 10 F.3d at 437. CleanTech’s problem was not a lack of opportunity, it was a total lack of evidence. *See Paske v. Fitzgerald*, 785 F.3d 977, 986 (5th Cir. 2015)(holding that an appellate court reviews for harmless error a district court’s entry of summary judgment *sua sponte* without notice. “A district court’s grant of summary judgment *sua sponte* is considered harmless if the nonmovant has no additional evidence or if all of the nonmovant’s additional evidence is reviewed by the appellate court and none of the evidence presents a genuine issue of material fact.”)

Last, CleanTech argues that it could prove infringement even without McKenna's testimony because the test results themselves are understandable to a jury. Br. at 21. But that argument ignores the crux of the District Court's decision that the sample data itself was inherently unreliable. Appx91.

With respect to claims to "substantially oil free" concentrate, CleanTech asserted '516 claims 7-10 and '484 claims 8, 10, 12-14 and 27 against a select group of defendants.⁵² Appx2. The District Court clarified its construction of "substantially oil free" as meaning the reduced oil syrup stream must be "largely or mostly all" free of oil. Appx68. The court correctly concluded that none of the test results CleanTech offered as evidence of infringement of the "substantially oil free concentrate" claims showed that any accused Defendants' processes resulted in syrup that was largely or mostly all oil free. Appx85-86.⁵³

⁵² Ace, Adkins, Al-Corn, Blue Flint, Bushmills, CVEC, Heartland, Iroquois, Lincolnway Energy, and UWGP.

⁵³ Regarding Bushmills and Heartland, Cleantech failed to show foundation for certain samples, particularly where Cleantech did not pinpoint any citations for the District Court. Similarly, Cleantech failed to pinpoint information in response to UWGP's objections as to moisture content and pH. Appx26131.

The grant of summary judgment of noninfringement of '516 claims 7-10 and '484 claims 8, 10, 12-14 and 27 was correct and should be affirmed.

ii. There Was No Evidence of Drying

The District Court correctly found that Appellees do not infringe certain claims of the '858 Family⁵⁴ because Appellees do not dry syrup after the oil removal process, as required by these claims. Appx81-83. The District Court properly rejected CleanTech's assertion that this limitation is met because drying of syrup occurs when the de-oiled syrup is mixed with wet grains and dried. Appx83. The court concluded that the plain meaning of "drying the concentrate" was that the reduced oil syrup "is not mixed with anything else first – it is dried." Appx82. It was undisputed below that Appellees mixed the de-oiled syrup with wet grains and only dried that mixture. Appx26157. The District Court's finding of non-infringement of the drying de-oiled syrup claims should be affirmed.

⁵⁴ '858 claim 15, '516 claim 10, and '484 claims 1-3, 5, 6, 8, 10, 12-14, 16, 17, 19-24 and 26-29

iii. Iroquois' and Lincolnway Energy's Operation are not Continuous

The District Court correctly found that neither Iroquois nor Lincolnway Energy infringe Claim 9 of the '516 patent because their processes are not continuous. The District Court found unrefuted testimony by CleanTech's expert (McKenna) that a system is not continuous if the flow to the centrifuge is stopped to discharge solids. Appx52503 at 271:19-272:6. McKenna observed during his inspection of Iroquois' system that Iroquois' centrifuge underwent regular discharge cycles during which the centrifuge might not process syrup. Appx52504 at 277:12-25 (describing McKenna's purposeful waiting to avoid sampling just before, during, or just after a discharge sequence). McKenna admitted that he did not know whether the flow to the centrifuge stopped during the discharge sequence in Iroquois' plant. Appx52505 at 278:1-8.

CleanTech cannot escape their expert's admission on an issue for which it has the burden of proof. CleanTech's citation to their expert's *assumption* that Iroquois' system runs in a continuous manner is unavailing. Br. at 31; Appx52503 at 272:7-19 ("Physically I didn't check it [whether the feed to the centrifuge was shut off]); Appx52503 at

273:2-13 (“I don’t know [whether or not Iroquois’ flow is stopped]”)).

Despite unfettered access to Iroquois’ system, CleanTech’s expert did not determine whether the flow to the centrifuge was stopped.

Further, McKenna testified that the oil separation process at Lincolnway Energy was the functional equivalent to Iroquois’. Appx52522 at 347:17–348:16. Lincolnway Energy’s process uses centrifuges which regularly stop the inflow of the syrup stream to discharge solids and undergo routine maintenance shutdowns to conduct a cleaning-in-place (CIP) operation during which no syrup stream enters the centrifuges. Appx20579-20584. Iroquois’ and Lincolnway Energy’s supplemental responses to interrogatories, Appx15773-15774 and Appx20579-20584, were submitted in direct response to ‘516 Patent, Claim 9, and both clearly describe the processes at these plants as non-continuous.

CleanTech improperly alleges that Iroquois admitted its process was continuous, Br. at 30, by characterizing Iroquois’ decision not to contest a fact during a *prior* summary judgment motion into an admission for the purposes of this one. But Rule 56 demonstrates that CleanTech’s is wrong. Fed. R. Civ. P. 56, advisory committee note of

2010 (“Subdivision (e)(2) authorizes the court to consider a fact as undisputed for purposes of the motion when response or reply requirements are not satisfied. . . . The fact is considered undisputed only for the purposes of the motion; if summary judgment is denied, the party who failed to make a proper Rule 56 response or reply remains free to contest the fact in further proceedings. And the court may choose not to consider the facts as undisputed, particularly if the court knows of record materials that show grounds for genuine dispute.”); *see also* 11 Moore’s Federal Practice – Civil § 56.81[3][b][vi]). The briefing CleanTech cites as an “admission” occurred at an early stage in the case, prior to the completion of discovery and expert depositions; thus, the district court properly denied the original summary judgment motion. Once Claim 9 of the ‘516 Patent was introduced to the litigation, both Iroquois and Lincolnway Energy had their respective processes thoroughly vetted through the discovery process, which operated to clarify that both processes were not continuous and CleanTech could not prove to the contrary.

Likewise, CleanTech mischaracterize Lincolnway Energy’s statements as an admission when, in fact, it is noted that process flow

was regularly interrupted. See Merriam-Webster dictionary (“continuous” is “marked by uninterrupted extension in space, time, or sequence,” further identifying synonyms as “perpetual”, “ceaseless” and “nonstop”). There was no admission.

The district court properly granted summary judgment of non-infringement on Claim 9 of the ‘516 patent to both Iroquois and Lincolnway Energy.

K. There Was No Indirect Infringement by GEA

GEA does not operate an ethanol plant and does not practice the alleged invention. CleanTech sued GEA for indirect infringement because it sold existing off-the-shelf centrifuge models to plant defendant before the Patents-in-Suit issued.

As a threshold matter, there can be no indirect infringement by GEA because there is no direct infringement by any of the plant defendants. Therefore, the District Court’s decision should be affirmed. *AIDS Healthcare Found., Inc. v. Gilead Scis., Inc.*, 890 F.3d 986, 992 (Fed. Cir. 2018).

CleanTech does not appeal the court’s decision that GEA is not liable for contributory infringement under 35 U.S.C. § 271(c). Instead,

CleanTech asserts one theory: that GEA induced infringement under 35 U.S.C. § 271(b) by performing “maintenance services” after the issue date of the ‘858 patent. This theory has no factual or legal support. As the court noted, CleanTech “provided no evidence of the content of the contracts.” Appx95. There is no record evidence of what “maintenance services” GE performed. Furthermore, Federal Circuit precedent provides “[i]f a machine was sold under circumstances that did not subject its seller to damages, then subsequent repair cannot subject it to damages.” *Fonar Corp. v. GE*, 107 F.3d 1543, 1555 (Fed. Cir. 1997). Indeed, “[o]ne is entitled to repair that which is sold free of liability for infringement. *Id.* see also *National Presto Indus. v. West Bend Co.*, 76 F.3d 1185, 1196 (Fed. Cir. 1996) (Section 271(b) “does not reach actions taken before issuance of the adverse patent.”). CleanTech is unable to cite any case where a party was liable for indirect infringement when the alleged infringing product was sold before issuance of the patent.⁵⁵

⁵⁵ *Tegal Corp. v. Tokyo Electron Co.*, 248 F.3d 1376 (Fed. Cir. 2001) is irrelevant because the alleged infringing product was sold **after the patent issued**. See *id.* at 1377.

Because GEA sold the centrifuges before the issue date, they were sold “free of liability for infringement.”

The District Court’s determination that GEA is not liable for indirect infringement should be affirmed.

L. Summary Judgment on Willful Infringement Was Not an Abuse of Discretion

Because there is no direct infringement of the Patents-in-Suit, the District Court’s decision of no willful infringement should be affirmed.

SynQor, Inc. v. Artesyn Techs., Inc., 635 Fed. Appx. 891, 894 (Fed. Cir. 2015).

Even if the District Court’s decision on direct infringement is reversed, this Court should nonetheless affirm the willfulness decision. CleanTech’s argument -- that *Halo Elecs., Inc. v. Pulse Elecs., Inc.*, 136 S.Ct. 1923, 1932 (2016) requires reversal because it eliminated the objective intent prong of willful infringement -- ignores the district court’s conclusions that “there is no material question of fact that several of Defendants arguments on claim construction, infringement and invalidity were more than reasonable” and “Defendants have not acted recklessly.” Appx208. CleanTech cites *Exergen Corp. v. Kaz USA, Inc.*, 725 Fed. Appx. 959, 971 (Fed. Cir. Mar. 8, 2018). But the *Exergen*

Court *affirmed* the district court's grant of summary judgment of no willful infringement after *Halo* where, as here, the court carefully considered the particular circumstances of the case. *See id.* at 971-72. Because the district court did not abuse its discretion in granting summary judgment on willful infringement, this Court should affirm the district court's decision.

VI. CONCLUSION

Appellants agree with CleanTech that this is an extraordinary case, but not for the reasons it cites. This case involved a brazen fraud on the PTO, and the assertion of invalid patents. For the foregoing reasons, the District Court's judgment should be affirmed in its entirety.

Dated: November 7, 2019

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Dryhouse design: focusing on reliability and return on investment **369**

Stillage pumping systems in the dryhouse do not require exotic, extremely costly equipment. Thick stillage and thin stillage can be pumped with centrifugal pumps using an 'open impeller'. Syrup should be pumped with a positive displacement pump (lobe type is suitable).

All piping systems in the dryhouse should be free of internal dead spots. Reduced port ball valves should not be used. Blind Ts should be avoided. Butterfly valves, ball valves, full port mag-meters and 'DU-O' check valves are all suitable. Rupture discs are preferred to relief valves due to fouling.

EVAPORATION

Thin stillage containing 1% or more suspended solids and 3% or more total solids can be concentrated in an evaporator to yield a product (syrup) that ranges from 25 to 50% total solids. Evaporators allow reuse of thermal energy by

taking advantage of the enthalpy of evaporated vapor at reduced pressure, or by vapor compression (thermal or mechanical) and then using this evaporated vapor for further evaporation.

Evaporators find applications in many industries. Only certain types of evaporator configurations however, have been used successfully by ethanol and beverage spirit plants. Choices must be made among:

- Vessel configuration (see Figure 3).
- Forced circulation *vs.* natural circulation.
- Rising film tubular *vs.* falling film tubular.
- Plate equivalents of tubular evaporators.
- Multiple effect vacuum with thermal recompression *vs.* mechanical vapor recompression turbine drive or mechanical vapor recompression motor drive (Figures 4 and 5).
- Combination evaporator/distillation systems.

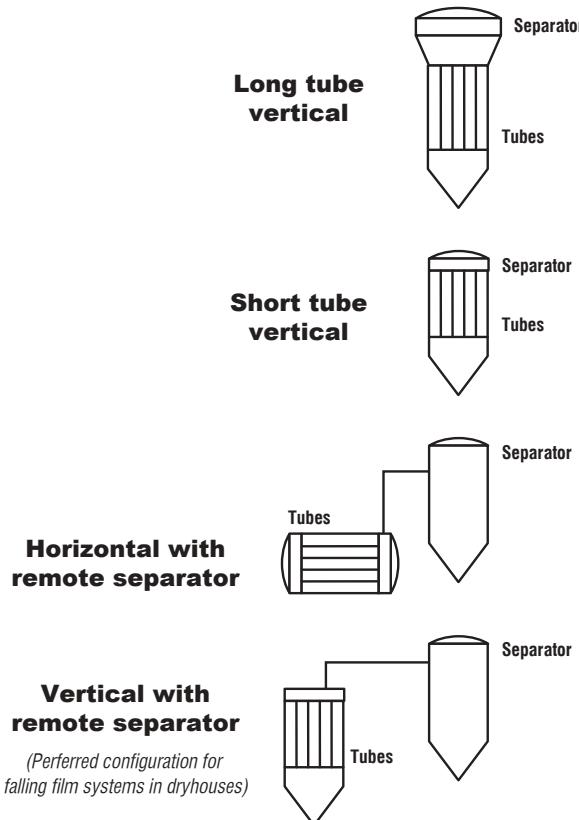


Figure 3. Evaporator vessel configuration options.

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November 7, 2019

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