

United States Court of Appeals
for the Federal Circuit

WOODROW WOODS AND
MARINE EXHAUST SYSTEMS, INC.,
Plaintiffs-Appellees,

v.

DEANGELO MARINE EXHAUST, INC.,
Defendant-Appellant.

2010-1478

Appeal from the United States District Court for the Southern District of Florida in No. 08-CV-81579, Judge Daniel T.K. Hurley.

Decided: August 28, 2012

DENISE J. BLEAU, Ward, Damon, Posner, Pheterson & Bleau, PL, of West Palm Beach, Florida, argued for plaintiffs-appellees. Of counsel was MARK D. BOWEN, Malin Haley DiMaggio Bowen & Lhota, P.A., of Fort Lauderdale, Florida.

MICHAEL C. CESARANO, Feldman Gale, P.A., of Miami, Florida, argued for defendant-appellant. With him on the brief was RICHARD GUERRA.

Before LINN, DYK, and REYNA, *Circuit Judges*.

LINN, *Circuit Judge*.

DeAngelo Marine Exhaust, Inc. (“DeAngelo”) appeals from the denial by the United States District Court for the Southern District of Florida of DeAngelo’s motion for judgment as a matter of law (“JMOL”) as to invalidity and infringement of U.S. Patents No. 5,740,670 (“670 Patent”) and No. 6,035,633 (“633 Patent”) owned by Woodrow Woods (“Woods”) and exclusively licensed to Marine Exhaust Systems, Inc. (“MES”) following a jury verdict in MES’s favor. DeAngelo also appeals the district court’s evidentiary ruling and claim construction underlying the jury verdict and the denial of DeAngelo’s motion to sanction MES for failing to conduct an adequate pre-filing investigation. For the reasons set forth below, this court affirms.

I. BACKGROUND

A. The Patents in Suit

Water jacketed marine exhaust systems cool exhaust as it exits the engine of a marine vessel. These devices generally consist of two metal cylinders with exhaust flowing through the inner cylinder and water flowing through the space between the inner and outer cylinders. The patents in suit are directed to an apparatus that more efficiently cools exhaust by tapering the tail end of the outer liner so it directs the cooling water into the exhaust stream, and prevents water migration and corrosion by tapering the tail end of the inner liner to reduce the turbulence at the end of the pipe.

Woods filed U.S. Patent Application No. 08/419,097 (“097 Application”) on April 10, 1995. The ’097 Application disclosed and claimed: (1) a water jacketed exhaust system with an elongated, tapered, inner liner and outer

shell; (2) a spacer separating the liner and shell; and (3) the inner and outer tapered surfaces acting as a clip for turbulence and a deflection surface respectively. *See, e.g.*, '097 Application claim 1. On December 29, 1995, Woods filed U.S. Patent Application No. 08/580,548 ("548 Application") as a continuation-in-part ("CIP") of the '097 Application. The '548 Application's claims were broader than the '097 Application's claims. For example, claim 1 of the '548 Application required extension of the inner liner beyond the outer shell, but did not limit the tapered surfaces to deflecting water and clipping turbulence. *Compare* '097 Application claim 1, *with* '548 Application claim 1.

On July 1, 1996, an examiner rejected all claims of the '097 Application as anticipated by U.S. Patents No. 5,212,949 ("Shiozawa") and No. 799,013 ("Moffitt"). Instead of responding to the '097 anticipation rejection, Woods allowed the '097 Application to go abandoned and continued to prosecute the CIP '548 Application. On April 25, 1997, the same examiner who had rejected the '097 Application allowed several of the claims in the '548 Application. On April 21, 1998, the '548 Application issued as the '670 Patent.

On December 15, 1997, before the '548 Application had matured into the '670 Patent, Woods filed CIP application No. 08/990,821 ("821 Application"). The invention claimed in the '821 Application was similar to that of the '548 Application, but was not limited to an elongated inner liner extending beyond the outer shell. On April 1, 1999, the examiner rejected claims 1-4, 6, and 8-21 of the '821 Application as anticipated by U.S. Patent No. 4,977,741 ("Lulloff"). Woods amended the claims by reciting a spacer between the inner and outer cylinders that created a back pressure so that water forcefully sprayed out of a spray ring. Woods argued that Lulloff did not contain this limitation and that the amended

claims were not anticipated. Woods never argued that the claims were or were not patentable as initially written. The examiner allowed the amended claims, and the '821 Application issued as the '633 Patent on March 14, 2000. Woods exclusively licensed both the '670 and '633 Patents to MES.

B. Pre-Suit Investigation

MES competes with DeAngelo in the marine exhaust system market. Sometime prior to March 2006, other members of the industry informed MES that DeAngelo was selling exhaust systems that were believed to infringe the Woods patents. Based on these statements, on March 10, 2006, MES wrote a letter to DeAngelo requesting information on its water cooled products. DeAngelo indicated in an April 3, 2006 response that it would investigate MES's infringement concerns and contact MES. DeAngelo never contacted MES after sending its initial April 3, 2006 letter. Over a year later one of MES's employees photographed an allegedly infringing DeAngelo device on a vessel in West Palm Beach, FL. A year after that, Sheila Prieschl, Vice President of MES, personally inspected and photographed additional DeAngelo devices. On December 31, 2008, after reviewing these photographs, MES and Woods filed this patent infringement suit in the United States District Court for the Southern District of Florida.

C. The Proceedings Below

Woods's suit alleged that DeAngelo infringed one or more claims of the '670 or '633 Patents and sought both damages and injunctive relief. DeAngelo responded that it did not infringe the Woods patents and that the asserted claims are invalid as obvious under 35 U.S.C. § 103. The case moved forward with discovery set to close on February 9, 2010.

From the record it appears that on May 15, 2009, MES propounded Interrogatory 25, which read: “State with specificity all prior art that anticipates such claims of one or more of the patents at issue or renders them obvious. In doing so, specify the particular claim being referred to and identify why such prior art anticipates such claims or renders them obvious.” Pl.’s Mot. to Strike and/or Exclude Evidence of Prior Art not Disclosed in Disc., Ex. A, *Woods v. DeAngelo Marine Exhaust, Inc.*, No. 08-cv-81579 (S.D. Fla. Apr. 11, 2010), ECF No. 177-1 (“Mot. to Strike Drawings”). It appears that DeAngelo timely responded in mid-June that “[the] interrogatory seeks attorney work-product information, and is not discoverable. DeAngelo has not yet decided which prior art references it will use to challenge the validity of the patents in suit . . . [they] shall be disclosed as required by 35 U.S.C. § 282.” *Id.*

On February 8, 2010, the day before discovery closed, DeAngelo located several engineering drawings that allegedly predated the ’670 and ’633 Patents. DeAngelo immediately forwarded the drawings to MES with a letter stating that “[t]hese documents arguably may anticipate the Woods invention(s), or may be relied upon as showing the state of the art in the early 1990’s.” E-mail from Michael C. Cesarano, counsel for DeAngelo, to Jennifer Simpson, counsel for MES (Feb. 8, 2010) (J.A. 293) (“Disclosure E-mail”). DeAngelo’s letter questioned “whether [MES] would object to [DeAngelo’s] use of [the newly discovered drawings] if trial should begin before March 10,” because DeAngelo’s disclosure would then violate 35 U.S.C. § 282. *Id.* It appears that MES did not object at that time. Oral Arg. at 17:10-18:25, *available at* <http://www.cafc.uscourts.gov/oral-argument-recordings/all/woods.html>. On February 12, 2010, the parties submitted their joint pretrial stipulation and included their exhibit and witness lists. DeAngelo’s exhibit list included Exhibit 38: “Prior art drawings of Deangelo Marine Exhaust

risers and diffusers.” Def.’s Ex. and Witness List, *Woods v. DeAngelo Marine Exhaust, Inc.*, No. 08-cv-81579 (S.D. Fla. Feb. 12, 2010), ECF No. 105-2. These were the drawings found on February 8, 2010. On February 24, 2010, DeAngelo alleged that MES and Woods failed to conduct an adequate pre-filing investigation and moved for sanctions under Rule 11 of the Federal Rules of Civil Procedure.

A two-week jury trial commenced on April 5, 2010. At the beginning of DeAngelo’s defense, MES moved under Federal Rules of Civil Procedure 26 and 37 to strike the drawings DeAngelo had found on February 8, 2010. See Mot. to Strike Drawings. MES argued that because DeAngelo had failed to adequately supplement Interrogatory 25 with information about these drawings, they were not properly identified prior to the close of discovery and should be excluded. The district court found a violation of Rule 26(e), ruling that:

a party confronted with interrogatory [sic] of that nature has some obligation to move forward with the development of its defense and in a timely fashion to respond and supplement to its answer. . . . [T]o wait to do that until February 8th of 2010 is not responsible. . . . *[T]his is not a timely response and it is not a timely supplement to the propounded interrogatory.* It is not a timely supplement to the answer that was [originally] given. . . . its timing is way off, it should have done that much earlier.

Tr. of Prior Art Argument at 23-25, *Woods v. DeAngelo Marine Exhaust, Inc.*, No. 08-cv-81579 (S.D. Fla. Sept. 12, 2010), ECF No. 284 (“Prior Art Argument”) (emphasis added) (paragraph structure not indicated). The court then found DeAngelo’s untimely disclosure neither justified nor harmless and excluded the drawings pursuant to

Federal Rule of Civil Procedure 37(c)(1). The jury found Woods's patents valid and infringed and DeAngelo renewed its motions for JMOL on validity and infringement. On June 3, 2010, the court denied DeAngelo's motions for JMOL and for sanctions against Woods and MES. DeAngelo timely appealed and alleges five errors by the district court: (1) the exclusion of its drawings; (2) the district court's claim construction; (3) denial of JMOL as to validity; (4) denial of JMOL as to non-infringement; and (5) denial of its motion to impose Rule 11 sanctions. This court has jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

II. DISCUSSION

A. Standard of Review

A district court's evidentiary rulings are procedural in nature and this court reviews them under the law of the regional circuit, in this case, the Eleventh Circuit. *TransCore, LP v. Elec. Transaction Consultants Corp.*, 563 F.3d 1271, 1277 (Fed. Cir. 2009). The Eleventh Circuit reviews a district court's evidentiary rulings for an abuse of discretion. *Goodman-Gable-Gould Co. v. Tiara Condo. Ass'n*, 595 F.3d 1203, 1210 (11th Cir. 2010). “A district court abuses its discretion when it misapplies the law in reaching its decision or bases its decision on findings of fact that are clearly erroneous.” *Id.* (quoting *Acre v. Garcia*, 434 F.3d 1254, 1260 (11th Cir. 2006)). A district court's Rule 11 determination is also a matter of regional circuit law that this court reviews for an abuse of discretion under the regional circuit's standard. *Carter v. ALK Holdings, Inc.*, 605 F.3d 1319, 1323 (Fed. Cir. 2010). But if a procedural “issue pertains to or is unique to patent law,” this court applies the law of the Federal Circuit. *O2 Micro Int'l Ltd. v. Monolithic Power Sys.*, 467 F.3d 1355, 1364 (Fed. Cir. 2006) (citing *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1363 (Fed. Cir. 2004)).

A district court’s construction of disputed claim terms is a legal determination this court reviews de novo. *Cybor Corp. v. Fas Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). The ultimate determination of obviousness is also a legal question this court reviews de novo, but the jury’s underlying factual findings are reviewed for substantial evidence. *LNP Eng’g Plastics, Inc. v. Miller Waste Mills, Inc.*, 275 F.3d 1347, 1353 (Fed. Cir. 2001).

JMOL is appropriate on an issue when “a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue.” Fed. R. Civ. P. 50(a)(1). This court reviews a district court’s denial of JMOL under the law of the regional circuit. *Orion IP, LLC v. Hyundai Motor Am.*, 605 F.3d 967, 973 (Fed. Cir. 2010). The Eleventh Circuit reviews all evidence in the light most favorable to the nonmoving party and determines if there was any legally sufficient basis on which a reasonable jury could find in favor of that party—the same standard applied by the district court. *Advanced Bodycare Solutions LLC v. Thione Int’l, Inc.*, 615 F.3d 1352, 1360 (11th Cir. 2010).

B. Federal Rule of Civil Procedure 26 and 35 U.S.C. § 282

DeAngelo’s principal argument is that the district court erred by excluding the engineering drawings disclosed on February 8, 2010, as an untimely interrogatory supplement despite DeAngelo’s identification of the drawings immediately upon finding them and on the final day of the scheduled discovery period. DeAngelo points out that it stated in its initial interrogatory response that it had not decided which prior art references it would use and would disclose the references on which it would rely as required by 35 U.S.C. § 282. It is undisputed that these drawings were disclosed more than thirty days before trial as specified by § 282. DeAngelo also argues that the court failed to address its contention that MES

waived its right to object to the drawings by not objecting when it received them.

MES counters that the court properly excluded the drawings because DeAngelo failed to supplement its answer to MES's Interrogatory 25, failed to justify its late disclosure, and failed to show that the late disclosure was harmless. Oral Arg. at 20:50-21:20, *available at* <http://www.cafc.uscourts.gov/oral-argument-recordings/2010-1478/all/woods.html>. Accordingly, this appeal requires us to determine whether the district court abused its discretion by excluding the drawings, despite DeAngelo's discovery and disclosure of the drawings within the thirty-day period required by § 282, and within the discovery period set by the court.

1.

We begin by disposing of DeAngelo's argument that MES waived its right to object to the drawings. DeAngelo cites several cases to support its contention that MES waived its right to object by not doing so when it received DeAngelo's letter disclosing the drawings and supplementing its interrogatory answer. *See Butler v. Pettigrew*, 409 F.2d 1205, 1207 (7th Cir. 1969) (finding waiver when plaintiffs did not object until after entry of judgment); *Sure Fill & Seal, Inc. v. GFF, Inc.*, 2010 WL 3063287, at *7 n.4 (M.D. Fla. July 6, 2010) (citing *Brandt v. Vulcan, Inc.*, 30 F.3d 752, 756-57 (7th Cir. 1994)). Those cases merely support the proposition that a trial court's decision whether or not to find waiver is discretionary—they do not compel this court to find that a district court abuses its discretion when it does not find waiver in a case like this. Here, the district court was given no clear basis on which to find waiver, and we see no reason to question the district court's actions or re-visit the issue. Accordingly, we turn to the merits of DeAngelo's argument.

2.

This court generally reviews application of the Federal Rules of Civil Procedure by applying the law of the regional circuit. *Trilogy Commc'n, Inc. v. Times Fiber Commc'n, Inc.*, 109 F.3d 739, 744 (Fed. Cir. 1997). The Eleventh Circuit has recognized that courts have broad discretion to fashion discovery sanctions. *United States v. Certain Real Prop. Located at Route 1, Bryant Ala.*, 126 F.3d 1314, 1317 (11th Cir. 1997). Issues that are “unique to patent law,” however, are reviewed as a matter of Federal Circuit law. *O2 Micro*, 467 F.3d at 1364. The application of § 282 is “unique to patent law.” Thus, Federal Circuit law governs its application.

Rule 26 imposes an obligation on parties to conduct a reasonable inquiry into the factual basis of their discovery responses and requires that a party who “responded to an interrogatory . . . supplement or correct its disclosure or response . . . in a timely manner if the party learns that in some material respect the disclosure or response is incomplete or incorrect” Fed. R. Civ. P. 26 (e)(1); *see also id.* 26(b),. Indeed, the district court has discretion, when circumstances warrant, to exclude evidence not produced in compliance with a proper discovery request. *See Goodman-Gable-Gould*, 595 F.3d at 1210-13 (affirming the district court’s exclusion of evidence because statements made during a deposition and references to relevant expenses in a discovery supplement did not provide notice of the party’s theory of liability; those disclosures did not constitute a supplement at all); *see also Innogenetics, N.V. v. Abbott Labs.*, 512 F.3d 1363, 1375-76 (Fed. Cir. 2008) (affirming the district court’s exclusion of a prior art patent disclosed on the final day of discovery because “the time for depositions had passed [and] Abbott had not discussed the Cha patent in an expert report, identified it during discovery in response to

Innogenetics' interrogatories on anticipation, or mentioned it in the final pretrial conference").

Contention interrogatories—like the interrogatory here—serve an important purpose in helping to discover facts supporting the theories of the parties. Answers to contention interrogatories also serve to narrow and sharpen the issues thereby confining discovery and simplifying trial preparation. *See Fed. R. Civ. P.* 33 advisory committee's note (1970 Amendment, Subdivision (b)). This court has recognized that answers to contention interrogatories evolve over time as theories of liability and defense begin to take shape; answers to those interrogatories may not come into focus until the end of discovery. *See O2 Micro*, 467 F.3d at 1365. Rule 26(e) requires that as theories mature and as the relevance of various items of evidence changes, responses to interrogatories, and particularly contention interrogatories, be corrected or supplemented to reflect those changes.

The district court has considerable discretion in overseeing compliance with the Federal Rules of Civil Procedure, including discretion to permit parties to defer supplementing responses to contention interrogatories until theories of the case have ripened for trial. Given that deferred responses to contention interrogatories may result in considerable last minute activity in preparation for trial, however, some courts have passed local rules limiting the extent to which parties are at liberty to defer answering contention interrogatories. *See id.* at 1365-66. Independent of the existence, *vel non*, of such local rules, district courts have discretion to exclude evidence when a party acts in bad faith or prejudices its adversary by deliberately delaying, or wholly failing, to respond to contention interrogatories. *See Zenith Elecs. Corp. v. WH-TV Broad. Corp.*, 395 F.3d 416, 420 (7th. Cir. 2005) ("The district judge banned evidence on that subject after WH-TV failed to respond to Zenith's contentions interrogatory

with a description of its damages theory and the proof to be employed. . . . His decision was not an abuse of discretion.”).

Recognizing the evolving nature of the contentions of the parties leading up to trial and to protect patentees from unfair and prejudicial surprise at trial, Congress established 35 U.S.C. § 282 to provide a statutory outer limit for the disclosure of certain information relating specifically to *defenses* to be relied upon by an accused infringer at trial. Section 282 requires notice in writing:

at least thirty days before the trial, of . . . any publication to be relied upon . . . as showing the state of the art, and the name and address of any person who may be relied upon as the prior inventor or as having prior knowledge of or as having previously used or offered for sale the invention of the patent in suit. In the absence of such notice proof of the said matters may not be made at the trial except on such terms as the court requires.

Section 282 does not eliminate a defendant’s obligations under the Federal Rules of Civil Procedure. To the contrary, the statute and the rules are intended to coexist. *See ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 551 (Fed. Cir. 1998) (“The purpose of § 282, like that of the Federal Rules, is to prevent unfair and prejudicial surprise, not to facilitate last-minute production of evidence.”); *see also Thermo King Corp. v. White’s Trucking Serv., Inc.*, 292 F.2d 668, 674 (5th Cir. 1961).

3.

During the hearing on MES’s motion to exclude the drawings, the district court treated the timing of the production of the drawings and the supplementation of the interrogatory as two separate, but related issues. *See* Prior Art Argument at 3-8. When gathering the facts

necessary to its decision, the district court inquired: “Why were [the drawings] not produced in an earlier fashion and why was the answer to the interrogatory not supplemented at an earlier time.” *Id.* at 8 (emphasis added). After receiving DeAngelo’s response describing why the documents were not produced earlier, the district court again asked “why wasn’t the answer to the interrogatory supplemented?” *Id.* at 12. In issuing its decision, the district court specifically considered DeAngelo’s contention that the e-mail of February 8, 2010 was a supplement to Interrogatory 25. *Id.* at 24. The court quoted the e-mail, which was admittedly “general,” and concluded that the e-mail was “not a timely supplement to the propounded interrogatory.” *Id.*

While the ruling by the district court did not explicitly address the propriety of the supplementation and focused primarily on the issue of timeliness, the record is clear that both issues were presented to the district court and are reiterated before us on appeal. MES specifically argues that “[w]hile DeAngelo provided the documents to MES’s attorney on February 8, 2010, DeAngelo did not clearly state the purpose of the documents or how they might be used.” Appellee’s Br. 20. MES thus argues that the February 8 e-mail “did not serve to supplement the mandatory Rule 26 disclosures or the interrogatory responses.” *Id.* at 22 (emphasis added). Woods also specifically raised the issue at oral argument, stating “there was no Rule 26(e) disclosure—the providing of the documents without answering the questions that we actually asked and without giving us the information that we actually needed is not a satisfactory Rule 26(e) disclosure.” See Oral Arg. at 20:48-21:04. Thus, the “issue” here—whether DeAngelo’s e-mail of February 8 constituted an adequate and timely supplement to its interrogatory response—includes consideration of both the timeliness of the response and the propriety of the supplementation of the interrogatory itself.

4.

The district court held that the documents in question were not timely produced and imposed a sanction under Rule 37(c) for their late production. To be sure, § 282, in requiring that a party “give notice . . . in writing to the adverse party at least thirty days before the trial, . . . of any publication to be relied upon as anticipation of the patent in suit or . . . as showing the state of the art,” imposes only a minimum limit on the duty to disclose prior art references. The district court, by local rule¹ or by court order,² may require such production at an earlier date. But the problem here is that there was no such local rule or court order, save the order setting a discovery deadline of February 9, 2010. The documents were disclosed on February 8, before the discovery deadline and before the thirty day outer limit set by § 282. Furthermore, Rule 26(e) requires only that parties supplement prior discovery responses “*in a timely manner if the party learns* that in some material respect the disclosure or response is incomplete or incorrect” Fed. R. Civ. P. 26(e)(1)(A) (emphasis added). The rule prohibits parties who are aware of their deficient response from “hold[ing] back material items and disclos[ing] them at the last moment.” 8A Charles Alan Wright & Arthur R. Miller, *Federal Practice and Procedure* § 2049.1 (3d ed. 2011); *see also* Fed. R. Civ. P. 26 advisory committee’s note (1993

¹ See, e.g., N.D. Cal. Patent Local R. 3-3 to 3-4 (“Not later than 45 days after service upon it of the ‘Disclosure of Asserted Claims and Infringement Contentions,’ each party opposing a claim of patent infringement, shall serve on all parties its ‘Invalidity Contentions’ . . . [including a] copy or sample of the prior art”).

² See Fed. R. Civ. P. 26(e) (“A party who has made a disclosure . . . [or response to a discovery request] must supplement or correct its disclosure or response . . . as ordered by the court.”).

Amendment, Subdivision (e)) (“The obligation to supplement disclosures and discovery responses applies whenever a party learns that its prior disclosures or responses are in some material respect incomplete or incorrect.”). DeAngelo disclosed the drawings within one day of their discovery and thus did not shirk its obligations under Rule 26(e) with respect to timely production of the drawings. Whether DeAngelo made a reasonable inquiry in the first instance, however, as to the whereabouts of such drawings is unclear. But we need not answer that question as the issue before us can be resolved on the basis of the inadequacy of the supplementation itself.

This court agrees with the district court that Rule 26(e) was violated and concludes that the district court imposed an appropriate sanction. The interrogatory in question did more than require the identification of documents (a requirement that DeAngelo satisfied by the production). It requested that DeAngelo “[s]tate with specificity all prior art that anticipates such claims of one or more of the patents at issue or renders them obvious. *In doing so, specify the particular claim being referred to and identify why such prior art anticipates such claims or renders them obvious.*” Mot. to Strike Drawings at 1-2 (emphasis added). While DeAngelo’s e-mail of February 8, 2010 (in which it disclosed the drawings) stated that the drawings “may anticipate the Woods inventions, or may be relied upon as showing the state of the art in the early 1990’s,” DeAngelo did not comply with the emphasized requirements before the discovery deadline. Such compliance was important. As discussed above, contention interrogatories serve an important purpose in enabling a party to discover facts related to its opponent’s contentions. In order for MES to have an opportunity to meaningfully challenge DeAngelo’s reliance on the drawings as prior art (including whether the drawings were published or whether devices made from the drawings contained the claimed features and were in fact on sale in

the early 1990s), it would have needed to know what features of the drawings DeAngelo contended rendered MES's patents obvious on a claim-by-claim basis.³ *See Innogenetics*, 512 F.3d at 1376 (“Abbott’s disclosure of the Cha patent as an anticipatory prior art reference on the very last day of discovery meant Innogenetics was stripped of any meaningful opportunity to prepare an adequate cross-examination of the reference.”). Having failed to provide MES with this information, DeAngelo’s purported supplement of its response to Interrogatory 25 was in violation of Rule 26(e).

Having properly found that DeAngelo’s failure to supplement its interrogatory response was a violation of Rule 26(e), the district court was well within its discretion in excluding the drawings under Federal Rule of Civil Procedure 37(c). The court found that DeAngelo’s failure to supplement its interrogatory response harmed MES because the drawings themselves were not prior art, and MES would need to depose people and subpoena records to defend against testimony that these drawings would elicit. Prior Art Argument at 25-30. The court found that MES could not cure this harm at such a late stage. *Id.* This court sees no error in the district court’s explicit findings that DeAngelo’s failure to supplement its interrogatory response prejudiced MES and hindered MES’s ability to put on its case and that this error was not substantially justified or harmless. *See Fed. R. Civ. P. 37(c)* (“If a party fails to [supplement an interrogatory response] as required by Rule [26(e)], the party is not allowed to use that information . . . to supply evidence on a motion, at a hearing, or at a trial, unless the failure was substantially justified or is harmless.”); *see also Eaton Corp. v. Appliance Valves Corp.*, 790 F.2d 874, 879 (Fed.

³ DeAngelo conceded at oral argument that the drawings do not anticipate the MES patents. Oral Arg. at 4:35-4:55.

Cir. 1986) (“The boundaries of the district court’s discretion are defined by unfair, prejudicial harm to a party deprived of an adequate opportunity to present its case.”). Thus we find that the district court did not abuse its discretion in precluding DeAngelo from relying on the drawings as prior art.

C. Claim Construction

DeAngelo next argues that the district court erred in its construction of four disputed claim terms. According to DeAngelo, the court’s constructions fail to account for the inventions’ physical and functional limitations required by the specifications. *See ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368, 1375-76 (Fed. Cir. 2009). MES counters that DeAngelo merely proposes alternative, more restrictive descriptions of terms that already have a clear meaning to one of skill in the art, and the district court’s construction correctly refrains from reading unnecessary limitations into the claims. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (en banc).

Claim terms are given their ordinary and customary meaning—the meaning that they would have to a person of ordinary skill in the art in light of the specification and prosecution history at the time of the invention. *Id.* at 1312-13. The specification need not describe every embodiment of the claimed invention, *see Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001), and the claims should not be confined to the disclosed embodiments—even when the specification discloses only one embodiment, *Phillips*, 415 F.3d at 1323.

Claim terms are properly construed to include limitations not otherwise inherent in the term only “when a patentee sets out a definition and acts as his own lexicographer,” or “when the patentee disavows the full scope of a claim term either in the specification or during prosecu-

tion.” *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). “To act as its own lexicographer, a patentee must ‘clearly set forth a definition of the disputed claim term’” *Id.* (quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). Moreover, “[w]here the specification makes clear that the invention does not include a particular feature, that feature is deemed to be outside . . . the patent, even though the language of the claims, read without reference to the specification, might be considered broad enough to encompass the feature in question.” *Id.* at 1366 (internal citation omitted). As detailed below, the district court’s construction of each term is consistent with the plain meaning of the term, while DeAngelo’s constructions require us to adopt limitations not defined in, or required by, the specification.

1. “elongated outer shell”

DeAngelo argues that the court’s construction of the claimed expression “elongated outer shell” as “the outer pipe that extends past the spray ring,” is overly broad and should be limited to outer shells having a length sufficient to deflect and break apart water from the spray ring—the function stated in the specification. MES counters that the plain meaning of “elongated” outer shell is simply that the outer shell extends past the spray ring. MES points to claims that cover an embodiment where the water is not directed toward the outer shell. See ’633 Patent col. 7 ll. 45-62; ’670 Patent col. 6 ll. 17-33. MES thus contends that defining the term “elongated outer shell” as a shell long enough to deflect water improperly reads a limitation into the term—a limitation not required by every embodiment.

MES is correct. Nothing in the plain meaning of “elongated outer shell” requires that the shell extend far enough past the inner shell to serve as a deflection plane for water. In fact, “elongated” is an adjective used to

describe both the inner liner and outer shell within the same claim. *Compare* '633 Patent col. 7 l. 48 ("an elongated inner liner"), *with* '633 Patent col. 7 l. 50 ("an elongated outer shell"). Therefore "elongated" cannot mean long enough to provide a deflection surface; and "outer shell" simply refers to the outer cylinder. Woods's abandonment of the '097 Application, an event that DeAngelo stresses in its obviousness argument, further undermines DeAngelo's claim construction argument. The claims of the abandoned '097 Application expressly required a deflection surface for the sprayed water. The '670 Patent's claims do not have such a limitation.

The patentee did not expressly define "elongated outer shell" as providing a deflection surface, nor did he disavow an outer liner that does not deflect water. This court will not read such a limitation into the term merely because it is disclosed in some embodiments. *Phillips*, 415 F.3d at 1323. The district court correctly construed "elongated outer shell."

2. "inwardly tapered section"

DeAngelo next argues that the court erred in construing the phrase "inwardly tapered section" as "the section of the elongated outer shell or elongated inner liner that has a reduction in diameter." Just as DeAngelo urged us to limit "elongated outer shell" to account for the "functional limitation" of a water deflection surface, it argues that "inwardly tapered section" should also be so limited. According to DeAngelo, the term should be construed to require the tapered section occur near the tail end of the shell, so water can deflect off of the tapered surface. In support, DeAngelo points to embodiments in the specification where water collides with the inwardly tapered section. *See, e.g.*, '670 Patent col. 2 ll. 25-28. MES disagrees and argues that while some embodiments may indeed function by deflecting water off of the tapered surface into the exhaust stream, the claims need not be

restricted to that embodiment. We see nothing in the claims or written description to warrant limiting this term to a single embodiment. The district court correctly construed “inwardly tapered section” not to require a deflection surface.

3. “directed towards”

DeAngelo argues that the district court’s construction of the phrase “directed towards” as “caused to flow in a direction that results in contact with,” is overly broad because the specification requires the water to hit the liner with enough force to fan out, not merely contact the liner. MES counters that the ordinary meaning of the phrase “directed towards” is clear and unencumbered with the additional limitation DeAngelo seeks to incorporate. According to MES, nothing warrants adding the requirement of a forceful collision to the term “directed towards.”

The district court’s construction of “directed towards” is correct. Like the other disputed terms, the specification does not *require* the water to forcefully collide with a surface. For example, some claims specifically require that the water forcefully exit the spray ring and flow towards a wall, other claims do not require such force. *Compare* ’670 Patent col. 6 l. 64-col. 7 l. 4, *with* ’633 Patent col. 8 ll. 49-53. The patentee never expressly defined “directed towards,” nor did he disavow the clear definition found by the district court. This court will not construe this otherwise clear term to include a limitation already present in some claims but not others.

4. “angularly disposed”

Finally, DeAngelo argues that the district court’s construction of “angularly disposed” as “a spray ring positioned in a way that is not parallel or perpendicular to the central axis of the inner liner” is overbroad because it

does not limit the spray of the water stream towards the outer shell. DeAngelo claims that the court's construction allows a spray ring that directs water towards the inner liner, an embodiment not described in the specification. According to DeAngelo, "[t]he specifications of each of the Patents-in-Suit disclose only two possible orientations for the spray ring," at an approximately 90° angle relevant to the central axis, or directed towards the outer liner. Appellant's Br. 55. MES accuses DeAngelo of again reading an unwarranted limitation into the claims based on specific embodiments, in contravention of *Phillips*. 415 F.3d at 1323.

The district court's construction comports with the ordinary meaning of this term. The phrase "angularly disposed" does not prescribe any specific angle. The patentee never defined the term nor disavowed a broader meaning. Furthermore, it is not necessary to read DeAngelo's proposed limitation into the term because every claim that uses this term already limits the ring to being directed toward the outer wall. See '670 Patent col. 6 l. 54-col. 7 l. 4, col. 7 l. 12-col. 8 l. 12; '633 Patent col. 8 ll. 35-53, col. 9 ll. 11-18.

The district court correctly declined to read unwarranted limitations into the disputed claim terms. For the foregoing reasons, this court affirms the district court's claim construction.

D. Validity

DeAngelo challenges the district court's denial of JMOL that the asserted claims of Woods's patents are invalid as obvious under 35 U.S.C. § 103. DeAngelo sets forth three main arguments in support of its obviousness contention. First, DeAngelo argues that the prior art patents contain every limitation of Woods's asserted claims, and Woods admitted as much during prosecution when he chose to add an additional claim limitation

instead of arguing to the examiner that the reference did not anticipate the claim. DeAngelo then argues that its excluded prior art drawings, *see supra* § II.B., render the claims obvious. Finally, DeAngelo contends that the Key Marine Riser, a product that predates Woods's patents, exhibits a tapered inner liner, the only element of the asserted claims that is arguably not shown in the prior art patents.

MES counters that the prior art references do not show every limitation of Woods's asserted claims; they specifically lack any teaching of a tapered inner liner. MES also argues that because DeAngelo's prior art drawings were properly excluded, they cannot support an obvious rejection. Moreover, MES argues that the jury had the opportunity to observe the Key Marine Riser and still concluded that it did not render the claims of Woods's patents obvious. Finally, MES characterizes Woods's patents as having solved a longstanding problem in the marine exhaust industry and that such a showing is objective evidence of non-obviousness.

The Supreme Court reaffirmed the appropriate obviousness analysis in *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). The Court instructed us to: (1) determine the scope and content of the prior art, (2) ascertain the differences between the prior art and the claims at issue, (3) resolve the level of ordinary skill in the art, and (4) determine obviousness in light of objective factors like “commercial success, long felt but unsolved needs, failure of others, etc.” *KSR*, 550 U.S. at 406 (quoting *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)). At bottom, the obviousness analysis is a common sense test, and “[i]f a person of ordinary skill . . . would have found the invention [a] predictable and achievable variation or combination of the prior art, then the invention likely would have been obvious.” *Rolls-*

Royce, PLC v. United Techs. Corp., 603 F.3d 1325, 1338 (Fed. Cir. 2010) (citing *KSR*, 550 U.S. at 417, 421).

1. The Prior Art Patents

DeAngelo first contends that because all claims of Woods's initial '097 Application were rejected as anticipated by the Shiozawa and Moffit references, Woods's abandonment of the '097 Application is "an inference, if not an admission that the claims of that application are unpatentable as being anticipated by both Shiozawa and Moffit (thus defining the scope and content of the prior art)." Appellant's Br. 36. MES contests that assertion and cites *Paperless Accounting v. Bay Area Rapid Transit System*, 804 F.2d 659 (Fed. Cir. 1986), to support the proposition that Woods's decision to abandon the '097 Application and pursue the broader '548 Application cannot constitute even an inference that the '097 Application was properly rejected. MES argues that although Shiozawa and Moffit are within the prior art, neither teaches an inwardly tapered tail end of the inner liner.

DeAngelo's characterization of Woods's abandonment of the '097 Application as an admission that the Shiozawa and Moffit references disclose every element of Woods's patents is meritless. DeAngelo fails to consider that Woods filed the '548 Application more than six months *before* the examiner rejected the '097 Application. Moreover, the claims in the '548 Application are arguably broader than the claims in the '097 Application, and Woods prosecuted the '548 Application before the same examiner who eventually rejected the '097 Application. There is nothing to suggest that Woods did anything other than simply choose to pursue the similar, but broader, '548 Application instead of continuing to prosecute the '097 Application. This court declines to characterize Woods's conduct as an admission or concession that the claims in the '097 Application are anticipated by Shiozawa or Moffitt.

DeAngelo next contends that Woods's amendment in response to the examiner's April 1, 1999 rejection constituted an admission that the originally filed claims of the '821 Application (ultimately the '633 Patent) were anticipated by Lulloff. DeAngelo argues that Woods acquiesced to the substance of the examiner's rejection because Woods added a different limitation instead of arguing that Lulloff does not teach a tapered liner. According to DeAngelo, this qualifies as an admission that all limitations in the initial claims, including the tapered liner, existed in the prior art. DeAngelo urges us to preclude MES from now arguing that Lulloff does not contain a tapered liner.

In *TorPharm, Inc. v. Ranbaxy Pharmaceuticals, Inc.*, 336 F.3d 1322, 1330 (Fed. Cir. 2003), this court rejected Ranbaxy's similar acquiescence rationale, explaining that "Ranbaxy's argument blurs the distinction between *claims* and *limitations*: patentability is assessed for the former, not the latter." Explicit limitations are material to the infringement inquiry. *Id.* at 1331 n.9. But viewing an amendment as an admission that the initial claim was unpatentable requires more than the mere presence of a limitation. See *id.* at 1330.

DeAngelo relies on a number of reissue proceeding cases like *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472 (Fed. Cir. 1998), which address the surrender of subject matter during the initial prosecution. But *Hester* cites *Mentor Corp. v. Coloplast, Inc.*, 998 F.2d 992, 995 (Fed. Cir. 1993), which suggests there must be additional evidence (e.g., argument to the examiner) to support a conclusion that an amendment was an admission. *Hester*, 142 F.3d at 1480-81. DeAngelo also relies on *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1207-08 (Fed. Cir. 1992), to support its acquiescence theory. But in *Lemelson*, it is not clear to what extent the patentee argued the rejection with the examiner. *Id.* Moreover, this court

specifically distinguished *Lemelson* in *TorPharm* based on similar facts to those here. *TorPharm*, 336 F.3d at 1331 n.9.

This court does not accept DeAngelo's acquiescence theory as support for its contention that Lulloff contains a tapered surface as a matter of law. The examiner rejected the '821 Application as anticipated by Lulloff, which showed an elongated liner and shell with an inwardly tapered section. Woods made no statement representing that a tapered liner was not disclosed by Lulloff. He never admitted it. He never addressed it. All he argued to the examiner was that using a spacer to create back pressure in the inner volume was not disclosed by Lulloff. A patent applicant is not presumed to have conceded the presence in the prior art of every claim limitation he had no reason to dispute. This court has considered DeAngelo's other arguments that Woods's specifications and the prior art patents render the asserted claims of the Woods patents obvious and finds them to be without merit.

2. Excluded Drawings and the Key Marine Riser

DeAngelo also argues that its excluded drawings demonstrate that every limitation of the asserted claims was known in the prior art. As discussed above, *see supra* § II.B, the district court properly excluded these drawings and the drawings are properly excluded from the obviousness analysis. Finally, DeAngelo relies on the "Key Marine Riser," a device presented to the jury, to show that a tapered tail end existed in the prior art. But the jury physically inspected the Key Marine Riser and was free to conclude that it did not support DeAngelo's theory. DeAngelo has failed to show that the prior art singly or collectively disclosed or taught every limitation of the claims at issue. On this evidence, this court cannot say that the jury could not have sustained the validity of the claims at issue.

E. Non-Infringement

DeAngelo's argument that the district court erred in denying its motion for JMOL of non-infringement is relatively narrow. DeAngelo argues that MES failed to introduce any infringement evidence, other than engineering drawings, for DeAngelo's "notched diffusers," and that no reasonable jury could have found infringement based on those drawings. Although all of DeAngelo's products contain a hose bead, DeAngelo stresses that Darrin Woods's (MES's vice-president) testimony explaining how the hose bead creates a tapered surface dealt only with "conical diffusers." DeAngelo thus contends that, as a matter of law, the "notched diffusers" cannot infringe.

MES counters that at trial the jury heard testimony that adding a "hose bead" to the end of a liner, regardless of the type of diffuser, would cause an indentation and tapering effect. Also, the jury was able to physically inspect the Key Marine Riser and observe the taper that a hose bead caused. MES argues that, in light of DeAngelo's admission that all of its products contain a hose bead, the evidence of a hose bead induced taper was sufficient for a reasonable jury to conclude that DeAngelo's notched diffusers also had a tapered liner and infringed the Woods patents.

MES is correct. DeAngelo admitted that all of its products contain a hose bead. Darrin Woods testified that a hose bead on the diffuser causes an indentation in the liner resulting in the requisite tapered surface. Darrin Woods's testimony was a legally sufficient basis on which the jury could have found that DeAngelo's notched diffusers infringed the asserted claims of the Woods patents. The district court did not err by denying JMOL of non-infringement.

F. Rule 11 Sanctions

Finally, DeAngelo alleges that MES and Woods filed this lawsuit without conducting an adequate pre-suit investigation into whether or not DeAngelo's products actually infringe. DeAngelo argues that MES decided to file this lawsuit based only on photographs taken by an MES employee and that MES's attorney did not make an adequate infringement determination prior to filing. DeAngelo stresses that Woods made the decision to file the infringement suit based only on grainy photographs that Woods himself admitted did not clearly show the elements of the claims. MES counters that the grainy black and white photographs DeAngelo used to elicit Woods's testimony were not the same photos on which the suit was based; the suit was based on the same high definition color photos presented at trial and used to prove infringement to the jury. Moreover, Woods and MES point out that for over two years, DeAngelo denied them the access to DeAngelo's products that they sought and that DeAngelo now argues was required.

The Eleventh Circuit imposes Rule 11 sanctions where the "frivolous nature of the claims-at-issue is unequivocal." *Carter v. ALK Holdings, Inc.*, 605 F.3d 1319, 1323 (Fed. Cir. 2010). In a patent case, this court stated that "an attorney violates Rule 11(b)(3) when an objectively reasonable attorney would not believe, based on some actual evidence uncovered during the prefilings investigation, that each claim limitation reads on the accused device . . ." *Antonious v. Spalding & Evenflo Cos.*, 275 F.3d 1066, 1074 (Fed. Cir. 2002).

Here, the record is replete with evidence supporting the district court's conclusion that MES conducted a sufficient pre-filing investigation including photographing and studying photographs of DeAngelo's accused products. *See supra* § I.B. Nonetheless, DeAngelo argues that *Judin v. United States*, 110 F.3d 780 (Fed. Cir. 1997),

compels the conclusion that MES's mere observations of DeAngelo products cannot constitute an adequate investigation. DeAngelo's reliance on *Judin* is misplaced. In *Judin*, the plaintiff observed allegedly infringing products from a distance, but never sought access to investigate them more closely. *Id.* at 784. Here, MES directly requested from DeAngelo, in writing, information about DeAngelo's allegedly infringing devices. When that information was not forthcoming, MES took the photographs of DeAngelo's products that were used as the basis for filing suit. At trial a number of witnesses testified that they could discern the features covered by the asserted claims from the digital color photographs. This is not a case like *Judin* where the plaintiff sued without seeking access to examine allegedly infringing devices. The district court did not abuse its discretion in declining to sanction MES.

CONCLUSION

For the foregoing reasons, the judgment of the district court is affirmed.

AFFIRMED