

**UNITED STATES DISTRICT COURT FOR THE
WESTERN DISTRICT OF NORTH CAROLINA
CHARLOTTE DIVISION
3:07-cv-153-RJC-DCK**

REMEDICATION PRODUCTS, INC.,)

Plaintiff,)

v.)

ADVENTUS AMERICAS, INC.,)

a Delaware Corporation, and)

ENVIROMETAL TECHNOLOGIES,)

INC., a Canadian Corporation,)

Defendants.)

ORDER

THIS MATTER is before the Court on the remaining portions of the parties' cross motions for partial summary judgment regarding U.S. Patent No. 5,266,213 ("the '213 patent"). (Doc. Nos. 133; 143). Plaintiff Remediation Products, Inc. ("Plaintiff") has also filed a motion for leave to file another brief in support of its motion. (Doc. No. 231). The Court **GRANTS** this motion and has considered the brief Plaintiff attached to its motion. (Doc. No. 231-1). For the reasons set forth below, the Court **DENIES** Plaintiff's motion with respect to its inequitable conduct and fraud claims, and **GRANTS** Defendants Adventus Americas, Inc. and Environmental Technologies, Inc.'s ("ETI") (collectively "Defendants") motion with respect to the same. In accordance with this Court's May 13, 2010 Order, (Doc. No. 204), Plaintiff's motion, (Doc. No. 133), is **DENIED**, and Defendants' motion, (Doc. No. 143), is **GRANTED IN PART and DENIED IN PART**.

I. BACKGROUND

Plaintiff produces and sells a product under the brand name BOS 100® that is used in cleaning groundwater contaminated with halogenated hydrocarbons. Defendants have asserted that this product infringes six of their patents. Defendants first contacted Plaintiff regarding licensing

U.S. Patent No. 5,266,213 (“the ‘213 patent”), entitled “Cleaning Halogenated Contaminants from Groundwater,” and U.S. Patent No. 5,534,154 (“the ‘154 patent”), entitled “System for Cleaning Contaminated Soil.” Defendants indicated they intended to enforce their rights under these two patents but were amenable to reviewing any information indicating that Plaintiff’s technology was unrelated to these patents. In July of 2005, representatives of Defendants and Plaintiff met to discuss the matter, but they failed to reach an agreement.

In short, Defendants insisted on licensing and payment of royalties by Plaintiff, whereas Plaintiff insisted that its BOS 100® product did not infringe the ‘213 and ‘154 patents. Although the parties thereafter continued to correspond in an effort to reach an agreement, they were unable to resolve their differences. This lawsuit ensued.

Plaintiff filed this action on April 6, 2007 and sought a declaratory judgment that the ‘213 and ‘154 patents are not infringed and are invalid. Defendants counterclaimed for infringement of the ‘213 and ‘154 patents and also asserted infringement of the other four patents: U.S. Patents Nos. 6,083,394; 5,480,579; 5,411,664; and 5,618,427 (collectively, the “Grace Patents”). Plaintiff’s reply asserted counterclaims of noninfringement and invalidity of the Grace patents. On August 12, 2009, the Court granted Plaintiff’s Motion to Amend its Complaint to include a claim that the ‘213 patent is unenforceable because of inequitable conduct. (Doc. No. 92). Plaintiff filed this action in the United States District Court for the Western District of North Carolina because one of Plaintiff’s customers is located in Charlotte, North Carolina. The Court denied Defendants’ motion to dismiss portions of Plaintiff’s first amended complaint on March 18, 2010. (Doc. Nos. 186; 203).

On May 13, 2010, the Court denied in part and deferred in part Plaintiff’s motion for partial summary judgment regarding the ‘213 patent. (Doc. No. 204). By the same Order, the Court granted in part, denied in part, and deferred in part Defendants’ motion for partial summary

judgment regarding the '213 patent. (Id.). The deferred portion of both motions related to Plaintiff's inequitable conduct and fraud claims. The Court deferred ruling on those claims until the Federal Circuit resolved the standard for inequitable conduct in its en banc consideration of Therasense, Inc. v. Becton, Dickinson and Co., 649 F.3d 1276 (Fed. Cir. 2011). (Id. at 11-12). These matters are now ripe for decision and the Court examines them below.

On September 27, 2010, the Court granted Plaintiff's motion for partial summary judgment, and denied Defendants' motion for partial summary judgment regarding the '154 patent. (Doc. No. 215). The Court declared that Plaintiff's product, BOS 100®, and Plaintiff's method of using it do not infringe the '154 patent. (Id.).

The Court granted Plaintiff's motion for partial summary judgment regarding the Grace Patents and Defendants' Unfair and Deceptive Trade Practice claims on September 30, 2010. (Doc. No. 216). The Court declared that BOS 100® and Plaintiff's method of using it do not infringe any claim of the Grace Patents and that there was no evidence that Plaintiff committed an unfair or deceptive trade practice. (Id.).

Defendants moved the Court to enter judgment regarding its grant of Plaintiff's motion for partial summary judgment regarding the '154 patent on February 22, 2011. (Doc. No. 217). Defendants also moved the Court to dismiss as moot Plaintiff's remaining claims against Defendant regarding the '154 and Grace Patents. (Id.). The Court denied Defendants' motion for judgment, but granted their motion to dismiss Plaintiff's remaining claims regarding the '154 and Grace Patents. (Doc. No. 221).

For the reasons set forth below, the Court **DENIES** the remaining portion of Plaintiff's motion for partial summary judgment regarding the '213 patent (dealing with its inequitable conduct and fraud claims), and **GRANTS** the remaining portion of Defendants' motion for partial summary

judgment regarding the '213 patent with respect to the same.

A. Plaintiff's allegedly infringing product and method

BOS 100® is comprised of 90 to 95% carbon and 5 to 10% elemental iron. It is made by treating granular, activated carbon with an iron salt to impregnate the activated carbon with the iron salt. The material is then subjected to reducing conditions and heating to a very high temperature to convert the iron salt into elemental iron embedded within the activated carbon structure.

The recommended method of using BOS 100® requires mixing the product with water in an open tank to form a slurry. The open tank allows air and atmospheric oxygen into the tank. A portion of this atmospheric oxygen is dissolved into the slurry, and the activated carbon in turn adsorbs some portion of this dissolved oxygen. During this process, no attempts are made to prevent oxygen from entering the slurry or the groundwater below.

When the slurry is ready for use, holes roughly an inch in diameter are driven into the ground to a depth sufficient to reach the bottom of the contaminated plume of groundwater. The slurry is injected into the hole at specific depth intervals from the lowest level of contamination to the highest level. During each injection, the slurry radiates outwardly and horizontally from the injection point to form an irregular layer of BOS 100® based on the density and pathways of the aquifer. Plaintiff contends that each layer is vertically spaced roughly two feet from the preceding layer. Defendants contend that such regular spacing does not occur. This process is then repeated at other injection points until the slurry has been injected in a grid pattern over the area of contamination to form what Plaintiff contends is hundreds or more individual, horizontal layers of BOS 100®. Defendants contend that these layers overlap and come together to collectively make up a continuous wall of the product. Once the slurry is in place, the granular activated carbon adsorbs the chlorinated hydrocarbons out of the groundwater, and the impregnated elemental iron converts the chlorinated

hydrocarbons into harmless compounds.

B. The '213 patent

The '213 patent “relates to a procedure for cleaning groundwater . . . permeating through an aquifer, that has been contaminated with chlorinated or halogenated organic compounds such as solvents, or pesticides.” (Col. 1, ln. 5). Claims 1, 3, and 6 of the '213 patent are at issue in the current motion.

Claim 1 states:

1. Procedure for cleaning an halogenated organic contaminant from groundwater in an aquifer, comprising the steps, in combination,
 - of providing a body of metal;
 - of covering the body of metal in such a manner as to prevent substantially all traces of oxygen from reaching an anaerobic portion of the body of metal;
 - of providing the metal in the form of a body of particulates, cutting, or fibres, of such insistency that the body is permeable to the flow of the groundwater through the body;
 - of conducting the said contaminated groundwater from its native aquifer into and through the body of metal;
 - of so conducting the groundwater from the native aquifer into the body of metal that the groundwater substantially does not come into contact with atmospheric oxygen prior to entering the anaerobic portion of the body of metal;
 - of causing the groundwater to percolate through the said anaerobic portion, and to remain in contact with the metal therein, for a substantial period of time.

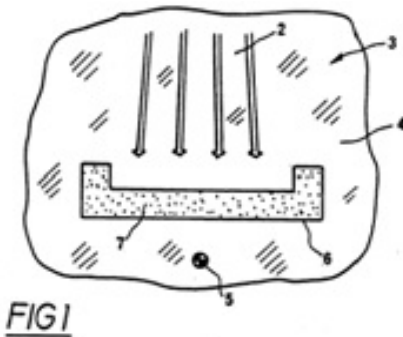
(6:52-7:6). The Court has found that Plaintiff’s product infringes Defendants’ patent regarding all but the last limitation pertaining to causing groundwater to percolate through the anaerobic portion of the body of metal. (Doc. No. 204 at 41). A jury issue exists over whether Plaintiff infringes this limitation under the insubstantial difference test. (Id. at 25).

Claims 3 and 6 are dependent claims – they recite the “[p]rocedure of claim 1 . . .” and then additional limitations. Consequently, they include all of the steps and limitations set forth in Claim

1 in addition to the limitations set forth in Claims 3 and 6. Claim 3 sets forth:

3. Procedure of claim 1, further comprising the steps:
 - of excavating a trench in the material of the aquifer, in the path of the contaminated groundwater;
 - of placing the said body of metal in the trench;
 - wherein the dimensions of, and disposition of, the trench and of the said anaerobic portion are such that the contaminated groundwater passes through the said anaerobic portion.

(7:11-19). Figure 1 of the patent illustrates the trench embodiment of Claim 3:



Regarding this claim, genuine issues of material fact exist regarding whether: (1) the contaminated ground water passes through the said

anaerobic portion, and (2) Plaintiff infringed the trench limitation. (Doc. No. 204 at 27).

Claim 6 states:

6. Procedure of claim 1, further comprising the steps:
 - of providing a series of boreholes in the material of the aquifer, in the path of the contaminated groundwater;
 - of injecting metal into the boreholes;
 - wherein the spacing of the boreholes, and the quantity of metal injected, in relation to the material of the aquifer, are such that the injected metal penetrates into the material to a sufficient extent as to form the said

body of metal, and the said anaerobic portion thereof.

(8:13-23). The patent does not provide an illustration of the boreholes embodiment of Claim 6, but the “Background to the Invention” section states:

The conventional procedures for cleaning groundwater that has been contaminated with such chlorinated solvents have generally not involved the chemical breakdown of the contaminant, but have merely removed the contaminant from the water. For example, it is known to pass the water over activated carbon, whereby the contaminants are adsorbed onto the carbon. Whilst this is effective to clean the water, the contaminants remain on the carbon: this creates in turn another disposal problem.

(Doc. No. 1-1 at 5). Regarding this claim, a jury issue remains over whether the method of applying BOS 100® creates a continuous wall. (Doc. No. 204 at 28).

The Examiner who allowed the ‘213 patent wrote that the primary reason for allowance of the patent was:

the recitation in all of the claims of cleaning a halogenated organic contaminant from groundwater in an aquifer comprising the steps of covering the body of metal in such a manner as to prevent substantially all traces of oxygen from reaching an anaerobic portion of the body of the metal and of conducting the groundwater from the aquifer into the body of metal so that the groundwater substantially does not come into contact with the atmospheric oxygen prior to entering the anaerobic portion of the body of metal.

(Doc. No. 56, Ex. 15, at 3).

C. The prior art

“Prior art” is the existing body of technological information against which an invention is judged to determine if it is patentable as being novel and non-obvious. See Hazeltine Research, Inc. v. Brenner, 382 U.S. 252, 254 (1965); 35 U.S.C. § 102. The ‘213 patent cites three main sources of prior art that are relevant to this motion: U.S. Patent No. 4,382,865 (“Sweeny”), U.S. Patent No. 5,057,227 (“Cohen”),¹ and U.S. Patent No. 4,664,809 (“Fenton”). The ‘213 patent does not, however, disclose other related sources of prior art that Plaintiff argues invalidate the patent, including: a Japanese journal article authored by Tetuo Senzaki and Yasuo Kumagai (“Senzaki”), an article published in 1985 dealing with methods for the in situ treatment of contaminated groundwater (“McMurtry”), and an article published in 1988 concerning the treatment of contaminated groundwater by using permeable barriers (“Thomson”). The application leading to the issuance of the ‘213 patent claims priority from a foreign application that was filed on November 28, 1989. As a result, the critical date for determining prior art under § 102(b) is November 28, 1988. See 35 U.S.C. § 102(b) (providing that a patent or other publication is prior art if it was publicly available more than one year before the filing date of the patent application).

1. Sweeny

The ‘213 patent cites, and the Examiner considered, Sweeny. As stated in the ‘213 patent, Sweeny described:

“[A] system for treating the effluent created during the manufacture of halogenated pesticides. Here, the effluent water stream, containing the waste material from the pesticide manufactory is passed over a combination of metals, and it is the fact of the combination which is instrumental in causing the breakdown of the halogenated contaminant.”

¹ While Cohen may not be “prior” art, it is clear from the face of the ‘213 patent that the Examiner considered Cohen in determining that the patent should issue.

'213 patent, col. 1, lns. 50-57. Sweeny discloses pumping the effluent water stream through a reductant metal bed made of “at least one metal such as zinc, aluminum, iron, magnesium, [or] cadmium.” Sweeny, col. 6, lns. 15-16. According to Sweeny, a “faster . . . , more complete reaction[,] and a decomposition product in which the proportion of relatively innocuous products is increased[,] is provided by addition of from .1 to 10 meq/g of catalytic metals such as copper, silver, cobalt, nickel and the like.” Id. col. 6, lns. 16-21.

The '213 patent distinguishes its own claims from Sweeny because Sweeny taught using a combination of metals and that “it is the fact of the combination [of metals] which is instrumental in causing the breakdown of the halogenated hydrocarbons.” (1:55-57). Further, the '213 patent distinguishes Sweeny in that Sweeny focused on above-ground factory effluents, while the '213 patent focuses on remediating groundwater in its native aquifer, which “unlike factory effluent . . . is oxygen-free.” '213 patent, col. 1, lns. 58-66.

2. *Cohen*

The '213 patent cites, and the Examiner considered, Cohen. Cohen describes:

a method for in-situ removal of hydrocarbon contaminants from groundwater, where the contaminants are in aqueous solution with the groundwater. The method of this invention comprises contacting in-situ groundwater containing hydrocarbon contaminants in aqueous solution therewith such as gasoline and its components with a permeable barrier comprising a peat material.

Cohen, col. 3, lns. 52-59. Peat is an absorbent material, and Cohen discloses it as useful for the “removal of hydrocarbon contaminants such as gasoline and its components (e.g. benzene, toluene, and xylene) in solution from groundwater.” Id. col. 2, lns. 39-42.

In Cohen, “the permeable barrier is positioned substantially perpendicular to the groundwater stream incident thereto by means of a trench which is dug in such manner as to contact the contaminated groundwater stream in a substantially perpendicular fashion.” Id., col. 13, lns. 58-63.

Cohen thus teaches the use of trenches in remediating groundwater.

3. *Fenton*

The '213 patent cites, and the Examiner considered, Fenton. Fenton describes:

the abatement of pollution in groundwaters, by drilling a series of wells in the path of an advancing front of contaminants in an aquifer, and using the wells to introduce into the aquifer an adsorbent for the particular contaminants present. This adsorbent can act as an in situ filtration bed, removing contaminants as water passes through.

Fenton, col. 1, lns. 48-54.

4. *Senzaki*

In 1998, a Japanese journal published an article authored by Tetuo Senzaki and Yasuo Kumagai. Senzaki & Kumagai, Removal of Organochloro Compounds in Waste water by Reductive Treatment – Treatment of 1,1,2,2 Tetrachloroethane with Iron Powder, *Kogyo Yosui* (357), 2-7 (Japan 1988). The article was printed in Japanese, with no English translation when it was published. The introduction begins:

Recently, pollution of underground water and tap-water with organochloro [chlorinated hydrocarbon] compounds have become a social problem. The major sources of the pollution are cleaning business and industries concerning technology, especially industries producing semiconductors and machines in which industries organo-chloro compounds, e.g. trichloroethylene are used although these compounds are harmful to human body.

(Doc. No. 37-1 at 2).

Senzaki discloses that iron powder degrades organochloro compounds in water where there is an absence of oxygen. Senzaki states the “[p]resence of metal (iron) is indispensable for the reaction.” (Id. at 8). Senzaki also counsels that “The reaction [between organochloro compounds and metallic iron] can be accelerated by addition of electrolytes such as sodium sulfate which increase electric conductivity when the solution containing small quantities of electrolytes, e.g. ion-exchanged water, shows low electric conductivity. (Id.). In a post-script, Senzaki notes that the

“treatment method of organochloro compounds with metal still has unsolvable problems.” (Id. at 9). The source also notes that the problem of contamination exists in both waste water and groundwater.

Dr. Gillham, the inventor behind the ‘213 patent, was aware of Senzaki’s work before applying for the patent. Dr. Gillham cited Senzaki in multiple articles both before and after applying for the patent. In these articles, Dr. Gillham generally equates Senzaki to Sweeny, describing both as teaching that zero valent metals, including iron powder, are useful in degrading chlorinated compounds from aqueous solution. See (Doc. Nos. 71-4 at 3-4; 71-5 at 3; 71-6 at 2-3; 71-7 at 7).

5. *McMurtry*

David McMurtry and Richard Elton wrote an article in 1985 dealing with methods for the in situ treatment of contaminated groundwater. McMurtry & Elton, New Approach to In-Situ Treatment of Contaminated Groundwaters, *Environmental Progress*, Vol. 4, No. 3, at 168 (August 1985). The article briefly outlined three methods of remediation for various scenarios.

McMurtry’s first method involves an in situ treatment system for cleaning groundwater of organic compounds, such as benzene. The system consists “of a low permeability slurry wall perforated with beds of granular activated carbon . . .” Id. at 169. McMurtry refers to this wall as a “trench.” Id. at 170. McMurtry’s second method discloses treating acid waste that was spilled onto a hillside. McMurtry suggests excavating a trench at the bottom of the down slope in the path of the plume of contamination and placing limestone into the trench to neutralize the acid waste and precipitate out the heavy metals. Id. It then suggests flushing water down the hill so that the remaining contaminants will flow down through the treatment media, and then removing the treatment media from the site. Id. McMurtry’s third method involves the in situ treatment of leachate from a landfill. Here, McMurtry discloses “a slurry wall to control the plume and treatment

zones composed of coarse gravel on top of a diffused air injection manifold to provide for both air stripping of the problem organics as well as possible biological removal.” Id.

McMurtry does not specifically disclose placing metal or a “body of metal” in a trench to treat groundwater contaminated with halogenated hydrocarbons. (Doc. No. 37-2 at 2). McMurtry does suggest using any “appropriate treatment media” that is capable of treating contaminated water. As the source states, “[s]uch treatment media could include activated carbon for sorption of organics, ion exchange resins to capture inorganic species, substances for pH control of solubility, media for fixed-film biological reactions enhanced by nutrients and/or oxygen supplies, or combinations of these and many other treatment techniques.” (Id.).

In briefly citing the chemical characteristics of the subsurface environment , McMurtry states, “[m]ost groundwater treatment cases will be in isothermal, anaerobic, reducing environments.” (Id.).

6. Thomson

Bruce Thomson and Stephen Shelton wrote a paper concerning the treatment of contaminated groundwater by using permeable barriers. Bruce M. Thomson & Stephen P. Shelton, Permeable Barriers: A New Alternative for Treatment of Contaminate Ground Waters, (Nat’l Water Well Assoc. Pub. 1988). Thomson discloses providing a trench or boreholes filled with treatment material in the path of a contaminated plume of groundwater to form a permeable barrier for treating contaminated water. Figure 1 of Thomson shows a trench filled with material above the groundwater level. The treatment material is permeable so that the groundwater flows slowly through it. Figure 2 from Thomson shows that a well-based permeable barrier requiring the injection of metal may be used instead of a trench-based barrier for treating deep levels of contaminated groundwater.

II. LEGAL STANDARD

Summary judgment shall be granted “if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” FED. R. CIV. P. 56(a). A factual dispute is genuine “if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 248 (1986). A fact is material only if it might affect the outcome of the suit under governing law. Id.

The movant has the “initial responsibility of informing the district court of the basis for its motion, and identifying those portions of the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, which it believes demonstrate the absence of a genuine issue of material fact.” Celotex Corp. v. Catrett, 477 U.S. 317, 323 (1986) (internal citations omitted).

Once this initial burden is met, the burden shifts to the nonmoving party. They “must set forth specific facts showing that there is a genuine issue for trial.” Id. at 322 n.3. The nonmoving party may not rely upon mere allegations or denials of allegations in his pleadings to defeat a motion for summary judgment. Id. at 324. The nonmoving party must present sufficient evidence from which “a reasonable jury could return a verdict for the nonmoving party.” Anderson, 477 U.S. at 248; accord Sylvia Dev. Corp. v. Calvert Cnty., Md., 48 F.3d 810, 818 (4th Cir. 1995).

When ruling on a summary judgment motion, a court must view the evidence and any inferences from the evidence in the light most favorable to the nonmoving party. Anderson, 477 U.S. at 255. “Where the record taken as a whole could not lead a rational trier of fact to find for the nonmoving party, there is no genuine issue for trial.” Ricci v. DeStefano, 129 S. Ct. 2658, 2677 (2009) (quoting Matsushita v. Zenith Radio Corp., 475 U.S. 574, 587 (1986)).

III. DISCUSSION

A. Inequitable Conduct and Fraud

Plaintiff and Defendants both seek summary judgment as to Plaintiff's third count of its complaint, claiming inequitable conduct regarding the '213 patent. Plaintiff argues that the '213 patent is unenforceable because Defendants engaged in inequitable conduct during the application process. Specifically, Plaintiff contends Dr. Gillham failed to disclose to the Patent Examiner material prior art (Senzaki and McMurtry), and that he withheld this information with the intent to deceive the Patent and Trademark Office ("PTO"). Defendants argue that Senzaki and McMurtry were not material and that, regardless, Dr. Gillham had no intent to deceive the PTO.

"Inequitable conduct is an equitable defense to patent infringement that, if proved, bars enforcement of a patent." Therasense, Inc. v. Becton, Dickinson and Co., 649 F.3d 1276, 1285 (Fed. Cir. 2011). It is called the "atomic bomb" of patent law because, "[u]nlike validity defenses, which are claim specific, inequitable conduct regarding any single claim renders the entire patent unenforceable." Id. at 1288 (internal citations omitted). "[I]nequitable conduct charges cast a dark cloud over the patent's validity and paint the patentee as a bad actor. Because the doctrine focuses on the moral turpitude of the patentee with ruinous consequences for the reputation of his patent attorney, it discourages settlement and deflects attention from the merits of validity and infringement issues." Id. at 1288. In Therasense, the Federal Circuit described the doctrine as "overplayed" and an "absolute plague" on the courts and "the entire patent system," "casting the shadow of a hangman's noose." Id. at 1289 (noting that "eighty percent of patent infringement cases included allegations of inequitable conduct"). The court noted that patent prosecutors have reacted to the proliferation of inequitable conduct claims by deluging the PTO with a "tidal wave" of marginally valuable prior art references to avoid a claim that they deceitfully withheld some material prior art. Id. at 1289-90. In an effort to curb the doctrine's resultant "increased adjudication cost and

complexity, reduced likelihood of settlement, burdened courts, strained PTO resources, increased PTO backlog, and impaired patent quality,” the Federal Circuit has “tighten[ed] the standards for finding both intent and materiality.” Id. at 1290.

“To prevail on a claim of inequitable conduct, the accused infringer must prove that the patentee acted with the specific intent to deceive the PTO.” Therasense, 649 F.3d at 1290. To prove this specific intent:

In a case involving nondisclosure of information, clear and convincing evidence must show that the applicant *made a deliberate decision* to withhold a *known* material reference. In other words, the accused infringer must prove by clear and convincing evidence that the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it. . . .

Because direct evidence of deceptive intent is rare, a district court may infer intent from indirect and circumstantial evidence. However, to meet the clear and convincing evidence standard, the specific intent to deceive must be “the single most reasonable inference able to be drawn from the evidence. Indeed, the evidence “must be sufficient to *require* a finding of deceitful intent in the light of all the circumstances. Hence, when there are multiple reasonable inferences that may be drawn, intent to deceive cannot be found. . . .

Because the party alleging inequitable conduct bears the burden of proof, the patentee need not offer any good faith explanation unless the accused infringer first proves a threshold level of intent to deceive by clear and convincing evidence.

Id. at 1290-91 (internal quotations and citations omitted).

“As a general matter, the materiality required to establish inequitable conduct is but-for materiality. When an applicant fails to disclose prior art to the PTO, that prior art is but-for material if the PTO would not have allowed a claim had it been aware of the undisclosed prior art.” Id. at 1291. Although there is an exception to this rule for cases of affirmative egregious misconduct, omissions of prior art do not constitute such misconduct. Id. at 1292-93. Thus, “claims of inequitable conduct that are based on such omissions require proof of but-for materiality.” Id. at 1293.

“The accused infringer must prove both elements—intent and materiality—by clear and convincing evidence.” Id. at 1287. Courts formerly “use[d] a ‘sliding scale,’ where a weak showing of intent may be found sufficient based on a strong showing of materiality, and vice versa.” Id. at 1290; see also Am. Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1362 (Fed. Cir. 1984). But the Federal Circuit has since made clear that this is improper. Therasense, 649 F.3d at 1290. “[A] district court may not infer intent solely from materiality. Instead, a court must weigh the evidence of intent to deceive independent of its analysis of materiality.” Id.

The Court has already ruled that genuine issues of fact remain over the obviousness² of the ‘213 patent in light of Senzaki, McMurtry, and Thomson. (Doc. No. 204 at 35-36). These same issues of fact prevent the Court from finding, as a matter of law, that the PTO would not have granted the patent had it been provided the Senzaki or McMurtry references. Thus, Plaintiff cannot show, as a matter of law, that Defendants’ failure to cite these references was material. The Court must **DENY** Plaintiff’s motion for partial summary judgment on inequitable conduct. Nonetheless, summary judgment for Defendants is appropriate because there is no genuine issue of fact regarding Defendants’ alleged intent.

To prove intent, Plaintiff must prove by clear and convincing evidence that the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it. Therasense, 649 F.3d at 1290-91. Plaintiff has shown by clear and convincing evidence that Dr. Gillham was aware of both Senzaki and McMurtry before the allowance of the ‘213 patent. (Doc. No. 87-1: Gillham Dep. at 25 & 37). He cited Senzaki in several articles prior to the issuance of the

² 35 U.S.C. § 103(a) (a patent may not be obtained “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.”)

'213 patent. But Plaintiff has failed to present clear and convincing evidence that Dr. Gillham knew these references were material or that he made a deliberate decision to withhold them.

Plaintiff argues that Dr. Gillham was aware of the Examiner's reasons for allowing the '213 patent to issue and that Senzaki and McMurtry undermined those reasons. (Doc. No. 229 at 10). The evidence suggests, though, that Dr. Gillham was not aware of the Examiner's reasons. Dr. Gillham testified that he "cannot recall reviewing documentation provided to [him] by the patent agent or really giving Senzaki any thought." (Doc. No. 148-11: Gillham Dep. at 73-74). But cf. (Doc. No. 87-1: Gillham Dep. at 41-42 & 51-64) (showing Dr. Gillham was on a list of recipients of the notice, however, he again testified that he could not recall actually receiving it).

Further, there is no evidence that Dr. Gillham was fully aware of what Senzaki taught. Dr. Gillham received a Japanese version of the reference. (Doc. No. 148-11: Gillham Dep. at 37). He provided it to his Japanese-speaking graduate student to translate for him, but the student did not translate the reference in full. (Id. at 39). Instead, Dr. Gillham and the student "sat and discussed" the article. (Id.). The student then wrote out sections of it. (Id.). Plaintiff has not shown which sections the student provided Dr. Gillham.

Dr. Gillham's deposition testimony shows that he genuinely believed that Senzaki offered no novel information that Sweeny did not also teach. (Doc. No. 87-1 at 37-38).

Q. And why did you provide Sweeny but not McMurtry and Senzaki?

A. I discussed Sweeny several times with the patent agent prior -- well, I discussed Sweeny with the patent agent prior to the original filing in '89. To me -- to me, Senzaki didn't reveal anything that was not already [re]vealed in -- revealed in Sweeny. And I don't know that I really gave much thought to disclosure of Senzaki at the time.

Q. Well, when you first learned of Senzaki, you said you were surprised because Senzaki disclosed what you were doing, didn't you?

- A. No. Well, I was surprised because the chemists in the field had not recognized it, and I was also surprised to -- to find that -- that there was yet another person -- another group doing similar work, which I hadn't been informed about by -- by my colleagues or in the literature at that point, so I was surprised there was another group. But still I don't see that he revealed anything of relevance that wasn't revealed in Sweeny.
- Q. If Sweeny didn't disclose groundwater and Senzaki does, wouldn't that make Senzaki more relevant than Sweeny?
- A. Not at all.
- Q. Why not?
- A. Sweeny refers to groundwater but not groundwater while it is underground. So once it's brought to the surface -- he talks about contaminated groundwater, but once it's at the surface, it's surface water, so it's the same -- essentially the same as industrial water.

(Id.).

Further, the articles in which Dr. Gillham cited Senzaki corroborate his testimony that he believed Senzaki was duplicative of Sweeny. (Doc. Nos. 71-4 at 3-4; 71-5 at 3; 71-6 at 2-3; 71-7 at 7). A 1993 article by Dr. Gillham described Sweeny as “[t]he earliest record of the use of zero valence metals in degrading organic contaminants that we have been able to locate” and then stated that “the only other references to degradation by zero valence metals that we have located are in [Senzaki].” (Doc. No. 71-4 at 3-4). Another 1993 article by Dr. Gillham cited Sweeny as “[t]he earliest known report of using zero-valence transition metals to reductively dehalogenate chlorinated organic compounds” before citing Senzaki as a more recent report of the same. (Doc. No. 71-5 at 3). In 1994, Dr. Gillham again equated Sweeny and Senzaki as two studies of the ability of zero valent metals to remove chlorinated compounds from aqueous solutions. (Doc. No. 71-6 at 2-3). A 1996 article by Dr. Gillham made the same comparison. (Doc. No. 71-7 at 7).

Dr. Gillham has been nothing but consistent in his statements that Senzaki is duplicative of

Sweeny. See Ameranth, Inc. v. Menusoft Sys. Corp., No. 2:07-cv-271, 2011 WL 2080248, at *3 (E.D. Tex. May 26, 2011) (pointing to the consistency of the inventor’s testimony alone to find that “specific intent to deceive is not the single most reasonable inference that must be drawn from the evidence”). The most reasonable inference from such consistency is that Dr. Gillham sincerely believes that Senzaki is duplicative. Even where multiple reasonable inferences can be drawn, intent to deceive cannot be found. Therasense, 649 F.3d at 1290-91.

Plaintiff further argues that the subsequent disclosure of Senzaki to the PTO, albeit in Japanese, is evidence of an intent to deceive. (Doc. No. 229 at 15). Plaintiff asserts that the patent agent had access to an English translation, obtained during the Japanese patent prosecution, but Plaintiff presents no evidence showing that the English translation ever made it to that patent agent. (Id.). Moreover, the duty to disclose information to the PTO extends until a patent is granted on an application. M.P.E.P. 2001.04 “Information Under 37 CFR § 1.56(a).” This disclosure occurred seven years later. Cf. Cordis Corp. v. Boston Sci. Corp., 658 F.3d 1347, 1361 (Fed. Cir. 2011) (finding that subsequent citation of a disputed reference is evidence of good faith). Defendants’ failure to disclose in the most convenient way possible for the Examiner cannot sustain a finding of inequitable conduct. Beside the lack of clear and convincing evidence of intent, Plaintiff cannot show that such a failure was material. The patent had already issued, and thus, disclosing Senzaki in only its original Japanese form could not have been the “but for” cause of the patent being granted.

Plaintiff does not offer much by way of argument or evidence to support its claim that Dr. Gillham intended to deceive the Patent and Trademark Office (“PTO”) by withholding McMurtry. Plaintiff shows only that Dr. Gillham considers McMurtry to be among the first to suggest using a permeable reactive barrier to treat contaminated groundwater. (Doc. No. 148-11: Gillham Dep. at

12). Defendants respond that Cohen, which the Examiner considered, also taught using a permeable barrier to treat a contaminated body of water. Cohen, col. 3, lns. 52-59. Plaintiff's evidence of intent falls far short of clear and convincing.

The inequitable conduct doctrine was born of three Supreme Court cases in which the patentees perjured themselves and manufactured false evidence. Therasense, 649 F.3d at 1285-87 (citing Precision Instrument Mfg. Co. v. Automotive Maintenance Machinery Co., 324 U.S. 806 (1945); Hazel-Atlas Glass Co. v. Hartford-Empire Co., 322 U.S. 238 (1944), overruled on other grounds by Standard Oil Co. v. United States, 429 U.S. 17 (1976); Keystone Driller Co. v. Gen. Excavator Co., 290 U.S. 240 (1933)). Plaintiff has not presented any evidence of similar misconduct.

A reasonable jury could not find by clear and convincing evidence that Dr. Gillham knew Senzaki or McMurtry were material or that Dr. Gillham intended to deceive the PTO. Therasense, 649 F.3d at 1290-91. Plaintiff has failed to provide evidence which "requires a finding of deceitful intent." Id. Therefore, Defendants' motion for partial summary judgment with respect to Plaintiff's inequitable conduct claim regarding the '213 patent, (Doc. No. 143), is **GRANTED**. Plaintiff's motion for partial summary judgment with respect to the same, (Doc. No. 133), is **DENIED**.

B. Fraud on the Patent Office

Count Four of Plaintiff's complaint alleged fraud on the PTO in the alternative to inequitable conduct. (Doc. No. 170 at 15). After the Federal Circuit issued its en banc opinion in Therasense, 649 F.3d 1276, this Court ordered "the parties to re-brief the inequitable conduct and fraud issues." (Doc. No. 227 at 2). Plaintiff, however, failed to support its fraud on the patent office claim in its supplemental briefing. (Doc. No. 229). In any event, this claim appears to be nothing more than an antiquated title for inequitable conduct. See Burlington Indus., Inc. v. Dayco Corp., 849 F.2d

1418, 1422 (Fed. Cir. 1988) (noting that inequitable conduct “was formerly known as ‘fraud on the Patent Office,’ a more pejorative term, but the change of name does not make the thing itself smell any sweeter”). The Court holds that to the extent fraud on the patent office remains a viable claim, it is to be judged under the same standard as inequitable conduct. Therefore, Defendants’ motion for summary judgment with respect to Plaintiff’s fraud on the PTO claim, (Doc. No. 143), is **GRANTED** and Plaintiff’s motion for summary judgment with respect to the same, (Doc. No. 133), is **DENIED**.

IT IS, THEREFORE, ORDERED that:

1. Plaintiff’s Motion for Leave to File Reply, (Doc. No. 231), is **GRANTED**;
2. Plaintiff’s motion for partial summary judgment, (Doc. No. 133), is **DENIED**;
3. Defendants’ motion for partial summary judgment, (Doc. No. 143), is **GRANTED IN PART and DENIED IN PART**; and
4. Plaintiff’s Third and Fourth Counts are **DISMISSED**.

Signed: December 19, 2011



Robert J. Conrad, Jr.
Chief United States District Judge

