

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF VIRGINIA
Norfolk Division

CERTUSVIEW TECHNOLOGIES, LLC,

Plaintiff/Counter-Defendant,

v.

Case No.: 2:13cv346

S&N LOCATING SERVICES, LLC and
S&N COMMUNICATIONS, INC.,

Defendants/Counter-Plaintiffs.

OPINION AND ORDER

CertusView Technologies, LLC ("CertusView" or "Plaintiff/Counter-Defendant") filed this patent infringement action alleging that S&N Locating Services, LLC and S&N Communications, Inc.'s ("S&N" or "Defendants/Counter-Plaintiffs") infringed the five Patents-in-Suit. S&N responded by filing an amended answer asserting an inequitable conduct declaratory judgment counterclaim. Although the Court granted S&N's Motion for Judgment on the Pleadings and found that each of the asserted claims of the Patents-in-Suit were invalid because they did not claim patent-eligible subject matter, S&N's inequitable conduct declaratory judgment counterclaim remained for trial.¹ After a five-day bench trial, and with the benefit

¹ For a more detailed factual and procedural history, see May 22, 2015 Opinion and Order, ECF No. 325, and January 21, 2015 Opinion and Order, ECF No. 250.

of post-trial briefs and proposed findings of fact and conclusions of law, S&N's inequitable conduct declaratory judgment counterclaim is ripe for decision.

Before ruling on the inequitable conduct declaratory judgment counterclaim, the Court must address the following four motions filed by CertusView in association with the counterclaim: (1) CertusView's Rule 52(c) trial motion; (2) CertusView's remaining Motion in Limine, ECF No. 436; (3) CertusView's Motion to Enforce the Court's March 7, 2016 Memorandum Order, ECF No. 494; and (4) CertusView's Objections to Materials Cited in S&N's Post-Trial Brief, ECF No. 529.² After ruling on these motions, the Court will present its findings of fact and conclusions of law regarding S&N's inequitable conduct declaratory judgment counterclaim.

I. CERTUSVIEW'S RULE 52(c) MOTION

Before and during trial, CertusView moved for entry of partial judgment, pursuant to Federal Rule of Civil Procedure 52(c), asserting, among other things,³ that the Court is

² CertusView also filed a Motion for Partial Reconsideration on June 15, 2016. ECF No. 533. As such Motion has limited relevance to the subjects of the instant Opinion and Order and has just recently become ripe, the Court will address such Motion separately.

³ During trial, CertusView also argued that S&N had failed to demonstrate that CertusView engaged in inequitable conduct on any of the five grounds S&N had asserted for a finding of inequitable conduct. Trial Tr. Vol. 5A, 994:24-999:20, ECF No. 502. However, as the Court's determination of CertusView's Rule 52(c) motion on these matters is coterminous with the Court's determination regarding

precluded from entering judgment in S&N's favor on its inequitable conduct counterclaim because the Court's previous ruling, that certain claims of the Patents-in-Suit are patent ineligible pursuant to 35 U.S.C. § 101, is inconsistent with a finding of inequitable conduct. See Final Pretrial Order, 41, ECF No. 472; CertusView's Post-Trial Br., 20-21, ECF No. 516; Trial Tr. Vol. 5B, 1113:15-1119:6, ECF No. 511. CertusView argues that a determination of patent eligibility is a "threshold test" that "must be satisfied before a court can proceed to consider subordinate validity issues," relying on Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709, 718 (Fed. Cir. 2014) (Mayer, J., concurring), which cites Bilski v. Kappos, 561 U.S. 593, 602 (2010) and Parker v. Flook, 437 U.S. 584, 593 (1978). CertusView asserts that, because the Court found the asserted claims of the Patents-in-Suit did not claim patent-eligible subject matter, such "threshold test" was not satisfied in this matter, and therefore the Court should not consider additional claims of invalidity or unenforceability. CertusView's Post-Trial Br. at 20-21. While acknowledging that the patent eligibility requirements of § 101 should ideally be addressed early in a case before moving on to other requirements for patentability, S&N responds by arguing that CertusView's

inequitable conduct, the Court consolidates its ruling on the remaining grounds of CertusView's Rule 52(c) motion with its findings regarding inequitable conduct below.

inequitable conduct before the United States Patent and Trademark Office ("PTO") should not be excused simply because its patents were later invalidated by this Court. S&N further argues that inequitable conduct before the PTO remains actionable after a finding of patent ineligibility because a finding of patent ineligibility and a finding of inequitable conduct are not inconsistent as such findings address substantively different legal issues. Defs.' Post-Trial Br., 28-30, ECF No. 517.

CertusView is seeking a partial judgment pursuant to Federal Rule of Civil Procedure 52(c). Federal Rule of Civil Procedure 52(c) allows the Court to "enter judgment against [a] party on a claim or defense that, under the controlling law, can be maintained or defeated only with a favorable finding on that issue," once that party has been fully heard on such issue. Fed. R. Civ. P. 52(c). For the following reasons, the Court finds that CertusView has not demonstrated that controlling law precludes the Court from entering judgment in S&N's favor on its inequitable conduct counterclaim.

While the parties have not cited any controlling law directly addressing the effect of a 35 U.S.C. § 101 patent ineligibility finding on an inequitable conduct counterclaim,⁴

⁴ There is one district court case implicitly recognizing that a finding of § 101 patent ineligibility does not preclude consideration of an inequitable conduct counterclaim. In Exergen Corp. v. Kaz USA,

there are many decisions from the United States Court of Appeals for the Federal Circuit addressing the effect of a 35 U.S.C. § 102 or § 103 invalidity finding on an inequitable conduct counterclaim and concluding that a finding of patent invalidity does not preclude a finding of inequitable conduct. See Am. Calcar, Inc. v. Am. Honda Motor Co., 768 F.3d 1185, 1189 (Fed. Cir. 2014) (affirming the district court's finding that a patent was both invalid, pursuant to § 102 and § 103, and unenforceable due to inequitable conduct, and stating that "[t]he jury's verdict finding the patents at issue non-obvious . . . does not weigh on the determination of materiality for inequitable conduct"); Paragon Podiatry Lab., Inc. v. KLM Labs., Inc., 984 F.2d 1182, 1188 (Fed. Cir. 1993) (affirming finding of patent invalidity under § 102 and finding that defendant engaged in inequitable conduct with regards to the invalidated patent); Buildex Inc. v. Kason Indus., Inc., 849 F.2d 1461, 1466 (Fed. Cir. 1988) (finding that a patent was invalid under § 102(b) but remanding for determination of inequitable conduct counterclaim as "conduct in the procurement of the patent is

Inc., No. 13-cv-10628, 2015 WL 8082402 (D. Mass. Dec. 7, 2015) (unpublished), the court found that certain claims were patent ineligible under § 101, but then noted in a footnote that counterclaims for inequitable conduct and for an exceptional case finding remained pending. See also Exergen Corp v. Brooklands, Inc., No. 1:12cv12243, ECF Doc. No. 152 (D. Mass. Feb. 4, 2016) (allowing discovery to proceed on inequitable conduct counterclaim after finding of § 101 patent ineligibility).

still relevant to Kason's request for attorney fees . . . "); cf. Apotex Inc. v. UCB, Inc., 763 F.3d 1354, 1361-63 (Fed. Cir. 2014) (affirming district court's finding that patent applicant committed inequitable conduct, and affirming, without considering, district court's determination that certain patent claims were invalid, pursuant to 35 U.S.C. § 112). The Court will look to such cases because, as S&N argues, a finding of patent invalidity, pursuant to § 102 or § 103, is analogous to a finding of patent ineligibility, pursuant to § 101, in that a determination under each statute results in a finding that the entire patent should not have issued. Defs.' Post-Trial Br. at 29.

As this Court previously noted in its decision denying CertusView's motion to strike S&N's inequitable conduct counterclaim, a finding of patent ineligibility under § 101 and a finding of inequitable conduct are not inherently inconsistent as they address substantively different legal issues. May 22, 2015 Op. & Order, 15-16 n.3, ECF No. 325 (discussing the differences between a finding of patent ineligibility and a finding of inequitable conduct with its "atomic bomb" remedy (quoting Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1288-89 (Fed. Cir. 2011) (en banc))).⁵ For example, a

⁵ While a finding of patent ineligibility and a finding of inequitable conduct are not inherently inconsistent, there may conceivably be cases where a finding of patent ineligibility precludes consideration

determination of patent ineligibility under § 101 addresses the question of whether the subject matter at issue in a patent is of "the kind of discover[y]" eligible for statutory patent protection. Parker, 437 U.S. at 594; see 35 U.S.C. § 101. Alternatively, inequitable conduct is a judicial doctrine concerned with a patent applicant's deceptive conduct before the PTO. Therasense, 649 F.3d at 1285-86. Moreover, a finding of patent ineligibility is a claim-by-claim determination, and the Court's determination of ineligibility as to the asserted claims of the Patents-in-Suit did not render all claims of the Patents-in-Suit patent ineligible. See January 21, 2015 Op. & Order, ECF No. 250. By contract, a finding of inequitable conduct renders an entire patent, and potentially other patents in the same technology family, unenforceable. Therasense, 649 F.3d at 1288-89. Additionally, "[a] finding of inequitable conduct may also spawn antitrust and unfair competition claims," lead to an award of attorneys' fees under 35 U.S.C. § 285 because inequitable conduct often makes a case "exceptional," or a

of an inequitable conduct counterclaim because the patent ineligibility finding extends to the entire patent, see Zenith Elecs. Corp. v. PDI Commc'n Sys., Inc., 522 F.3d 1348, 1367 n.11 (Fed. Cir. 2008), there are no related patents at issue, there are no antitrust or unfair competition issues, there are no issues involving attorneys' fees, and there are no issues involving the crime or fraud exception to the attorney-client privilege. See Therasense, 649 F.3d at 1288-89 (discussing potential remedies upon finding of inequitable conduct and how such remedies can exceed requested relief of patent invalidity). Such a scenario is not present here.

finding of inequitable conduct "may also prove the crime or fraud exception to the attorney-client privilege." Id. at 1289 (citations omitted). Finally, a finding of inequitable conduct, "[u]nlike other deficiencies . . . cannot be cured by reissue or reexamination." Id. at 1288 (citations omitted).

The Court also notes that, while Plaintiff's Rule 52(c) Motion relies on Bilski v. Kappos, 561 U.S. 593 (2010), Parker v. Flook, 437 U.S. 584 (1978), and Judge Mayer's concurrence in Ultramercial, Inc. v. Hulu, LLC, 772 F.3d 709 (Fed. Cir. 2014), such cases do not support the proposition that a finding of patent ineligibility precludes consideration of an inequitable conduct counterclaim. Indeed, those cases do not address inequitable conduct at all; they simply stand for the rather unremarkable proposition that patent eligibility is a question that "must be addressed at the outset of litigation." Ultramercial, 772 F.3d at 717 (Mayer, J., concurring). Stretching that common sense proposition to mean that absence of patent eligibility precludes inequitable conduct actionability is a bridge too far. While legal precedent on this topic is sparse, because a determination of patent eligibility pursuant to § 101 is typically resolved before a defendant has the opportunity to file an answer and raise an inequitable conduct counterclaim, or learn of inequitable conduct during discovery, the Court finds itself in the rare circumstance where both

issues have been raised, are not inconsistent, and should be addressed.

For the foregoing reasons, the Court concludes that, in this case, a finding of patent ineligibility and a finding of inequitable conduct are not inconsistent, and the Court therefore DENIES CertusView's Rule 52(c) Motion on such basis.

II. CERTUSVIEW'S MOTION IN LIMINE

Prior to trial, CertusView filed one document containing six Motions in Limine, ECF No. 436, only one of which, related to CertusView's Rule 52(c) motion, remains.⁶ CertusView's remaining Motion in Limine asserts that S&N is estopped from introducing evidence of materiality, the first prong of a two-part test for determining inequitable conduct, regarding CertusView's alleged misrepresentations or omissions to the PTO. CertusView asserts two arguments in support of its motion. Mots. in Limine, 23-27, ECF No. 437. First, CertusView argues that the Court's § 101 patent ineligibility ruling determined the issue of materiality in S&N's inequitable conduct claim and, thus, S&N is collaterally estopped from presenting evidence of

⁶ The Court addressed CertusView's first, third, fourth, and fifth Motions in Limine in its March 7, 2016 Memorandum Order. ECF No. 493. Further, the Court addressed CertusView's second Motion in Limine, regarding S&N's expert Ivan Zatkovich during Zatkovich's testimony at trial. To the extent that any issue regarding Zatkovich's expert testimony remains, the Court addresses Zatkovich's testimony on issues of materiality below. Thus, CertusView's sixth Motion in Limine is all that remains.

materiality. Second, CertusView asserts that S&N is precluded from introducing evidence of materiality because it waived such argument when S&N argued in favor of a finding of patent ineligibility under § 101. For the following reasons, the Court finds that CertusView has failed to demonstrate that S&N is estopped from introducing evidence of materiality on either ground.

Collateral estoppel "forecloses 'the relitigation of issues of fact or law that are identical to issues which have been actually determined and necessarily decided in prior litigation in which the party against whom [collateral estoppel] is asserted had a full and fair opportunity to litigate.'" Sedlack v. Braswell Servs. Grp., Inc., 134 F.3d 219, 224 (4th Cir. 1998) (quoting Ramsay v. U.S. Immigration and Naturalization Serv., 14 F.3d 206, 210 (4th Cir. 1994)).⁷ Specifically,

To apply collateral estoppel or issue preclusion to an issue or fact, the proponent must demonstrate that (1) the issue or fact is identical to the one previously litigated; (2) the issue or fact was actually resolved in the prior proceeding; (3) the issue or fact was critical and necessary to the judgment in the prior proceeding; (4) the judgment in the prior proceeding is final and valid; and (5) the party to be foreclosed

⁷ On procedural issues not unique to the Federal Circuit's exclusive jurisdiction, the Federal Circuit will apply the precedent of the regional circuit, which in this case is the Fourth Circuit. See Aspex Eyewear, Inc. v. Zenni Optical Inc., 713 F.3d 1377, 1380 (Fed. Cir. 2013) (citing Dana v. E.S. Originals, Inc., 342 F.3d 1320, 1323 (Fed. Cir. 2003)). Thus, the Court relies on a statement of the law, regarding collateral estoppel, from the United States Court of Appeals for the Fourth Circuit.

by the prior resolution of the issue or fact had a full and fair opportunity to litigate the issue or fact in the prior proceeding.

In re Microsoft Corp. Antitrust Litig., 355 F.3d 322, 326 (4th Cir. 2004) (citations omitted).

Alternatively, litigation, or the presentation of evidence on an issue, may also be foreclosed when that issue has been waived due to a judicial admission. A judicial admission includes "intentional and unambiguous waivers that release the opposing party from its burden to prove the facts necessary to establish the waived conclusion of law." Everett v. Pitt Cty. Bd. of Educ., 788 F.3d 132, 141 (4th Cir. 2015) (quoting Minter v. Wells Fargo Bank, N.A., 762 F.3d 339, 347 (4th Cir. 2014)); see Martinez v. Bally's La., Inc., 244 F.3d 474, 477 (5th Cir. 2001) ("Although a judicial admission is not itself evidence, it has the effect of withdrawing a fact from contention. A statement made by counsel during the course of trial may be considered a judicial admission if it was made intentionally as a waiver, releasing the opponent from proof of fact." (citation omitted)). "A purported judicial admission is binding only if the statement is 'deliberate, clear, and unambiguous.'" Everett, 788 F.3d at 141 (quoting Minter, 762 F.3d at 324).

Addressing first CertusView's collateral estoppel argument, the Court finds that, because S&N's inequitable conduct counterclaim is substantively different from the issues decided

in the Court's § 101 ruling, CertusView has failed to demonstrate that S&N is collaterally estopped from introducing evidence of materiality as to inequitable conduct. As discussed more fully in Section I of this Opinion and Order, a finding of patent ineligibility and a finding of inequitable conduct address substantively different legal issues. As the Court's § 101 ruling addressed a separate legal issue, the issue of materiality is not "identical to the one previously litigated," and the issue of materiality was not "actually resolved in the prior proceeding." In re Microsoft, 355 F.3d at 326. Further, as S&N's inequitable conduct counterclaim was not at issue when the Court considered S&N's Motion for Judgment on the Pleadings based on ineligibility, S&N did not have "a full and fair opportunity to litigate the issue [of materiality] in the prior proceeding." Id. Therefore, S&N is not precluded from presenting evidence of materiality on the basis of collateral estoppel.

As to CertusView's second argument, the Court finds that CertusView has not demonstrated that S&N "deliberate[ly], clear[ly], and unambiguous[ly]" waived its arguments regarding materiality earlier in this litigation. CertusView has not presented the Court with any particular statement from S&N that waives, or acknowledges waiver of, its ability to present evidence of materiality on its inequitable conduct claims.

Further, as discussed above, a finding of patent ineligibility and a finding of inequitable conduct are not inherently inconsistent, or actually inconsistent in this case. Thus, S&N's general arguments in favor of patent ineligibility do not evidence an "intentional and unambiguous waiver[]" of its ability to present evidence that CertusView provided material misrepresentations or omissions to the PTO during prosecution of the Patents-in-Suit. Everett, 788 F.3d at 141. Therefore, S&N is not precluded from presenting evidence of materiality on the basis of judicial estoppel. For these reasons, the Court DENIES CertusView's sixth and final Motion in Limine.

III. CERTUSVIEW'S MOTION TO ENFORCE

On March 8, 2016, CertusView filed a Motion to Enforce the Court's Memorandum Order precluding the author of the reference U.S. Pub. No. 2006/0077095 (discussed in detail below) from offering expert testimony. ECF No. 494. CertusView asserts, based on the Court's March 7, 2016 Memorandum Order precluding Page Tucker ("Mr. Tucker") from offering expert testimony, that the Court should not consider certain portions of Mr. Tucker's deposition testimony that were designated by S&N because they constitute improper lay witness testimony. Specifically, CertusView argues that the Court should not consider the portions of Mr. Tucker's deposition testimony that comment on statements written in an Amendment and Reply to the PTO by

CertusView's patent counsel, Joseph Teja ("Teja"). On March 8, 2016, S&N filed its Response in Opposition to CertusView's Motion to Enforce. ECF No. 496. No reply brief was filed on this issue.

The portions of Mr. Tucker's deposition testimony, as identified by CertusView, are not proper expert witness or lay witness testimony. First, the disputed portions of Mr. Tucker's deposition testimony cannot be admitted as expert testimony because, as the Court found in its March 7, 2016 Memorandum Order, Mr. Tucker has not been designated as an expert in this matter and he may not offer expert testimony. Mem. Order, 4, ECF No. 493. However, while the Court found that Mr. Tucker may not offer expert testimony, Mr. Tucker was permitted to testify as a lay witness on subjects that do not require "scientific, technical, or other specialized knowledge." Fed. R. Evid. 701.

Second, the disputed portions of Mr. Tucker's deposition testimony are not proper lay witness testimony because they cross the line from lay witness into expert witness testimony. Specifically, Mr. Tucker's testimony consists of reading portions of Teja's statements in the Amendment and Reply and commenting on the truth or accuracy of such statements. Such testimony constitutes improper lay testimony because Mr. Tucker is interpreting and construing patent counsel's statements advocating the patentability of a specific patent in a patent

prosecution submission to the PTO, and comparing such statements against his own patent. Essentially, the testimony evidences Mr. Tucker comparing an invention seeking to be patented, through the lens of a patent attorney's arguments, to Mr. Tucker's own patented invention. A lay witness may not normally construe and interpret patent claim limitations and compare such limitations against the prior art because such testimony requires specialized knowledge. See Munchkin, Inc. v. Luv N' Care, Ltd., No. 2:13cv07228, 2015 WL 774046, at *3 (C.D. Cal. Feb. 24, 2015) (citing cases in support); Gart v. Logitech, Inc., 254 F. Supp. 2d 1119, 1123 (C.D. Cal. 2003); cf. 523 IP LLC v. CureMD.com, 48 F. Supp. 3d 600, 635 (S.D.N.Y. 2014) (recognizing there may be some circumstances where lay witness testimony is appropriate for comparison purposes). As such, certain portions of Mr. Tucker's deposition testimony, as identified by CertusView, are both improper expert witness and lay witness testimony and the Court will disregard such deposition testimony. Therefore, the Court **GRANTS** CertusView's Motion to Enforce the Court's Memorandum Order.

IV. CERTUSVIEW'S OBJECTIONS TO S&N'S POST-TRIAL BRIEF

On May 5, 2016, CertusView filed Objections to Material Cited in Defendants' Post-Trial Brief. ECF No. 529. CertusView broadly objects to S&N's citation to the following in its Post-Trial Brief: (1) CertusView's First Interrogatory Responses,

filed under seal at ECF Nos. 344-5 and 407; (2) CertusView's Opposition to S&N's Motion to Compel and Exhibit A, ECF No. 152; (3) a portion of Curtis Chambers' Deposition Transcript, filed under seal at ECF No. 203-3, attached to S&N's Memorandum in Support of its Emergency Motion to Compel, ECF No. 200; (4) CertusView's Proposed Findings of Fact and Conclusions of Law, ECF No. 485; and (5) an undesignated portion of Gregory Block's ("Block") deposition testimony. S&N filed a response to CertusView's objections on May 12, 2016. ECF No. 531. No reply brief was filed on this issue.

First, with respect to documents previously filed on the Court's docket, the Court, pursuant to Federal Rule of Evidence 201, may take judicial notice of public court records and parties' admissions, because the facts within such documents "can be accurately and readily determined from sources whose accuracy cannot reasonably be questioned." Fed. R. Evid. 201; see O'Neal v. Donahoe, 802 F. Supp. 2d 709, 715 n.7 (E.D. Va. 2011) (citing Colonial Penn Ins. Co. v. Coil, 887 F.2d 1236, 1239 (4th Cir. 1989); Roach v. Option One Mortg. Corp., 598 F. Supp. 2d 741, 747 n.8 (E.D. Va. 2009)). As such, the Court will take judicial notice of court documents in the record and the parties' prior admissions. The Court may take such notice "at any stage of the proceeding." Fed. R. Evid. 201(d). Further, the Court notes that the previously filed court documents were

discussed during trial, and testimony and argument regarding such documents is recorded in the trial transcript. See generally Trial Tr. Vol. 4A, 692:11-701:14, ECF No. 510; Trial Tr. Vol. 5B, 1078:22-1081:16, ECF No. 511. Thus, the Court may consider documents previously filed on the Court's docket in support of S&N's arguments regarding such documents.

Second, with respect to the undesignated portion of Block's deposition testimony, S&N explains that its citation to such testimony was inadvertent and is unnecessary to its argument. Thus, based upon S&N's representation that the Court need not consider such citation to the undesignated portion of Block's deposition transcript, the Court will disregard such citation and need not address CertusView's objection to such citation. Therefore, the Court **OVERRULES** CertusView's Objections to Material Cited in Defendants' Post-Trial Brief.

V. FINDINGS OF FACT⁸

A. Factual and Procedural Background

1. Plaintiff/Counter-Defendant, CertusView Technologies, LLC, is a Florida corporation organized under the laws of the State of Florida. CertusView, among other things, develops technology for prevention of damage to underground infrastructure. First Am. Compl. for Patent Infringement ¶ 8,

⁸ To the extent that the following facts are not stipulated to or agreed upon by the parties, the Court finds each fact by a preponderance of the evidence.

ECF No. 55. CertusView is a wholly owned subsidiary of Dycom Industries, Inc.

2. Defendants/Counter-Plaintiffs, S&N Locating Services, LLC and S&N Communications, Inc., are North Carolina corporations, organized under the laws of the State of North Carolina. S&N Communications, Inc. is the parent company of S&N Locating Services, LLC. Defs.' Second Am. Answer, Affirmative Defenses, and Countercls. to Pl.'s First Am. Compl. ¶ 1.2, ECF No. 336.

3. The subject of the instant dispute arises as a counterclaim to CertusView's First Amended Complaint for Patent Infringement of five United States Patents: No. 8,340,359 ("359 Patent"), No. 8,265,344 ("344 Patent"), No. 8,290,204 ("204 Patent"), No. 8,532,341 ("341 Patent"), and No. 8,407,001 ("001 Patent") (collectively, the "Patents-in-Suit"). ECF No. 55.

4. Steven Nielsen ("Nielsen") and Curtis Chambers ("Chambers") are named inventors on the five Patents-in-Suit. Jeffrey Farr ("Farr") is a named inventor on the '001, '204, and '341 Patents.

5. Nielsen is the Chairman, President, and Chief Executive Officer of Dycom and the President of CertusView.

6. Chambers is the Vice President and Chief Information Officer of Dycom.

7. Farr is the Director of Engineering at Dycom.

8. Joseph Teja ("Teja") represented Dycom and CertusView before the United States Patent and Trademark Office ("PTO") during the prosecution of the Patents-in-Suit.

9. CertusView filed the underlying patent infringement action against S&N on May 29, 2013, alleging that S&N infringed on the Patents-in Suit. Compl., ECF No. 1.

10. The Court issued an Opinion and Order on January 21, 2015 regarding S&N's Motion for Judgment on the Pleadings, ECF No. 197, in which the Court determined that all of the asserted claims of the Patents-in-Suit were invalid for failure to claim patentable subject matter under 35 U.S.C. § 101. The following is a list of such invalidated asserted claims: claims 1, 2, 19, and 21 of the '204 Patent; claims 1, 4, 13, and 17 of the '344 Patent; claim 1 of the '359 Patent; claims 1, 7, 16, 17, and 28 of the '341 Patent; and claim 1 of the '001 Patent. January 21, 2015 Op. & Order, ECF No. 250.

11. S&N's Second Amended Answer alleges a counterclaim against CertusView, asserting that the Patents-in-Suit are unenforceable because the inventors, Nielsen, Chambers, and Farr, and prosecution counsel, Teja, committed inequitable conduct during prosecution of the Patents-in-Suit. ECF No. 336. In particular, S&N alleges that:

A. Nielsen, Chambers, and Teja each committed inequitable conduct by failing to disclose as prior art the ESRI ArcPad software during prosecution of the '344 and '204 Patents. S&N also alleges that Farr committed inequitable conduct by failing to disclose the ESRI ArcPad software during prosecution of the '204 Patent.

B. Nielsen, Chambers, and Teja each committed inequitable conduct by failing to disclose as prior art the TelDig Utility Suite and TelDig Mobile systems⁹ during prosecution of the Patents-in-Suit. S&N also alleges that Farr committed inequitable conduct by failing to disclose as prior

⁹ CertusView asserts that the TelDig Utility Suite is the only TelDig prior art that S&N's Second Amended Answer and Counterclaim sufficiently alleged to have not been disclosed by CertusView during prosecution of the Patents-in-Suit. Thus, CertusView argues, S&N cannot claim that CertusView committed inequitable conduct by failing to disclose the TelDig Mobile system. However, the Second Amended Answer specifically discusses TelDig Mobile, ¶ 79, and lists specific claims to which "the TelDig products disclosed in the MIR[] are thus relevant," ¶ 90. Thus, while S&N's discussion of the TelDig Mobile system in its Second Amended Answer and Counterclaim is more limited than S&N's discussion of the TelDig Utility Suite, S&N adequately identified "the specific who, what, when, where, and how of the material misrepresentation or omission committed before the PTO." Exergen Corp v. Wal-Mart Stores, Inc., 575 F.3d 1312, 1328 (Fed. Cir. 2009); see also May 22, 2015 Op. & Order at 34-36. Further, the pre-trial filings in this matter provide CertusView with sufficient notice regarding S&N's assertion that CertusView failed to disclose the TelDig Mobile system as material prior art during the prosecution of the Patents-in-Suit. As such, even if S&N had not included discussion of the TelDig Mobile system in its Second Amended Answer and Counterclaim, the Court would permit amendment of S&N's pleadings regarding TelDig Mobile as doing so would aid presentation of the merits of the case and CertusView would not be prejudiced. Fed. R. Civ. P. 15(b)(1).

art the TelDig Utility Suite and TelDig Mobile systems during prosecution of the '204, '341, and '001 Patents.

C. Nielsen, Chambers, Farr, and Teja each committed inequitable conduct by naming Jeffrey Farr as an inventor on the '204 and '341 Patents.¹⁰

D. Nielsen, Chambers, and Teja each committed inequitable conduct by failing to name Gregory Block ("Block") as an inventor of the '359, '344, '204, and '341 Patents. S&N also alleges that Farr committed inequitable conduct by failing to name Block as an inventor of the '204 and '341 Patents.

E. Nielsen, Chambers, and Teja each committed inequitable conduct by making material misrepresentations to the PTO concerning the prior art references U.S. Pub. No. 2007/0219722 to Sawyer Jr. et al. ("Sawyer") in view of U.S. Pub. No. 2006/0077095 to Tucker ("Tucker") during prosecution of the '344 Patent.

12. S&N's inequitable conduct counterclaim proceeded to trial on March 8, 2016.

B. Patents-in-Suit

13. The '359 Patent, which was filed on September 11, 2008, and ultimately issued on December 25, 2012, is entitled,

¹⁰ S&N also alleged that Nielsen, Chambers, Farr, and Teja each committed inequitable conduct by naming Jeffrey Farr as an inventor on the '001 Patent. However, this claim was dismissed with prejudice on March 3, 2016. Order, ECF No. 489.

"Electronic Manifest of Underground Facility Locate Marks."
'359 Patent, PX-003.

14. The '344 Patent, which was filed on February 5, 2009, and ultimately issued on September 11, 2012, is entitled, "Electronic Manifest of Underground Facility Locate Operation."
'344 Patent, PX-001.

15. The '204 Patent, which was filed on February 11, 2009, and ultimately issued on October 16, 2012, is entitled, "Searchable Electronic Records of Underground Facility Locate Marking Operations." '204 Patent, PX-002.

16. The '001 Patent, which was filed on December 16, 2009, and ultimately issued on March 26, 2013, is entitled, "Systems and Methods for Using Location Data to Electronically Display Dispensing of Markers by a Marking System or Marking Tool."
'001 Patent, PX-004.

17. The '341 Patent, which was filed on March 12, 2013, and ultimately issued on September 10, 2013, is entitled, "Electronically Documenting Locate Operations for Underground Utilities." '341 Patent, PX-005.

18. The '359 and '344 Patents claim priority to patent application 12/029,732, which was filed on February 12, 2008, and issued as United States Patent No. 8,532,342 ("'342 Patent"), on September 10, 2013. The '342 Patent is entitled,

"Electronic Manifest of Underground Facility Locate Marks."
'342 Patent, DX-341.

19. The '341 Patent is a continuation-in-part of the '204 Patent. Both the '204 and '341 Patents claim priority to the following: (1) the '342 Patent, and (2) patent application 12/366,853, filed on February 6, 2009, issued as United States Patent No. 8,280,117 ("'117 Patent"), and entitled "Virtual White Lines for Indicating Planned Excavation Sites on Electronic Images," '117 Patent, PX-022. The '117 Patent is a continuation-in-part of patent application 12/050,555, filed on March 18, 2008, now United States Patent No. 8,249,306 ("'306 Patent"), and entitled, "Virtual White Lines for Delimiting Planned Excavation Sites." '306 Patent, DX-354.

20. The '001 Patent claims priority to patent application 11/685,602, which was filed on March 13, 2007 and issued as United States Patent No. 7,640,105 ("'105 Patent") on December 29, 2009. See '001 Patent, PX-004. The '105 Patent is entitled "Marking System and Method with Location and/or Time Tracking."

C. Patents-in-Suit Products

21. In general, CertusView's products were developed as a means to improve record-keeping and documentation of locate operations.

22. The '359 and '344 Patents claim inventions related to CertusView's e-Sketch technologies. Trial Tr. Vol. 1B, 99:16-22, ECF No. 507.

23. The '204 and '341 Patents claim inventions related to CertusView's Virtual WhiteLine and e-Sketch technologies. Trial Tr. Vol. 4A, 759:22-761:14, 766:5-13, ECF No. 510.

24. The '001 Patent claims inventions related to CertusView's e-Sketch and electronic marking wand technologies. Trial Tr. Vol. 2A, 241:4-7, ECF No. 505.

25. CertusView's e-Sketch technology allows locators to document a locate operation by sketching on top of an image with a sketch toolbar, drawing property lines, adding landmarks, utility lines, and tie-downs to the image, and creating a searchable electronic record that includes geographic data tied to such markings. Trial Tr. Vol. 4A at 740:12-742:1, 754:7-759:13; E-Sketch Demonstrative Video, PX-041; PowerPoint Presentation "Using Innovation to Prevent Damages," PX-059.

26. CertusView's Virtual WhiteLine product allows excavators to show on an image, with a high level of precision, where they intend to dig. Trial Tr. Vol. 4A at 739:21-740:3.

27. CertusView's electronic marking wand product uses GPS and other technology to capture and display, in real time, the precise location where paint is applied to the ground during a locate operation. Data from the marking wand, generated during

a locate operation, is automatically imported into the e-Sketch program. Trial Tr. Vol. 4A at 729:20-736:15.

D. Inventorship of the Patents-in-Suit

1. Nielsen and Chambers

28. Conception of CertusView's e-Sketch product began as a result of the "Virtual Locator 2007" project, a research and development initiative undertaken in fall 2006. Trial Tr. Vol. 1B at 101:12-102:13.

29. The first meeting regarding the Virtual Locator 2007 project took place in Atlanta, Georgia in October 2006. During that meeting, Nielsen and Chambers met with the management team of UtiliQuest, a Dycom subsidiary that performs underground facility locating, to present their research and development findings. Trial Tr. Vol. 1B at 101:19-102:2, 185:7-187:19.

30. Nielsen and Chambers discussed the Virtual Locator 2007 initiative and aspects of the inventions described in the Patents-in-Suit in a white-board session. Trial Tr. Vol. 1B at 185:7-187:19.

31. Notes taken during that white-board session parallel certain claims of the Patents-in-Suit and demonstrate conception of certain inventions claimed in the Patents-in-Suit, particularly claim 1 of the '359 Patent and claim 1 of the '344 Patent. Trial Tr. Vol. 2A at 254:20-262:9; White Board Notes, PX-113.

32. Conception of the inventions claimed in the Patents-in-Suit continued after October 2006 through additional meetings regarding the Virtual Locator 2007 project and other activities, including:

A. In December 2006, the Virtual Locator 2007 research and development team, including Chambers, met with an attorney in Washington, D.C., discussing how to patent the electronic marking wand and e-Sketch inventions. Trial Tr. Vol. 1B at 101:19-102:13.

B. In December 2006, Chambers created a video of one of the Virtual Locator 2007 projects. Such video detailed a prototype of the electronic marking wand and e-Sketch concepts. Trial Tr. Vol. 1B at 193:8-195:2; Video, PX-042.

C. In April 2007, Nielsen and Chambers ran a series of experiments with a Garmin running watch. Using Google Earth, Chambers and Nielsen were able to display GPS coordinates, generated by the Garmin running watch and stored in a KML file, on a Google Earth map image. Trial Tr. Vol 1B at 195:20-197:5; Trial Tr. Vol. 2A at 202:14-205:9; Google Earth File 1, PX-034; Google Earth File 2, PX-035; Google Earth File 3, PX-036.

33. Nielsen and Chambers completed conception of the inventions claimed in the '359 and '344 Patents no later than April 2007. Trial Tr. Vol. 2A at 206:4-207:14; Trial Tr. Vol. 4B, 818:15-819:5, ECF No. 503.

34. After conception of the inventions claimed in the '359 and '344 Patents was complete, CertusView and Dycom conducted prototype and pilot programs of the electronic marking wand and e-Sketch products during the summer and early fall of 2007 in Orlando, Florida and Beltsville, Maryland. Trial Tr. Vol. 1B at 100:10-102:24.

2. Farr

35. Farr became involved in CertusView's electronic wand invention at the beginning of the project. Trial Tr. Vol. 4A at 729:6-10. Farr worked with Nielsen and Chambers to conceptualize the marking wand invention and build working prototypes. Trial Tr. Vol. 3A, 472:13-23, ECF No. 504; Marking Wand Physical Ex. 1, PX-037; Marking Wand Physical Ex. 2, PX-038; Marking Wand Physical Ex. 3, PX-039.

36. Farr is an undisputed inventor on the '001 Patent, which relates to the electronic marking wand invention, as well as an inventor on the '105 Patent, the original GPS-enabled marking wand patent and parent of the '001 Patent. See '001 Patent, PX-004.

37. Farr also led development of CertusView's Virtual WhiteLine product. Trial Tr. Vol. 2A at 242:10-20; Trial Tr. Vol. 4A at 742:16-743:12.

38. Aspects of the Virtual WhiteLine technology have been patented, including in the '117 Patent. Farr is a named inventor on the '117 Patent. '117 Patent, PX-022.

39. Eventually, Farr became involved with combining the e-Sketch and Virtual WhiteLine products. Trial Tr. Vol. 2A at 241:8-242:24; Trial Tr. Vol. 4A at 743:13-25, 760:10-18.

40. Beginning in fall 2008, Farr oversaw a team working on "Project Trinity," an effort which, among other things, included integrating CertusView's Virtual WhiteLine product with the e-Sketch invention. Trial Tr. Vol. 4A at 748:4-19. In particular,

A. In October 2008, the Project Trinity team completed the Project Trinity rollout plan which included the "marriage" of the Virtual WhiteLine and e-Sketch inventions. Trial Tr. Vol. 4A at 749:4-750:10; Monthly Departmental Report - Information Technology October 2008, PX-102.

B. In November 2008, the Project Trinity team implemented e-Sketch in Lawrenceville, Georgia and ticket approval in Dallas, Texas, Austin, Texas, and Lawrenceville, Georgia. Trial Tr. Vol. 4A at 750:11-751:12; Monthly Departmental Report - Information Technology November 2008, PX-103.

C. In December 2008, the Project Trinity team implemented e-Sketch and ticket approval in Marietta, Georgia.

Trial Tr. Vol. 4A at 751:13-752:9; Monthly Departmental Report - Information Technology December 2008, PX-104.

D. In February 2009, the Project Trinity team implemented e-Sketch in Forest Park, Georgia and ticket approval in Forest Park, Georgia and Commerce, California. Trial Tr. Vol. 4A at 752:11-753:5; Monthly Departmental Report - Information Technology February 2009, PX-105.

41. As noted above, the '204 Patent is a continuation-in-part of the '342 and '117 Patents. '204 Patent, PX-002.

42. Farr's contribution to the '204 Patent dealt with the "at least one input image" limitation—which appears in each independent claim of the '204 Patent and is a limitation on every claim in the '204 Patent—and additional specific limitations contained in claims 6, 7, 8, 10, 12, and 14 of the '204 Patent. Trial Tr. Vol. 3B, 675:10-677:23, ECF No. 509; Trial Tr. Vol. 4A at 762:8-764:25.

43. Farr was involved in a "collaborative effort" during the inventive process of the '204 Patent, and "may have involvement collaboratively in every claim" of the '204 Patent. Trial Tr. Vol. 3B at 677:12-19; Trial Tr. Vol. 4A at 701:2-14.

44. Teja determined that Farr was an inventor of the '204 Patent based on Farr's work on the '117 Patent and his

contributions to the '204 Patent.¹¹ Trial Tr. Vol. 3A at 470:18-471:16. CertusView relied on Teja's recommendations regarding inventorship. Trial Tr. Vol. 2A at 242:10-243:25, 264:12-265:16; Trial Tr. Vol. 3B at 627:11-628:5.

45. Farr's contribution to the '341 Patent dealt with the "at least one digital image" limitation, which appears in every claim of the '341 Patent, as well as specific contributions to claims 8, 13, and 21. Trial Tr. Vol. 4A at 692:11-20, 698:9-23, 766:19-768:13.

46. Teja determined that Farr was an inventor of the '341 Patent based on Farr's work on the '117 Patent, as well as Farr's contributions to the '204 Patent and the '341 Patent. Trial Tr. Vol. 3A at 471:17-473:16. CertusView relied on Teja's recommendations regarding inventorship. Trial Tr. Vol. 2A at 242:10-243:25, 264:12-265:16; Trial Tr. Vol. 3B at 627:11-628:5.

47. Farr did not receive any financial reward for being named as an inventor on the '204, '341, or '001 Patents. Trial Tr. Vol. 2A at 265:17-19.

3. Block

48. Block joined Dycom in September 2007 as a contract employee, working as a "developer" or "architect." Trial Tr. Vol 1B at 103:9-17. "As an application architect, [Block's]

¹¹ CertusView's process for determining inventorship is discussed below. See infra ¶¶ 60-62.

duties included accepting software specifications and developing technical specifications based on the requirements, and assessing feasible technology solutions that would implement those requirements." Block Depo. Tr. at 23:2-14.

49. While working for Dycom, Block implemented some of the inventions conceived by Chambers and Nielsen, related to e-Sketch product prototypes, by writing source code for the e-Sketch product prototypes. Trial Tr. Vol. 1B at 104:5-105:4; Trial Tr. Vol. 2A at 250:5-16; Block Depo. Tr. at 49:17-50:3.

50. Block implemented features of e-Sketch based on specifications that he received from Chambers and instructions and drawings Block received from Nielsen. Trial Tr. Vol. 2A at 250:10-253:12; Block Depo. Tr. at 107:21-109:19; Dycom Industries, Inc., System Requirements Specification for Locating eSketch, DX-041.

51. On May 5, 2008, Block signed a Confidentiality and Assignment Agreement with Dycom, before he became a full-time employee with Dycom, assigning ownership of any inventions to Dycom and confirming that he did not reserve any invention rights. Such Agreement covered Block's entire engagement with Dycom. Trial Tr. Vol 2A at 245:1-246:24; Block Depo. Tr. at 96:8-97:1; Dycom Technology, LLC - Confidentiality and Assignment Agreement, PX-044.

52. On February 26, 2009, Block signed an Employee Confidentiality and Assignment Agreement with Dycom, assigning ownership of any work product created during his employment to Dycom and confirming that he did not reserve any prior invention rights. Such Agreement covered Block's entire engagement with Dycom. Trial Tr. Vol. 2A at 247:20-249:9; Block Depo. Tr. at 97:6-15; Employee Confidentiality and Assignment Agreement, PX-045.

53. Block does not claim to have made any inventive contribution to the e-Sketch product or any of the Patents-in-Suit. Trial Tr. Vol. 2A at 249:12-22; Trial Tr. Vol. 3B at 628:17-19; Block Depo. Tr. at 101:22-106:15.

54. No witness testified that Block was an inventor of any claim of the Patents-in-Suit or that he should have been listed as an inventor to any of the Patents-in-Suit.

55. Block, however, was named as an inventor on other CertusView patents related to e-Sketch, including United States Patent No. 8,907,980 ("'980 Patent"), which claims inventions relating to revision layers. Trial Tr. Vol. 2A at 253:13-254:6; Block Depo. Tr. at 42:20-44:1; '980 Patent, PX-025.

56. Block was not deprived of any financial reward for not being named as an inventor on the Patents-in-Suit, nor did he receive any financial reward for being a named inventor on other CertusView patents, including later patents related to the e-

Sketch products. Trial Tr. Vol. 2A at 265:20-266:1; Trial Tr. Vol. 4B at 828:17-22.

E. Commercial Strategy

57. In April 2008, Dycom hired intellectual property consulting firm Commercial Strategy, LLC ("Commercial Strategy") to assist it with the development of its intellectual property and patent portfolio. Don Davis ("Davis") and David Crawford ("Crawford") were the managing directors and founders of Commercial Strategy. Trial Tr. Vol. 1B at 125:13-126:25; Trial Tr. Vol. 3A at 534:15-535:3; Master Services Agreement for Consulting Services, April 22, 2008, DX-074.¹²

58. On April 22, 2008, Dycom completed a Statement of Work for Commercial Strategy which directed Commercial Strategy to begin immediately implementing a work plan, including searching for prior art, conducting inventor interviews, drafting invention disclosures, supporting patent counsel, and auditing

¹² The Court has entered numerous Orders in this matter, ordering certain documents to be sealed. See ECF Nos. 105, 106, 126, 192, 295, 357, 359, 402, 422, 471, 477, 487, 488, 528. The parties, however, have referred to the contents of a number of these sealed documents throughout their unredacted filings, post-trial briefing, and in open court during the bench trial of this matter. Further, several such sealed documents were entered into evidence and the public record during the bench trial. Therefore, to the extent that the parties have discussed the contents of these sealed documents in their filings, briefings, and in open court, or have entered such documents into evidence, the Court considers the parties' arguments regarding the need for such information to be sealed to have been waived. See Level 3 Commc'ns, LLC v. Limelight Networks, Inc., 611 F. Supp. 2d 572, 589 (E.D. Va. 2009).

Dycom's existing intellectual property rights. Master Services Agreement for Consulting Services, April 22, 2008, DX-074.

59. Commercial Strategy, particularly Crawford, worked with CertusView and patent counsel to support CertusView's intellectual property development, including communicating with patent counsel, researching patent and non-patent prior art, hosting invention capture sessions, and conducting inventor interviews. Trial Tr. Vol. 3A at 541:10-542:6, 547:16-548:11, 551:11-553:23; Trial Tr. Vol. 3B at 558:8-14, 610:1-611:6.

60. When identifying potential inventions and inventors, Crawford would work with a technologist, who would help convey the technical description of the invention, and Commercial Strategy employee Tom Batchelder ("Batchelder"), who led the invention interviews. Trial Tr. Vol. 3B at 610:11-611:6.

61. After completing invention interviews, CertusView and Commercial Strategy, primarily Batchelder, Davis, and Crawford, would prepare an invention disclosure to submit to patent counsel for review. Trial Tr. Vol. 3B at 625:15-626:11.

62. Particularly with continuation-in-part patent applications, Teja might participate in the invention interviews, and Crawford and Teja would review the final claims in the patent application to determine proper inventorship. Trial Tr. Vol. 3B at 627:1-628:5.

63. When researching prior art, Crawford would review the results of the patent prior art searches, or the non-patent prior art that he found or received, and would provide pertinent prior art references to Teja. Trial Tr. Vol. 3B at 618:12-624:9, 652:6-657:12.

F. Prior Art Disclosure

1. Market Intelligence Report ("MIR")

64. Within the first three months of Commercial Strategy's engagement with Dycom, Commercial Strategy prepared for Dycom a document entitled "Market Intelligence Report Version 6.0" ("MIR"), dated July 22, 2008 and marked "draft" and "confidential," which surveyed players in the locate industry and included competitive research on the intellectual property and business strategy of such companies. Trial Tr. Vol. 3B at 558:15-559:4, 633:7-22; Market Intelligence Report Version 6.0, July 22, 2008, DX-091 [hereinafter "MIR"].

65. The MIR was never published or otherwise finalized. Trail Tr. Vol. 2A at 273:8-16; Trial Tr. Vol. 4B at 828:2-11.

66. The information in the MIR was sourced between May and June 2008, MIR at 6, and was designed to "analyze companies (industry players) of interest to Dycom," MIR at 3. The MIR identified approximately fifty "target" companies and provided profiles on a subset of companies on the target list "that

[were] found of interest and therefore found to be highly relevant to Dycom objectives," MIR at 9, including:

A. Environmental Systems Research Institute, Inc. ("ESRI"), a geographic information systems ("GIS") software developer. ESRI offered a variety of GIS software products and services, including the ESRI ArcPad software product. MIR at 47-55.

B. TelDig Systems, Inc. ("TelDig"), a Canadian company that sells software products related to the location industry. TelDig products include the TelDig Utility Suite, TelDig Mobile, and TelDig One Call. MIR at 75-79.

67. With respect to ESRI, the MIR noted that "many [ESRI] applications including the ArcPad software read very closely to the eSketch concept," and "ESRI does appear to be investing in problems Dycom is interest[ed] in solving." MIR at 47. In particular, the MIR noted that the ESRI ArcPad product is an improvement to using "[p]aper map books" to locate assets in the field because the ArcPad product allows "field-based personnel to capture, analyze, and display geographic information in near real time" with "great[er] accuracy while on-site." MIR at 49. The MIR further states that ESRI's technology includes: GPS, wireless data sharing, data analysis, ticket management, utilization management, mapping and GIS, and image and audio storage. MIR at 55.

68. With respect to TelDig, the MIR noted that "[o]f particular interest is the TelDig Utility Suite product which appears similar to the eSketch concept," and also noted that "it does appear that TelDig is investing in solving problems that Dycom is interested in." MIR at 75. In particular, the MIR noted that the TelDig Utility Suite "is a system of software products for locate ticket dispatching and workforce management." MIR at 76. The MIR also noted that TelDig Mobile, in connection with the TelDig Utility Suite, "enabl[es] the paperless handling of locate requests from the one call center to the locator and back," allowing "the remote locator [to] download[] tickets, edit[] and process[] them" and "fill[] in the dig site, locator and damage report modules to upload completed tickets at the end of the day," using a "unique drag-and-drop drawing tool with pre-formatted icons." MIR at 77. The MIR further states that TelDig technology includes: wireless data sharing, ticket management, mapping and GIS, and image and audio storage. MIR at 79.

69. Crawford provided Chambers with a copy of the MIR in July 2008 and the two discussed the MIR shortly thereafter. Trial Tr. Vol. 3B at 634:8-18, 636:24-638:3.

70. Chambers did not find the MIR to be "valuable from a technical point of view." Trial Tr. Vol. 3B at 634:8-18. Specifically, regarding ESRI and TelDig, Chambers disagreed with

the conclusions in the MIR because he believed such conclusions to be incorrect based upon his understanding of the ESRI and TelDig technology. Trial Tr. Vol. 2A at 212:18-218:7, 235:15-237:6; Trial Tr. Vol. 3B at 634:19-635:3

71. With respect to ESRI, Chambers relied on his personal research and experience with ESRI products to conclude that the MIR's statements regarding ESRI technology were inaccurate. Specifically, Chambers was aware of the ESRI products because, in 2007, CertusView had assessed ESRI as a possible "off-the-shelf" solution to implement the e-Sketch application. However, CertusView concluded that the ESRI product did not offer the base functionality needed for the e-Sketch prototype, requiring expensive custom development to use the ESRI product for the e-Sketch application. Trial Tr. Vol. 2A at 231:9-237:6.

72. Further, Crawford conducted additional research regarding ESRI and concluded that, based on his research and the information in the MIR, ESRI was not material to patentability. Trial Tr. Vol. 3B at 641:20-642:21; Dycom Competitive Technology Research ESRI, May 29, 2008, DX-083.

73. With respect to TelDig, Chambers relied on his previous experience with TelDig and his understanding of TelDig's products to conclude that the MIR's conclusions regarding TelDig were inaccurate. Trial Tr. Vol. 2A at 213:3-13. Specifically,

A. Chambers had been aware of TelDig because CertusView entered into a Non-Disclosure Agreement ("NDA") with TelDig, in April 2008, regarding TelDig's parser technology. Trial Tr. Vol. 2A at 213:14-214:6. Such NDA provided that Dycom was "willing to provide" TelDig with information concerning its "business of locating underground facilities" and that TelDig was "willing to provide" Dycom with "more detailed information" concerning TelDig One Call, TelDig Utility, TelDig Mobile, and TelDig Nexus products. Non-Disclosure Agreement between Dycom and TelDig, April 10, 2008, DX-071.

B. Chambers had seen a full demonstration of TelDig's software in 2007, prior to execution of the NDA between CertusView and TelDig. Trial Tr. Vol. 2A at 214:7-216:10.

C. Chambers also had conversations with individuals from TelDig, after execution of the NDA, regarding e-Sketch and Chambers did not receive any indication that TelDig had a product that functioned like e-Sketch. Trial Tr. Vol. 2A at 216:14-218:7.

74. Crawford conducted additional research regarding TelDig and concluded that, based on his research and the information in the MIR, TelDig was not material to patentability. Particularly, Crawford's additional research on TelDig included participating in a WebEx demonstration of the

TelDig One Call software through a Canadian Dycom subsidiary.
Trial Tr. Vol. 3B at 638:21-641:1.

75. Neither the MIR, nor the included information regarding ESRI or TelDig, was provided to Teja or CertusView's previous patent counsel. Trial Tr. Vol. 2A at 271:9-273:7, 280:18-281:3; Trial Tr. Vol 2B, 370:23-371:4, ECF No. 508.¹³

76. However, certain information in the MIR, regarding other companies and products, that CertusView concluded was relevant and material to patentability was provided to patent counsel and cited during prosecution of a number of CertusView's patent applications. For example, products related to 3M Dynatel, Metrotech, RadioDetection, Subsite, Celeritas, and Trimble, which were discussed in the MIR, were cited during prosecution of various CertusView patent applications. Trial Tr. Vol. 3A at 481:5-483:17, 517:20-518:17.

2. ESRI

77. ESRI is a GIS software developer, and the ESRI ArcPad software was first released in 2000 or 2001. Trial Tr. Vol. 5A, 1005:12-1006:6, ECF No. 502.

78. When it was developed, the ESRI ArcPad software was designed to allow users to employ the ESRI software, a GIS

¹³ The MIR itself has never been provided to the PTO, and the MIR is not listed as "prior art" for any of the Patents-in-Suit. See '344 Patent, PX-001; '204 Patent, PX-002; '359 Patent, PX-003; '001 Patent, PX-004; '341 Patent, PX-005. Further, no evidence was presented at trial that Farr knew of or reviewed the MIR.

database package, on a mobile device to "join maps and databases together." Trial Tr. Vol. 5A at 1006:16-1007:9; see Trial Tr. Vol. 2A at 235:20-236:4; Dycom Competitive Technology Research ESRI, May 29, 2008, DX-083.

79. No ESRI products or specific ESRI references were introduced in evidence, nor did S&N identify a particular ESRI ArcPad product version or reference that it alleges should have been disclosed to the PTO.

80. CertusView considered partnering with ESRI in 2007 and integrating ESRI software as part of its e-Sketch product. However, as noted above, CertusView determined that such partnership was not feasible because the ESRI software would require extensive customization to work with the e-Sketch product. In particular, the ESRI software did not have the functionality, "out of the box," necessary for e-Sketch because the ESRI software did not document paint or markers on the ground while a locate operation was taking place, nor did ESRI software geo-code or timestamp when such marks were made in the ESRI database. Trial Tr. Vol. 2A at 235:20-237:6.

81. Teja had general knowledge of ESRI through his work with CertusView, but he became aware of specific prior art references regarding the ESRI software products through a PTO Office Action during prosecution of an unrelated CertusView patent application. Trial Tr. Vol. 2B at 324:24-326:17.

82. There is no evidence that Teja, Nielsen, Chambers, or Farr knew of these specific ESRI prior art references before the PTO's citation of such references during prosecution of the unrelated patent application.

83. Upon reviewing the specific ESRI prior art references, Teja determined that such references were not material to any of the Patents-in-Suit because such references were "cumulative or in many respects duplicative" of other references he had submitted to the PTO during prosecution of the Patents-in-Suit. Trial Tr. Vol. 3A at 477:25-478:23.

84. Nonetheless, out of "an abundance of caution," Teja submitted the specific ESRI prior art references to the PTO during prosecution of the '359, '341, and '001 Patents, the three Patents that were in the early stages of prosecution when Teja learned of the specific ESRI prior art references. Trial Tr. Vol. 3A at 476:15-477:16, 514:6-516:18.

85. Four references regarding ESRI products were cited during prosecution of the '001, '359, and '341 Patents: (1) ArcFM, White Paper, 2006, 1-28; (2) ArcGIS 9, Geocoding in ArcGIS, Manual, 2004, 1-192; (3) ArcPad, Mobile GIS Software for Field Mapping Applications, brochure, 2006; and (4) ArcPad: Mobile GIS, ESRI White Paper, Sept. 2004. '001 Patent, PX-004; '359 Patent, PX-003; '341 Patent, PX-005. The '341 Patent also cited ArcFM UT, "A GIS for Utilities Based on Standards," White

Paper, AED SICAD, Sept. 2008, 1-28. '341 Patent, PX-005. The '001 Patent also cited ESRI Corporate Introduction, printed on Dec. 9, 2009 (original publication date unknown). '001 Patent, PX-004.

86. Teja did not submit the specific ESRI prior art references to the PTO during prosecution of the '344 and '204 Patents because the '344 Patent had issued before he learned of the specific ESRI prior art references and Teja had already paid the issuance fee for the '204 Patent. Trial Tr. Vol. 3A at 476:15-477:16.

87. The specific ESRI references submitted by Teja to the PTO were never used as a basis for rejection of the '359, '341, and '001 Patents or any other patent in the e-Sketch family. Trial Tr. Vol. 3A at 477:17-24.

3. TelDig

88. TelDig develops software products related to all aspects of infrastructure interventions. Among other things, TelDig developed ticket management systems for One Call centers and dealt with the creation and editing of "notification polygons." Trial Tr. Vol. 1B at 152:20-159:19; Trial Tr. Vol. 2A at 276:4-277:3.

89. No TelDig products were introduced in evidence, nor did S&N identify a particular TelDig Utility Suite product version or reference that it alleges should have been disclosed

to the PTO. Further, S&N did not identify a particular TelDig Mobile product version that it alleges should have been disclosed to the PTO.

90. CertusView interviewed TelDig in 2007 as a potential vendor and participated in TelDig sales demonstrations. Trial Tr. Vol 2A at 214:7-216:10.

91. Dycom and TelDig entered into an NDA for the exchange of information in April 2008, including exchange of information about TelDig One Call, TelDig Utility, TelDig Mobile, and TelDig Nexus products. Trial Tr. Vol. 2A at 213:14-214:6; Non-Disclosure Agreement between Dycom and TelDig, April 10, 2008, DX-071.

92. In 2009, Davis attended the Common Ground Alliance trade show, at which he identified TelDig as a company with which CertusView might be interested in forming a technology partnership to integrate CertusView's Virtual WhiteLine and e-Sketch software with other systems, particularly TelDig's One Call product. Trial Tr. Vol. 2A at 219:1-220:9; Trade Show Summary Notes, PX-043.

93. Davis' work, integrating CertusView's Virtual WhiteLine and e-Sketch concepts with TelDig's One Call software, continued throughout 2009, culminating in a "Services and Integration Agreement" between TelDig and CertusView on November 5, 2009. Services and Integration Agreement between CertusView

and TelDig, November 5, 2009, DX-134. Such integration allowed TelDig One Call users to launch CertusView's Virtual WhiteLine software from the One Call program. Further, such integration allowed for the One Call system and the Virtual WhiteLine software to work together and share information for the benefit of both entities' users. Trial Tr. Vol. 2A at 301:1-309:6.

94. During the time that CertusView and TelDig sought to integrate the Virtual WhiteLine product and the One Call software, Farr and others saw a live web demonstration of TelDig's drawing tool, which Farr believed to be associated with TelDig One Call software. Trial Tr. Vol. 4B at 799:7-23.

95. Based on CertusView's interactions with TelDig between 2007 and 2010, CertusView understood, and the evidence at trial demonstrated, that:

A. TelDig's notification system included a high-level, large-area drawing tool used by excavators to mark an image and denote the area of excavation. Such drawing tool, however, did not have the ability to input specific utilities, tie-downs, or landmarks on an image of a narrow and highly specific geographic area, or timestamp such additions to an image. Trial Tr. Vol. 2A at 221:12-227:13; Trial Tr. Vol. 4A at 774:1-777:4; Email Re: TelDig Systems - TelDig Web Drawing Tool Integration-v1 10.doc, PX-057. Integration of the TelDig One Call software and the Virtual WhiteLine product allowed One Call users to mark up a

very specific geographic area on a high-resolution aerial image for an excavator. Trial Tr. Vol. 2A at 306:22-308:8.

B. Once a drawing was completed using the TelDig drawing tool, the drawing was saved to the web server in PNG format, an image or graphics format. A file saved in PNG format does not allow a locator to include layers of information (image, mark-ups, geo-code data, and timestamps, etc.) in the same file or to search through layers of data saved within a single PNG file. Further, a PNG file is not able to record geocoded locate marks, i.e. paint on the ground matched to specific GPS coordinates for each mark. Trial Tr. Vol. 2A at 221:12-222:10; Trial Tr. Vol. 4A at 776:7-25; Trial Tr. Vol 4B at 802:13-804:2.

C. The TelDig drawing tool, while not used in such a fashion, might be used to mark a digital image and to show the results of a locate operation. However, the TelDig drawing tool was used for a different purpose, and its use for the purpose of documenting a locate operation was like "us[ing] a hammer to nail in a screw." Trial Tr. Vol. 2A at 298:7-301:4.

96. On August 2, 2012, Chambers and Crawford learned of a TelDig Mobile brochure, via Crawford's administrative assistant Gail Sternstein ("Sternstein"), who had received the brochure as a news alert. Trial Tr. Vol. 1B at 162:24-168:22; Trial Tr. Vol. 3B at 580:1-582:12; Sternstein Depo. Tr. at 49:15-51:15;

Email from Sternstein to Chambers, re: Fwd: Mobile TelDig-page 2, August 2, 2012, DX-203; TelDig Mobile Product Brochure, DX-294.

97. The TelDig Mobile brochure included bullet point language that was identical to the bullet point language included in the MIR, describing the TelDig Mobile system. Further, the TelDig Mobile brochure included a partial picture of a drawing tool and its use on a large scale map image. Trial Tr. Vol. 1B at 168:24-170:5; TelDig Mobile Product Brochure, DX-294.

98. Upon receiving a copy of the TelDig Mobile brochure from Sternstein, Chambers and Crawford discussed the brochure with Nielsen. Trial Tr. Vol. 1B at 168:15-22; Trial Tr. Vol. 3B at 581:7-16. Chambers and Crawford concluded that the brochure did not contain any new or different information regarding TelDig's software from what they already knew or had previously learned from their interactions with TelDig. Trial Tr. Vol. 3B at 641:10-19. Thus, Nielsen, Chambers, and Crawford did not send the TelDig Mobile brochure to Teja and the brochure was not submitted to the PTO in relation to any of the Patents-in-Suit. Trial Tr. Vol. 2B at 362:1-12; Trial Tr. Vol. 3A at 479:3-16.

99. On October 17, 2012, Teja received an affidavit, supporting documents, and three images which were labeled as screen shots of the TelDig sketch tool, from Louis A. Simone

("Simone Affidavit"). The three TelDig screen shots were created by Premier Utility Services, who used a "personal highly customized version of Tel[D]ig that offer[ed them] special features to exceed [their] contract requirements" Trial Tr. Vol. 2B at 365:7-366:18; Affidavit of Louis A. Simone, DX-286.

100. Teja forwarded the Simone Affidavit and documents, on October 17, 2012, to Crawford and Travis Halky, a CertusView employee, asking for input "ASAP" because, if the information was material to e-Sketch, he needed to file an Information Disclosure Statement ("IDS") with the PTO to cite the information. Crawford then forwarded the information to Chambers. Trial Tr. Vol. 2B at 361:13-365:10; Email from Crawford to Chambers, re: FWD: URGENT-Please review ASAP, October 17, 2012, DX-221.

101. The three TelDig screen shots included with the Simone Affidavit bore a "striking" resemblance to e-Sketch, but no one at CertusView had seen this information, or drawings of "this ilk," before. Trial Tr. Vol. 2B at 366:5-369:21. In particular, the three TelDig screen shots showed markings and measurements, similar to certain markings or tie-downs that might be made during a locate operation, on a Google Earth photo image. Affidavit of Louis A. Simone, DX-286.

102. Based on the Simone Affidavit, Teja concluded that "TelDig had a graphing tool on aerial images sometime after 2012." Trial Tr. Vol. 2B at 371:16-26. However, Teja viewed such information as an "admission of infringement rather than anything that resembled prior art," because the e-Sketch patent applications had been filed several years prior and the diagrams "looked like they plausibly could have been covered by the claims of the [e-Sketch] patent" several years after the priority dates of the applications. Trial Tr. Vol. 3A at 486:4-488:19.

103. Teja first received materials relevant to TelDig, that he believed might need to be included in a patent prosecution, in connection with the present litigation, as exhibits and materials from Ivan Zatkovich's ("Zatkovich") expert report. After receiving such materials, Teja cited such exhibits, materials, and Zatkovich's expert report in pending patent applications in the e-Sketch technology family and possibly other CertusView technology families. Trial Tr. Vol 3A at 479:3-23.

104. Even though TelDig materials, and Zatkovich's expert report, were cited in pending patent applications in the e-Sketch technology family, Teja has not received an Office Action rejection based on TelDig. Trial Tr. Vol. 3A at 484:3-18.

G. Misrepresentation to the PTO

105. During prosecution of United States Patent Application No. 12/366,050, which ultimately issued as the '344 Patent, Examiner Nancy Bitar issued a non-final Office Action on October 6, 2011, rejecting claims 1-26 of such patent application as obvious, pursuant to 35 U.S.C. § 103(a), based on U.S. Pub. No. 2007/0219722 to Sawyer Jr. et. al. ("Sawyer") in view of U.S. Pub. No. 2006/0077095 to Tucker ("Tucker"). Complete File History U.S. Patent Application 12/366,050 ('344 Patent), 1133-44, DX-234 (hereinafter "'344 Patent File History, DX-234").

106. The inventions discussed in the Tucker and Sawyer references address the problem of underground facility maps, maintained by utility owners, that cannot be trusted. Trial Tr. Vol. 2B at 382:10-383:22. In particular, Page Tucker ("Mr. Tucker"), a named inventor on the Tucker reference, explained that his system was designed to eliminate the "problems" with marking facilities on the ground because the invention would "permanently capture and store" the location of utilities in a digital reference, which would later be used to notify the excavator—during excavation—that the excavator was "encroaching on a utility line and what type of line it is and how close they are." Tucker Depo. Tr. at 113:19-115:2. Mr. Tucker is not aware of anyone using his invention to "record the location of paint or flags," and the only time that he is aware of his

invention being used in conjunction with paint or flags on the ground was to "test[] the system." Tucker Depo. Tr. at 117:9-23.

107. Examiner Bitar reviewed the '344 Patent as well as a number of CertusView's Virtual WhiteLine patents. Teja was familiar with Examiner Bitar, and had a good professional working relationship with Examiner Bitar. Trial Tr. Vol. 2B at 399:9-21; Email re: The "Six Families" (sounds like a Godfather remake), November 16, 2011, PX-072.

108. Teja interviewed Examiner Bitar on a number of occasions, including December 6, 2011 when Teja and Nielsen attended an examiner interview in Washington, D.C. with Examiner Bitar, and others, for the pending '344 Patent application. Trial Tr. Vol. 2B at 401:14-402:1; Email from Teja to Nielsen, et al., re: Meeting with Examiners in D.C., November 28, 2011, DX-177.

109. During that examiner interview, Nielsen and Teja used a PowerPoint presentation to highlight certain information for Examiner Bitar. In part, the presentation discussed the Sawyer and Tucker references and sought to distinguish such references from the claimed inventions of the '344 Patent. Overview of U.S. Patent Application 12/366,853 for Examiner Nancy Bitar, December 6, 2011, PX-131.

110. During the examiner interview, Nielsen explained to Examiner Bitar what takes place in a conventional, prior art locate operation. Trial Tr. Vol. 2b at 414:14-815:14; Overview of U.S. Patent Application 12/366,853 for Examiner Nancy Bitar, December 6, 2011, 2-25, PX-131.

111. During the examiner interview, and following Nielsen's presentation, Teja directed Examiner Bitar's attention to several portions of the Tucker and Sawyer references, including paragraph 005 of the Tucker reference, which described a conventional locate operation, and paragraph 0014 of the Tucker reference, which Teja used to explain that the objective of both Tucker and Sawyer is to do away with conventional locate operations. Trial Tr. Vol. 2B at 419:14-423:13; Overview of U.S. Patent Application 12/366,853 for Examiner Nancy Bitar, December 6, 2011, 26-48, PX-131.

112. On February 13, 2012, after attending the examiner interview, Teja, Nielsen, and Chambers submitted an Amendment and Reply in response to the October 6, 2011 Office Action, pursuant to 37 C.F.R. § 1.111. Trial Tr. Vol. 3A at 431:14-24; '344 Patent File History, 688-711, DX-234.

113. In the February 13, 2012 Amendment and Reply, Teja gave a summary of the references cited in the October 6, 2011 Office Action. With respect to the Tucker reference, Teja explained that "Tucker is concerned primarily with assembling

and providing an accurate database of locations of utility lines," and "the utility line location database created in support of Tucker's PI Grid is in no manner concerned with, or dependent on, the sites or locations of future ground-penetrating activities—rather, this database is only concerned with precision documentation of actual utility line location, wherever the utility lines may be located." With respect to the Sawyer reference, Teja explained that "Sawyer relates to the same system and methods disclosed in Tucker," and "beyond the teachings of Tucker, Sawyer is primarily concerned with maintaining a record of the activity of a field operator as the operator collects, edits, and/or updates data regarding the location of utility lines." '344 Patent File History, 700-06, DX-234.

114. Teja explained in the February 13, 2012 Amendment and Reply, that "the amendments to the independent claims are based at least in part on moving language previously recited in the preamble to the body of the claims so as to clarify the recitation of a 'locate operation,' which is completely absent from the cited prior art references." '344 Patent File History, 695, DX-234.

115. Teja continued, stating that "[f]urther support for the claim amendments relating to a locate 'ticket' can be found throughout Applicant's specification as originally filed (e.g.,

see paragraphs [0002], [0003], [0023], and [0046])). As with a 'locate operation,' the concept of a locate ticket including information identifying a dig area to be excavated or disturbed during planned excavation activities, as now recited in Applicant's independent claims, is completely absent from the cited prior art references." '344 Patent File History, 695, DX-234.

116. Teja made such statements because he was "advocating to the examiner" that Tucker and Sawyer "[esch]ewed the idea of a locate operation," intending to replace locate operations "with presumably something better." Trial Tr. Vol. 2B at 399:25-340:22

117. Further, in the February 13, 2012 Amendment and Reply, Teja stated that "[s]ince Tucker is not concerned with the location of planned excavation activities *per se*, Tucker similarly is not concerned with locate operations to identify a presence or absence of underground facilities within a specified dig area in advance of planned excavation activities in the dig area." '344 Patent File History, 703, DX-234.

118. Later in the February 13, 2012 Amendment and Reply, Teja stated that "[a]lso like Tucker, Sawyer is not concerned with the location of planned excavation activities *per se*, and thus similarly is not concerned with locate operations to identify a presence or absence of underground facilities within

a specified dig area in advance of planned excavation activities at the dig area. As such, Sawyer also does not disclose or suggest any concepts related to documentation of a locate operation (e.g., a timestamp indicative of when the locate operation occurred)." '344 Patent File History, 706, DX-234.

119. Teja made such statements as part of his argument to Examiner Bitar in favor of patentability, attempting to show that Tucker and Sawyer disclosed a system that "obviates the need for physical marks on the ground entirely" and were distinguishable from the e-Sketch inventions claiming a locate operation, where the locator applies paint on the ground and digitally records the location of the locate mark. Trial Tr. Vol. 2B at 358:12-360:14.

120. On April 23, 2012, Examiner Bitar issued another Office Action, rejecting the amended claims of the '344 Patent on new grounds. The Examiner found that "Applicant's arguments, in the amendment filed 2/13/2012 with respect to the rejections of claims 1-26 under 35 U.S.C. 103(a) have been fully considered but are moot in view of the new ground(s) of rejection necessitated by the amendments. Therefore the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Evans et al (US 2008/021863) ["Evans"])." '344 Patent File History, 652, DX-234.

121. In response to the April 23, 2012 Office Action, Teja submitted an Amendment and Reply on June 12, 2012. '344 Patent File History, 81-94, DX-234.

122. In the June 12, 2012 Amendment and Reply, Teja explained that "Sawyer and Evans fail to disclose or suggest all of the limitations of claim 1. In particular, Sawyer and Evans at least fail to disclose 'at least one digital representation of the at least one physical locate mark applied to ground, pavement or other surface by the locate technician during the locate operation.'" '344 Patent File History, 89, DX-234. Teja further reiterated that "Sawyer, which is directed to a 'system and method for generating a GIS data transaction' (Abstract) does not discuss physical locate marks at all." '344 Patent File History, 90, DX-234.

123. Examiner Bitar had and considered both the Tucker and Sawyer references during prosecution of the '344 Patent. Trial Tr. Vol. 2B at 397:6-398:2; '344 Patent, PX-001 (listing prior art submitted to the PTO).

124. Examiner Bitar ultimately issued a Notice of Allowability as to the '344 Patent, on July 11, 2012, over the Tucker, Sawyer, and Evans references. '344 Patent File History, 25-30, DX-234.

125. In the July 11, 2012 Notice of Allowability, Examiner Bitar stated that "[a]fter reviewing the remarks made by the

Applicant on 6/13/2012 in response to the non-final office action the Examiner finds the remarks to be persuasive. The combination of cited references Tucker et al (US 2006/0077095), Sawyer et al (US 2007/0219722), and Evans et al (US 2008/0021863) [d]o not teach or suggest the features of claims or the newly added features. No other found prior art of record teaches or fairly suggests the combination of claims elements." '344 Patent File History, 28, DX-234.

126. The July 27, 2012 Notice of Allowability further stated that none of the prior art teaches: "[1] the locate operation comprising identifying, in advance of the planned excavation activities and using at least one physical locate mark applied to ground, pavement or other surface by the locate technician during the locate operation, a presence or absence of the at least one underground facility within the dig area identified by the ticket information; and [2] at least one digital representation of the at least one physical locate mark applied to the ground, pavement or other surface by the locate technician during the locate operation; and controls the communication interface and/or the memory to electronically transmit and/or electronically store the searchable electronic record of the locate operation so that performance of the location operation is verifiable." '344 Patent File History, 29, PX-234.

VI. LEGAL STANDARD AND PRELIMINARY FINDINGS

A. Duty of a Patent Applicant

"Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the [Patent and Trademark] Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section." 37 C.F.R. § 1.56(a); see Honeywell Int'l Inc. v. Universal Avionics Sys. Corp., 488 F.3d 982, 999 (Fed. Cir. 2007); Molins PLC v. Textron, Inc., 48 F.3d 1172, 1178 (Fed. Cir. 1995) (citing Precision Instrument Mfg. Co. v. Auto. Maint. Mach. Co., 324 U.S. 806, 818 (1945)). Individuals associated with the filing and prosecution of a patent application include: "(1) Each inventor named in the application; (2) Each attorney or agent who prepares or prosecutes the application; and (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor," or other relevant individuals.¹⁴ 37 C.F.R. § 1.56(c). The duty to disclose exists as to each pending claim of a patent application until the "claim is cancelled or withdrawn from consideration, or the application becomes abandoned." Id. § 1.56(a). Conversely, "[t]here is no

¹⁴ "Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor." 37 C.F.R. § 1.56(d).

duty to submit information which is not material to the patentability of any existing claim." Id. Additionally, information that is material to patentability does not include information that is "cumulative to information already of record or being made of record in the application." Id. § 1.56(b).

A breach of such duty of candor and good faith constitutes inequitable conduct. Molins, 48 F.3d at 1178; Responsive Innovations, LLC v. Holtzbrinck Publishers, LLC, 911 F. Supp. 2d 526, 543 (N.D. Ohio 2012) ("A breach of this duty [to prosecute patent applications in the PTO with candor, good faith, and honesty] constitutes inequitable conduct." (citing Molins, 48 F.3d at 1178)). The parties do not dispute that each named inventor to the Patents-in-Suit and the attorney who prosecuted the Patents-in-Suit—that is, Nielsen, Chambers, Farr, and Teja—have a duty of candor and good faith to the PTO.

B. Inequitable Conduct

"Inequitable conduct is an equitable defense to patent infringement that, if proven, bars enforcement of a patent." Therasense, Inc. v. Becton, Dickinson & Co., 649 F.3d 1276, 1285 (Fed. Cir. 2011) (en banc). To prevail on a defense or counterclaim of inequitable conduct, "the accused infringer must prove that the applicant misrepresented or omitted material information with the specific intent to deceive the PTO" and, at trial, must prove both materiality and specific intent "by clear

and convincing evidence." Id. at 1287 (emphasis added) (citing Star Sci., Inc. v. R.J. Reynolds Tobacco Co., 537 F.3d 1357, 1365 (Fed. Cir. 2008)). The Therasense standard also requires that the applicant have knowledge of such materiality. TransWeb, LLC v. 3M Innovative Properties Co., 812 F.3d 1295, 1303-04 (Fed. Cir. 2016) ("A judgment of inequitable conduct requires clear and convincing evidence of materiality, knowledge of materiality, and a deliberate decision to deceive." (citing Therasense, 649 F.3d at 1290)). "If the accused infringer meets its burden, then the district court must weigh the equities to determine whether the applicant's conduct before the PTO warrants rendering the entire patent unenforceable." Therasense, 649 F.3d at 1287 (citing Star Sci., 537 F.3d at 1365). "[A]s a general rule, this doctrine should only be applied in instances where the patentee's misconduct resulted in the unfair benefit of receiving an unwarranted claim." Id. at 1292 (citing Star Sci., 537 F.3d at 1366).

As explained in Therasense, the above-stated remedy for inequitable conduct is "the 'atomic bomb' of patent law." Id. at 1288 (quoting Aventis Pharma S.A. v. Amphastar Pharm., Inc., 525 F.3d 1334, 1349 (Fed. Cir. 2008) (Rader, J., dissenting)). Unlike other patentability deficiencies, inequitable conduct cannot be cured by reissue or reexamination of the patents at issue. Instead, "inequitable conduct regarding any single claim