United States District Court,
N.D. Georgia, Atlanta Division.

CHEMFREE CORPORATION,
Plaintiff.
v.
J. WALTER, INC. and J. Walter Company, Ltd,
Defendants.

Civil No. 1:04-CV-3711-JTC

July 17, 2007.

William Arthur Capp, Womble Carlyle Sandridge & Rice, Atlanta, GA, for Plaintiff.

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ORDER

JACK T. CAMP**, United States District Judge.**

This matter is currently before the Court for construction of the disputed terms in U.S. Patent No. 6,019,110 ("the '110 patent"), U.S. Patent No. 6,074,491 ("the '491 patent"), U.S. Patent No. 6,374,835 ("the ' 835 patent), U.S. Patent No. 6,440,226 ("the '226 patent"), and U.S. Patent No. 6,451,125 ("the '125 patent").

I. Background

Plaintiff ChemFree Corporation is the co-owner of five patents directed to "environmentally friendly, bioremediation parts washing systems" ("the parts washing patents"). In general terms, the parts washing patents detail systems and methods for cleaning oil and grease from machine parts in an environmentally friendly manner.

In the past, machine parts were cleaned by washing the part in an organic solvent, such as mineral spirits or gasoline. This method of cleaning parts was dissatisfactory, however, because it released hazardous chemicals into the atmosphere and created disposal problems for the used solvent. Using these solvents also created fire and health hazards for users of the prior art parts washers.

ChemFree sought to overcome these problems with a safe and environmentally friendly parts washing system and method. As illustrated in the figure below, ChemFree's invention has three basic components.

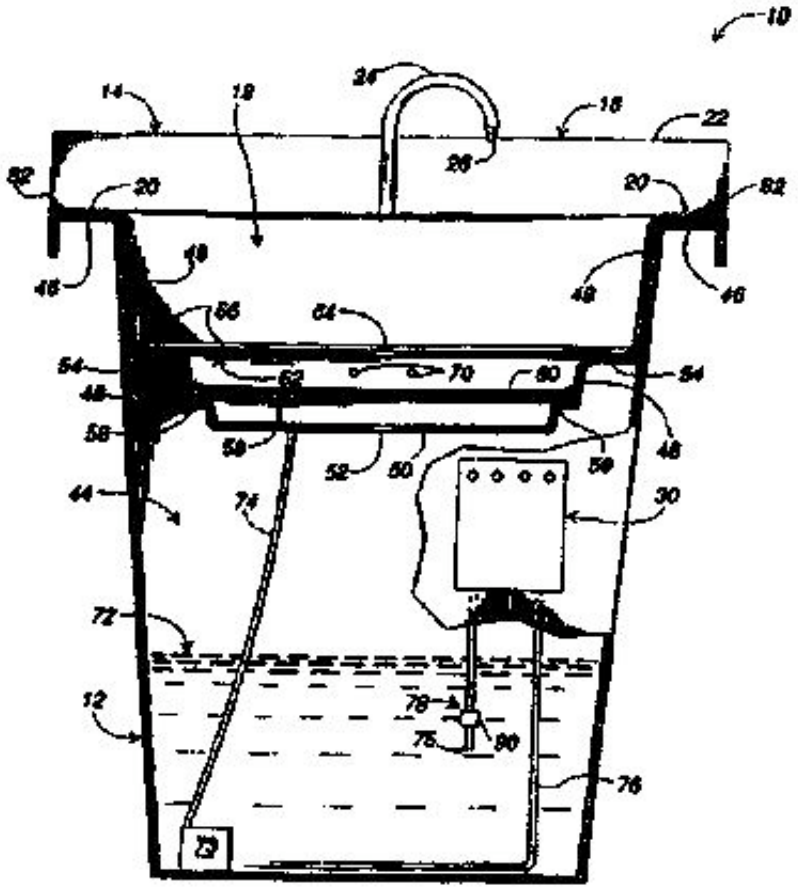

FIG. 3

The first component is a biodegradable, non-caustic, non-toxic, non-flammable, oil-dispersant/degreasing fluid. The second component involves the use of microorganisms (not pictured) that break down grease and oil in the tank, decomposing them into environmentally harmless substances. The final component is the physical structure and associated mechanical and electro-mechanical assemblies that are used to circulate the cleaning solution used to wash the parts as well as to contain it while it breaks down the oil and grease deposited in the tank.

Each of the parts washing patents derives from "parent" U.S. Patent Application No. 08/315,902 ("the '902 application"), filed by ChemFree in 1994. Shortly after the '902 application was filed, James McClure, one of ChemFree's inventors, left ChemFree and attempted to assign his patent rights to ZYMO International, Inc., his new company, which resulted in two parallel series of patent applications being prosecuted by ChemFree and ZYMO.

McClure's departure and attempted assignment of patent rights led to nearly a decade of various civil lawsuits between ChemFree, ZYMO, and McClure regarding ownership of the patent rights. These litigations eventually resulted in a settlement agreement, in which ChemFree and ZYMO co-assigned their respective patents and patent applications to each other. As a result, ChemFree and ZYMO are equal co-owners of all patents which resulted from the '902 application, five of which are asserted against Defendants J. Walter, Inc. and J. Walter Company, LTD (collectively, "J. Walter" or "Defendant") in this lawsuit.

II. Claim Construction Standard

Claim construction is a question of law. Markman v. Westview Instruments, Inc., 52 F.3d 967, 970-71 (Fed.Cir.1995) (en banc), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384 (1996). It is a bedrock principle of patent law that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed.Cir.2005) (en banc) (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1115 (Fed.Cir.2004)). Generally, the words of a claim are given their ordinary and customary meaning, which "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention...." Id. at 1312-13 (citations omitted).

In some instances, the meaning of a claim term as understood by someone with skill in the art "may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words." Id. at 1314. In most instances, however, the Court must go further than the readily understood meaning. In such cases, sources available to the public aid the Court in determining the meaning of claim language. *Id*. These sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Id*. (quoting Innova, 381 F.3d at 1116).

"[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms." *Id*. Both "the context in which a term is used in the asserted claim" and the "[o]ther claims of the patent in question" are useful for understanding the ordinary meaning. *Id*.

"[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.' " *Id*. at 1315 (quoting Vitronics Corp. v. Conceptronic, 90 F.3d 1576, 1582 (Fed.Cir.1996)). In short, the claims "must be read in view of the specification, of which they are a part." Markman, 52 F.3d at 979. Thus, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Phillips, 415 F.3d at 1316 (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed.Cir.1998)). On occasion, "the specification may reveal a special definition given to a claim term ... that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs." *Id*. (citing CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002)). In other instances, the specification may "reveal an intentional disclaimer, or disavowal, of claim scope by the inventor.... In that instance as well, ... the inventor's intention, as expressed in the specification, is regarded as dispositive." *Id*. (citing SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1343-44 (Fed.Cir.2001)).

The Court should also consider the patent's prosecution history. Id. at 1317. "Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent." *Id*. (citing Lemelson v. Gen. Mills, Inc., 968 F.2d 1202, 1206 (Fed.Cir.1992)). However, unlike the specification, the prosecution history "represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation...." *Id*. For that reason, the prosecution history "often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id*.

Finally, the Court may also rely on extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Id*.

(quoting Markman, 52 F.3d at 980.) For example, because they "endeavor to collect the accepted meanings of terms used in various fields of science and technology," "dictionaries, and especially technical dictionaries, ... have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology...." *Id*. at 1318 (citing Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002)). However, for many reasons, external evidence is generally less reliable than the intrinsic record. *Id*. For instance, "extrinsic evidence by definition is not part of the patent and does not have the specification's virtue of being created at the time of patent prosecution for explaining the patent's scope and meaning." *Id*. In addition, "extrinsic evidence consisting of expert reports and testimony is generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence." *Id.; see also id*. at 1318-19 (providing more reasons why extrinsic evidence is less reliable than intrinsic evidence).

During claim construction, "[t]he sequence of steps used by the judge in consulting various sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law." *Id*. at 1324.

III. Discussion

Although the parties dispute the construction of a number of terms and phrases across the five parts washing patents, the terms can be generally classified into four groups: (i) terms related to the flow of cleaning fluid between the basin and the tank; (ii) terms related to heating and temperature control; (iii) terms related to biodegradation of hydrocarbons in the tank; and (iv) one miscellaneous term-"surfactant-based"

A. Terms related to the flow of cleaning fluid between the basin and the tank

The parts washing patents claim, in various forms, a "flowpath" situated "between" the basin and tank. In some cases, the patents claim an arrangement where a "filter" is "positioned" or "interposed" in the "flowpath." These claims present four issues. First, the parties dispute the meaning of "flowpath" and whether it requires some sort of structure. Second, the parties dispute the meaning of "flowpath ... between" in certain claims and whether the claims encompass bidirectional or only unidirectional flow. Third, for the variation of the "flowpath" term in the '491 patent, which recites "the step [ ] of ... providing a flowpath," the parties dispute whether the "step-plusfunction" doctrine of 35 U.S.C. s. 112, para. 6 applies. Finally, the parties dispute the meaning of the terms "filter" and "porous medium," which are claimed in several instances in connection with the "flowpath."

1. "flowpath," "flowpath ... between"

Four of the patents at issue claim, in various forms, a "flowpath" situated "between" the basin and tank. Generally speaking, there are two classes of these claims. In the first class the claims use language which presuppose a unidirectional flow-i.e., they explicitly contemplate that fluid will flow "from the basin ... to the tank." For example, claim 1 of the '110 patent recites:

1. A system for cleaning hydrocarbons from a part, comprising a biodegradable, non-toxic, non-caustic, nonflammable oil dispersant cleaner and degreaser fluid, a parts washer including a tank for containing the fluid and a basin for receiving the part, a pump and conduit assembly for pumping the fluid from the tank into contact with the part within the basin, *a flowpath defined between the basin and the tank through which the fluid flows from the basin back to the tank,* and microorganisms within the parts washer for biodegrading the hydrocarbons:

the microorganisms substantially sustained within and flowing with the fluid; the parts washer further includes a heater for heating the fluid; and

means for controlling said heater to maintain the fluid approximately at a desired temperature and for disabling said heater as the fluid drops to below a desired level in the tank.

'110 patent, col. 8, ll. 24-40 FN1; *see also* ' 125 patent, col. 9, ll. 3-4 ("a flowpath defined between the basin and the tank through which the fluid flows from the basin into the tank"). The other claims, however, use "flowpath" language that does not presuppose a unidirectional flow. For example, claim 5 of the ' 835 patent recites:

FN1. Unless otherwise noted, all formatting in the claims is added by the Court to emphasize the disputed claim language.

5. A system for cleaning hydrocarbons from a part, the system comprising a biodegradable, non-toxic, non-caustic, nonflammable, oil dispersant cleaning and degreasings [sic] fluid, a parts washer including a tank for containing said fluid and a basin for receiving the part, a conduit assembly, a pump for pumping said fluid from said tank through said conduit assembly and into contact with the part within said basin, *a flowpath defined between said basin and said tank through which said fluid flows between said basin and said tank,* and microorganisms within said parts washer, said microorganisms at least partially flowing with and substantially sustained within said fluid, said fluid being non-toxic to said microorganisms, whereby the microorganisms biodegrade the hydrocarbons while retained within said tank.
'835 patent, col. 8, l. 66-col. 9, l. 12; *see also* '491 patent, col. 8, ll. 36-37 ("providing a flowpath for the fluid between the basin and a tank"); '125 patent, col. 10, ll. 1-2 ("providing a flowpath for the fluid between the basin and a tank"); id., col. 10, ll. 40-41 ("providing a flowpath for the fluid between the basin and a tank");
In all of these claims, the parties dispute whether the term "flowpath," standing alone, requires structure. Plaintiff ChemFree argues that it does not and that the term should be construed simply as "the path taken by the fluid." In contrast, Defendant argues the term does require structure, and thus that "flowpath" should mean "structure establishing a course followed by the fluid from the basin, through the drain in the basin, and then directly into the tank." In the second set of claims-those that do not explicitly recite a "from-to" directional limitation-the parties dispute whether a "flowpath ... between" the basin and tank encompasses bidirectional flow or only the flow of fluid from the basin to the tank. Plaintiff argues that the absence of directional language contemplates a bidirectional flow-i.e., the flow of cleaning fluid either from the basin to the tank or from the tank to the basin. Defendant argues that "between" when associated with "flowpath" should encompass only the flow of fluid from the basin to the tank.

The Court addresses whether "flowpath" is bidirectional, the more difficult issue, first.FN2 The claims, regardless of whether they explicitly contain language indicating a direction of flow, make clear that the Applicant regarded the flow of fluid from the tank to the basin to be distinct from the flow of fluid from the basin to the tank. In order to deliver cleaning fluid from the tank to the basin to wash a part, the Applicant contemplated and claimed a pump and conduit arrangement. In order to return the cleaning fluid and hydrocarbons removed from the part to the tank, the Applicant contemplated and claimed only a "flowpath," which allows the fluid to flow via gravity through one or more drain holes in the bottom of the basin. For example, claim 1 of the ' 110 patent recites "a pump and conduit assembly for pumping the fluid from the

tank" and "a flowpath defined between the basin and the tank through which the fluid flows from the basin back to the tank." The Applicant's choice of language confirms that it intended the path for delivery of the fluid to be separate from the path for draining the fluid. In other words, it reveals the Applicant regarded "flowpath" as "the path taken by the fluid from the basin to the tank," not as a general purpose word to describe the path of the cleaning fluid wherever it may flow.

FN2. The parties first raised this issue at the *Markman* hearing. Thus, the Court construes it without the benefit of detailed briefing.

Notably, the same dichotomy is present in claims where there is no explicit recitation of a direction of flow. For example, claim 5 of the '835 patent recites "a pump for pumping said fluid from said tank through said conduit assembly" and "a flowpath defined between said basin and said tank through which said fluid flows between said basin and said tank." Although the "flowpath" language does not contain an explicit unidirectional limitation, it is clear from the recitation of both a "conduit assembly" and a "flowpath" that the Applicant intends the "flowpath" portion of the claim to accomplish only the returning of the fluid to the tank. Otherwise, reference to the conduit assembly would be redundant.

The same result obtains in claims that expressly recite a non-directional flowpath standing alone. Claims 12 and 22 of the '125 patent and claim 1 of the '491 patent recite "a flowpath for the fluid between the basin and [the] tank." These claims do not, however, impose a direction of flow limitation or contain a complementary "conduit assembly" limitation.FN3 Generally speaking, a "claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent." Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed.Cir.2001). As discussed above, the "flowpath" recited in claim 1 of the ' 125 patent-which contains both a unidirectional limitation and a complementary "conduit assembly" limitation-clearly and unambiguously refers to the path taken by the cleaning fluid from the basin to the tank. Plaintiff has presented no persuasive reason why the "flowpath" limitation in claims 12 and 22 of the same patent (which are materially identical to claim 1 of the ' 491 patent) should be construed any differently.

FN3. Notably, each of these claims does contain an "exposing the part to a [cleaning] fluid" limitation that appears to take the place of the "conduit assembly" limitation.

It is evident that the Applicant consistently, among all patents, used the word "flowpath" to refer to the draining of the fluid from the basin. It is worth noting that Plaintiff initially argued as much in its claim construction briefing: "[A]fter a part is washed, the cleaning fluid flows back down to the tank. *The path taken by the cleaning fluid as it returns to the tank is referred to consistently throughout the claims as the 'flowpath*.' " (Pl.'s Opening Claim Construction Brief [hereinafter "Opening Brief"] at 21 (emphasis added).) In that briefing Plaintiff also attempted to dispel any notion that "flowpath" may carry a different meaning depending upon the claim in which it appeared: "All of the patents that contain flowpath and flowpath positioning terms share a common specification. *Use of the term 'flowpath' is consistent between all four patents*." FN4 (Id. at 22 (emphasis added).)

FN4. Based upon comments made at the *Markman* hearing, Plaintiff's change of position is an obvious attempt to expand the scope of the claims to read upon a device it discovered after claim construction briefing was complete.

The specification common to these four patents also supports this construction of the "flowpath" terms. Although the specification does not explicitly use the term "flowpath," it does make several informative disclosures related to the general flow of cleaning fluid in the parts washers, both from the tank to the basin as well as from the basin to the tank. These teachings include:

The tank is partially filled with the cleaning fluid and a pump and conduit assembly direct a flow of the cleaning fluid to the basin. The cleaning fluid discharged into the basin flows through a drain hole in the false bottom, through the filter and support grid, and then through a drain hole defined through the bottom panel of the sink member and cleaning fluid is then returned to the tank for reuse.

'110 patent, col. 2, ll. 6-13.FN5

FN5. Except when discussing terms found exclusively in the '226 patent, for ease of reference the Court will generally cite to the specification of the '110 patent.

When the pump 73 is operating, it draws the cleaning fluid 72 from the bottom region of the tank cavity 44 and discharges the cleaning fluid 72 into a conduit 74. The conduit 74 is connected to and discharges into a base (not shown) of the faucet 24, whereby the fluid discharges from the nozzle 26.
Id., col. 4, ll. 22-27.
[I]n operation, the pump 73, conduit 74, and faucet 24 circulate cleaning fluid 72 from the depths of the tank cavity 44 to the basin cavity 18 where parts cleaning takes place.... In accordance with one method of the present invention, cleaning fluid 72 flows out of the nozzle 26 and the part being washed is oriented within the stream of cleaning fluid 72 exiting the nozzle 26. The cleaning fluid 72 removes organic waste from the part being washed, and then the cleaning fluid 72, along with the organic waste and any small particulate washed from the part, flows by gravity through the drain hole 64 and the strainer (not shown) associated therewith. The strainer will, of course, keep certain objects from passing through the drain hole 64. The cleaning fluid 72, organic waste, and remaining particulate matter then encounter the filter pad 60. Subsequently, the fluid 72 and organic contaminants pass through the support grid 58, and drain hole 52 to deposit into the tank cavity 44.

Id., col. 6, ll. 32-51.
These disclosures reveal that the Applicant intended for distinct language to govern the two types of flow. As succinctly put by Plaintiff in its Opening Brief,

The specification uses different language to describe: (i) the movement of the cleaning fluid from the tank to the basin *before* the part is cleaned; and (ii) movement of the cleaning fluid from the basin back to the tank *after* the part is cleaned.... During the ascent, the fluid travels through a *conduit*. In contrast, during the descent, the fluid travels in accordance with a *flowpath*.

(Pl.'s Opening Brief at 24.)

The Court thus determines that "flowpath ... between" the basin and tank does not encompass bidirectional flow, but only the flow of fluid from the basin to the tank.

The second, and easier, question relates to whether the "flowpath" terms must be construed by reference to structure. Defendant insists "[t]he ordinary meaning of the disputed phrases in these claims is 'structure establishing a course followed by the fluid from the basin, through the drain in the basin, and then directly into the tank.' " (*E.g.,* Def.'s Opening Brief at 18.) Defendant's argument is not clear, but it appears to construe the claim by reference to the preferred embodiment discussed in the specification. As seen from the specification excerpts dealing with the flow of cleaning fluid, as well as from the Court's discussion of the nature of the "flowpath," it is clear that the "flowpath" is simply the path taken by the fluid as it returns to the tank after it is used to wash a part in the basin. Nowhere in the intrinsic or extrinsic evidence does is it indicate a structural limitation is required. Nor does the specification impose any artificial constraints requiring a construction where the "flowpath" begins at the drain in the basin and ends at some point immediately thereafter. Thus, the Court declines to impose these arbitrary limitations.

For the reasons discussed above, the Court construes the "flowpath" and "flowpath ... between" terms to mean "the path taken by the cleaning fluid from the basin to the tank."

2. "providing a flowpath"

Claim 1 of the '491 patent recites similar flowpath language but recites it in the form of "[a] method of cleaning hydrocarbons from a part in a parts washer ... including the step[ ] of ... providing a flowpath for the fluid between the basin and a tank." With respect to this instance of the "flowpath" term, Defendant argues the Court should construe the limitation as a step-plus-function limitation under 35 U.S.C. s. 112, para. 6. As a result, Defendant contends the phrase must be "limited to methods for providing a flowpath for the fluid between the basin and the tank, using the acts disclosed in the ' 491 patent, or equivalents thereof...." (Def.'s Opening Brief at 21.)

Section 112, para. 6 permits a patent applicant to claim his invention in "means-plus-function" or "step-plus-function" format:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

35 U.S.C. s. 112, para. 6. When the language of the claim uses the introduction "step of," instead of "step for," a presumption arises that the claim does not trigger step-plus-function treatment:

Method claims necessarily recite the steps of the method, and the preamble words that "the method comprises the steps of" do not automatically convert each ensuing step into the form of s. 112 para. 6. Nor does the preamble usage "steps of" create a presumption that each ensuing step is in step-plus-function form; to the contrary, the absence of the signal "step for" creates the contrary presumption.

Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 381 F.3d 1371, 1382 (Fed.Cir.2007). The Federal Circuit has cautioned district courts to tread carefully when invoking the step-plus-function doctrine:

Where the claim drafter has not signaled his intent to invoke s. 112, paragraph 6 by using the "step[s] for" language, we are unwilling to resort to that provision to constrain the scope of coverage of a claim limitation without a showing that the limitation contains nothing that can be construed as an act.

Masco Corp. v. United States, 303 F.3d 1316, 1327 (Fed.Cir.2002); *see also id*. ("[C]ourts must be cautious before adopting changes that disrupt the settled expectations of the inventing community.") (citing Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 739, 122 S.Ct. 1831, 1834 (2002)).

Claim 1 of the '491 patent recites "[a] method of cleaning hydrocarbons from a part using a parts washer, the method including the *step[ ] of* ... providing a flowpath for the fluid between the basin and a tank...." Because the Applicant signaled his intent not to invoke 35 U.S.C. s. 112, para. 6 by using "step of" instead of "step for," a presumption arises that the claim is not in step-plus-function format. Thus, the Court will not construe the claim as such unless "the limitation contains nothing that can be construed as an act." Masco, 303 F.3d at 1327.

The issue is thus whether "providing a flowpath" can be construed as an act. Judge Rader has noted "[t]he difficulty of distinguishing acts from functions in step-plus-function claim elements": "method claim elements often recite phrases susceptible to interpretation as either a function or as an act for performing a function. Both acts and functions are often stated using verbs ending in 'ing.' " Seal-Flex, Inc. v. Athletic Track and Court Constr., 172 F.3d 836, 848, 849 (Fed.Cir.1999) (Rader, J., concurring). The Court is not without guidance, however, in distinguishing between acts and functions:

In general terms, the "underlying function" of a method claim element corresponds to *what* that element ultimately accomplishes in relationship to what the other elements of the claim and the claim as a whole accomplish. "Acts," on the other hand, correspond to *how* the function is accomplished. Therefore, claim interpretation focuses on what the claim limitation accomplishes, i.e., its underlying function, in relation to what is accomplished by the other limitations and the claim as a whole.

Id. at 849-50.

Claim 1 of the '491 patent is directed primarily to the biodegradation aspect of the parts washing patents. The claim recites, *inter alia,* the steps of "exposing" the part to the cleaning fluid in the basin, "providing a flowpath" between the basin and the tank, and "biodegrading" the grease and oil in the tank. The underlying function of the "providing a flowpath" limitation, in view of what the other steps of the claim accomplish, is the transportation of the oil and grease from the basin where it is washed off a part to the tank where biodegradation takes place. *How* that function is accomplished is "providing a flowpath between the basin and [the] tank."

Because "providing a flowpath" can be construed as an act, the claim element is not subject to s. 112, para. 6. Accordingly, the Court construes the phrase to mean "supplying a flowpath," or "supplying a path to be taken by the cleaning fluid from the basin to the tank."

3. "filter," "porous medium," "interposing," "positioning"

In certain embodiments of the invention, the patents-in-suit contemplate a "filter" being "positioned" or "interposed" in the flowpath. For example, claim 8 of the '835 patent recites a parts washing system wherein the "parts washer further includ[es] a filter interposed within [the] flowpath." '835 patent, col. 9, ll. 21-22; *see also* id., col. 10, ll. 3-4 (same); '125 patent, col. 9, ll. 11-12 ("the step of[ ] positioning a filter within the flowpath"); id., col. 10, ll. 33-34 ("the step of interposing a filter within the flowpath"). In the separately prosecuted '226 patent, the Applicant placed a similar limitation on the parts washing method. Claim 1 of

that patent recites a method of washing parts, including a step of "passing the cleaning fluid that has contacted the part through a porous medium." '226 patent, col. 10, ll. 27-28. At the *Markman* hearing, the parties agreed that "filter" and "porous medium" were equivalent terms. Thus, the Court will construe "filter" with the understanding that "porous medium" shall have the same construction.

Plaintiff argues the "filter" terms should be construed as "a porous material through which a liquid is passed in order to separate the fluid from suspended particulate matter." Defendant argues the terms should mean "a webbed and/or woven material having a spacing of 10 or more microns positioned between the drain and the tank in the course followed by the fluid from the drain to the tank." Defendant also makes several arguments that relate to its position that the flowpath must be defined by reference to structure.

The specification describes the filter pad as serving as a mechanical filter.FN6 Its purpose is to trap particulate matter while allowing the hydrocarbons and microorganisms to pass through and deposit in the tank so that biodegradation may take place. *See, e.g.,* ' 110 patent, col. 6, ll. 55-57 ("The filter pad 60 preferably functions to trap the particulate matter and allow the organic contaminants and cleaning fluid 72 to pass therethrough."); *see also* id., col. 6, ll. 47-51 ("The cleaning fluid 72, organic waste, and remaining particulate matter then encounter the filter pad 60. Subsequently, the fluid 72 and organic contaminants pass through the support grid 58, and drain hole 52 to deposit into the tank cavity 44."); id., col. 4, ll. 63-66 ("The microorganisms ... readily pass through the filter pad 60."); id., at col. 6, ll. 57-59 ("Because the filter pad 60 does not collect the organic contaminant, it is capable of being disposed of as a solid waste.").

FN6. The specification also explains that the filter may serve "as an initial transport medium for the microorganisms," *see generally* '110 patent, col. 5, ll. 23-64, but this feature of the filter pad is not at issue.

Any construction of filter must take into account these dual purposes. The parties would generally agree with this proposition (*see* Pl.'s Opening Brief at 31 ("[T]he Court should construe 'filter' and 'porous medium' broadly to encompass all known types and structures of filters as long as they: (i) allow the cleaning fluid, microorganisms, and hydrocarbons to pass through; and otherwise (ii) trap 'particulate' matter.") (internal footnote omitted)), but Defendant seeks to impose additional limitations to serve these objects. Namely, Defendant requests the Court restrict the "filter" terms to "a webbed and/or woven material having a spacing of 10 or more microns." These proposed limitations come not from the claims, but directly from the specification's description of the preferred embodiment. *See* '110 patent, col. 5, 26-31 ("The filter pad 60 is acceptably constructed, for example and not limitation, from cotton, cellulose, polyolefin fibers, polyester fibers, fiberglass, or the like.... Further, the filter pad 60 is acceptably a ten micron filter or larger."). Examples set forth in the specification may not be used to narrow the scope of the claims, unless the Applicant intends the claims and the preferred embodiment to be "strictly coextensive." Phillips, 415 F.3d at 1323; *see also Vulcan Eng'g,* 278 F.3d at 1376 ("This court has often explained that the claims are construed in light of the specification, and are not limited to a designated 'preferred embodiment' unless that embodiment is in fact the entire invention presented by the patentee.").

It is apparent that the materials discussed in the specification, on which Defendant relies in arguing for these further limitations, are merely examples of materials that would effectuate the purposes of the filter and were not intended to constrain the claims. Thus, the Court declines to import the proposed limitations into the claims. The Court construes "filter" to mean "a porous material through which the cleaning fluid is passed in order to trap particulate matter while allowing the cleaning fluid, hydrocarbons, and microorganisms to pass through."

The Court has previously rejected Defendant's argument regarding the requirement of structure and does so here as well. The claim phrases related to "interposing" or "positioning" a filter in the flowpath carry their plain and ordinary meaning and are thus construed to mean "placing a filter in the flowpath."

B. Terms related to heating and temperature control

One feature of the patents-in-suit is the use of microorganisms to biodegrade grease and oil. The specification teaches that the cleaning fluid should be maintained at an optimal temperature range in the tank in order to support the life and metabolic activity of the microorganisms. According to the specification, a heater is used to maintain the cleaning fluid at the optimal temperature. The terms in this category present several issues. First, the parties dispute whether the claimed "heater [that] is constructed and arranged to add heat to the fluid while the fluid is disposed within the tank" should be limited to the specific heater identified in the specification. Second, the parties dispute whether "the step of" "heating the fluid within the tank" is subject to 35 U.S.C. s. 112, para. 6, and thus is limited to the acts for heating (and equivalents thereof) disclosed in the specification. Similarly, the parties dispute whether the "step of" "measuring the temperature of the fluid, wherein the heating step is responsive to the step of measuring the temperature" is subject to s. 112, para. 6, and thus is limited to the acts for measuring and controlling the temperature (and equivalents thereof) disclosed in the specification.

1. "heater is constructed and arranged to add heat to the fluid while the fluid is disposed within the tank"

Claim 5 of the '110 patent recites a system for cleaning hydrocarbons from a part "wherein the heater is constructed and arranged to add heat to the fluid while the fluid is disposed within the tank." '110 patent, col. 8, ll. 52-54. Plaintiff argues the phrase should be construed to mean "an apparatus that heats or provides heat and that is assembled and ordered to make the fluid that is in the tank warmer." Defendant contends this element should be construed as "an electric heating element that extends from the control panel into the depths of the tank, which is constructed and arranged to add heat to the fluid while the fluid is disposed within the tank." In essence, Defendant seeks to limit this element to the specific heater disclosed in the specification.

The specification explains that it is beneficial to maintain the cleaning fluid at a certain temperature in order to maintain viability of the microorganisms and to facilitate biodegradation. *See* id., col. 7, ll. 45-47 ("The cleaning fluid 72 is preferably maintained in a temperature range which supports the lives of the particular microorganisms employed within the parts washer 10.") Thus, the specification discusses the use of a heater and thermostat in order to maintain an optimal temperature range. *See generally* id., col. 7, ll. 36-56. With respect to the heater itself, the specification teaches that "the heater 76 is acceptably in the form of an electric heating element that extends from the control panel 30 into the depths of the tank cavity 44." Id., col. 4, ll. 32-34.

The claim language requires only that the heater warm the fluid while it is in the tank; it does not require that any particular kind of structure be employed to do so. Nor does the specification suggest that a particular kind of heater is required to heat the fluid. Though the specification reveals a heater in the form of an electric heating element extending from the control panel, it is clearly disclosed in the context of explaining a preferred embodiment. It is apparent from the claims and the specification that the Applicant did not intend to limit his claims narrowly to the specific heater discussed in the specification, and thus it is entitled to all forms of heaters which "add heat to the fluid while the fluid is disposed within the tank." *See* Phillips, 415 F.3d at 1323 ("Much of the time, upon reading the specification in ... context, it will become

clear whether the patentee is setting out specific examples of the invention ..., or whether the patentee intends for the claims and the embodiments to be strictly coextensive.")

The Court construes "the heater is constructed and arranged to add heat to the fluid while the fluid is disposed within the tank" as "the heater warms the cleaning fluid while the cleaning fluid is in the tank."

2. "step of heating fluid within the tank"

As discussed above, the specification teaches that the temperature of the fluid should be maintained at a certain range in order to optimize the biodegradation process and to maintain viability of the microorganisms. Claim 4 of the '491 patent thus recites a method of cleaning hydrocarbons from a part "wherein the heating step includes a step of heating fluid within the tank." '491 patent, col. 8, ll. 52-53. Similarly, claim 16 of the '125 patent recites a method of cleaning hydrocarbons from a part "wherein the heating step includes a step of heating the fluid within the tank." '125 patent, col. 10, ll. 19-20.

Plaintiff argues that the plain and ordinary meaning of this language should control. Defendant argues these limitations are step-plus-function limitations under s. 112, para. 6 and thus are limited to the acts disclosed in the specification-namely, "keeping the temperature of the fluid within a certain range by using an electric heating element that extends from the control panel into the depths of the tank." (Def.'s Opening Brief at 47.)

The Court first rejects Defendant's argument that s. 112, para. 6 applies to these claims. Where a claim recites a "step of" accomplishing something, s. 112, para. 6 will not be invoked to constrain claim coverage unless "the limitation contains nothing that can be construed as an act." Masco Corp. v. U.S., 303 F.3d 1316, 1327 (Fed.Cir.2002); *see supra* Section III.A.2. (discussing step-plus-function doctrine). As seen from the overall context of this limitation, its "underlying function" is to raise the fluid to a desirable temperature so that biodegradation will be optimized. The "step of heating" is plainly an act, because that is how the underlying function is accomplished.

"Heating" the fluid simply means to make the fluid warmer. *Merriam-Webster's Collegiate Dictionary* 535 (10th ed.2001) ("to make warm or hot"). However, the language of the claims themselves, as well as reading the claims in context with the claims upon which they depend (*see* '125 patent, col. 10, ll. 10-11 (reciting only "heating the fluid"); '491 patent, col. 8, ll. 40 (same)), requires the fluid be warmed while it is "disposed within the tank." Thus, the Court construes "heating the fluid within the tank" in the disputed claims as "making the cleaning fluid warmer while the cleaning fluid is in the tank."

3. "step of measuring the temperature of the fluid, wherein the heating step is responsive to the step of measuring the temperature"

The last claim term at issue involves the recitation in claim 6 of the '491 patent and claim 18 of the '125 patent of the "step of measuring the temperature of the fluid, wherein the heating step is responsive to the step of measuring the temperature." '491 patent, col. 8, ll. 57-60; '125 patent, col. 10, ll. 24-27. Plaintiff argues that this phrase should be construed as "ascertaining the temperature of the fluid, wherein the heating step responds or reacts to ascertainment of the temperature of the fluid." Defendant suggests that these are step-plus-function limitations under s. 112, para. 6 and that they should accordingly be construed to cover the acts disclosed in the specification, i.e., "a thermostat that works in conjunction with the control panel to turn the heater on and off so as to keep the fluid between a desired temperature range." FN7

FN7. Defendant initially made a similar argument with respect to the similar limitation in claims 17 and 19 of the '125 patent of "a step of measuring the level of the fluid, wherein the heating step is responsive to the step of measuring the level," but dropped its position prior to the *Markman* hearing. It is unclear why Defendant contends step-plus-function is applicable here but not in those claim elements.

The specification teaches that in order to control the temperature of the cleaning fluid, the control system must first determine the temperature of the cleaning fluid in the tank. If the temperature of the cleaning fluid is too low, the heater is engaged to make the fluid warmer. '110 patent, col. 7, ll. 40-42. If, on the other hand, the temperature is at or above the proper temperature, the heater is not engaged. Id., col. 7, ll. 42-45.

The Applicant's use of the "step of" language invokes a presumption that the claim is not drafted in step-plus-function format. Cardiac Pacemakers, 381 F.3d at 1382. Thus, the Court will construe the claim as step-plus-function-and limit the scope of the claim to the acts disclosed in the specification (and equivalents thereof)-only if "the limitation contains nothing that can be construed as an act." Masco, 303 F.3d at 1327.

The "step of measuring the temperature of the fluid" in these claims is an act. The "underlying function" of the limitation, when read in context with what is accomplished by the claim as a whole, is the determination of the temperature so that the heater may be controlled. In other words, the determination of whether the heater must be engaged to warm the fluid must begin with a determination of whether the fluid needs to be warmed. This, in turn, requires that the temperature of the fluid be known. Hence, the claims recite a "step of measuring the temperature," which is *how* the temperature is ascertained or determined. The limitation's recitation of an act thus precludes application of s. 112, para. 6.

Aside from its step-plus-function argument, Defendant has presented no reason why these claim phrases should not carry their plain and ordinary meanings. The Court construes "measuring the temperature of the fluid, wherein the heating step is responsive to the step of measuring the temperature" as "determining the temperature of the cleaning fluid, wherein the heating step reacts or is responsive to such temperature determination."

C. Terms related to biodegradation in the tank

After a part is washed in the basin of the parts washer, the cleaning fluid is returned to the tank along with the grease and oil removed from the part. One feature of the parts washing patents is to utilize microorganisms in the cleaning fluid in the tank to biodegrade these hydrocarbons. As the microorganisms eat the hydrocarbons, the larger, more complex hydrocarbon molecules are converted into smaller, less complex molecules, so that the grease and oil are eventually eliminated. The claim terms in this category present two issues. First, the parties dispute whether the claims in the ' 125 patent which recite "allowing" or "retaining" microorganisms in the cleaning fluid for biodegradation require that biodegradation take place at or near the top of the tank. In addition, the parties dispute the definition of the term "substantial."

1. "allowing," "retaining"

In claims 1 and 6 of the '125 patent, the parties dispute the meaning of two phrases related to the biodegradation process. For example, claim 1 recites:

1. A method of removing hydrocarbons from a part and disposing of the hydrocarbons, the method comprising the steps of:

suspending, in a biodegradable, non-caustic, non-flammable, oil dispersant, cleaning and degreasing fluid, microorganisms to which the fluid is non-toxic;

providing a parts washer having at least a basin for receiving the part and a tank below the basin for containing the fluid;

bringing the part into contact with the fluid containing the microorganisms;

allowing the fluid to remove the hydrocarbons from the part and flow into the tank; and

allowing the microorganisms within the fluid to biodegrade the hydrocarbons.

'125 patent, col. 8, ll. 28-42; *see also* id., col. 8, l. 63-col. 9, l. 10 ("retaining the hydrocarbons within the fluid in the tank while the microorganisms biodegrade the hydrocarbons").

Plaintiff ChemFree argues that no construction is necessary because the meaning of these disputed phrases is obvious; the first phrase means to "let or permit the microorganisms within the fluid to chemically decompose the hydrocarbons" and the second means that "the hydrocarbons remain in the fluid that is in the tank while the microorganisms chemically decompose them." In contrast, Defendant seeks to impose a limitation on these claims-as well as every other claim involving biodegradation in the parts washing patents-that would require biodegradation to take place at or near the top of the fluid in the tank. Thus, Defendant suggests that "allowing the microorganisms within the fluid to biodegrade the hydrocarbons" should mean "placing the bacteria in close proximity to the hydrocarbons floating at the top of the fluid so that the bacteria can break down the hydrocarbons into predominantly environmentally safe by-products." Similarly, they argue that "retaining the hydrocarbons within the fluid in the tank while the microorganisms biodegrade the hydrocarbons" should mean "allowing the bacteria to break down the hydrocarbons into predominantly environmentally safe by-products at a location that is at the top of the fluid in the tank."

J. Walter's position is based primarily upon its theory that Plaintiff ChemFree, during prosecution of the '491 patent, disclaimed biodegradation that takes place anywhere other than the top of the tank. (Def.'s Opening Brief at 59-60 ("The prosecution history ... mandates that the disputed phrase be construed as ensuring the bioremediation occurs at the top of the cleaning fluid."); id. at 62-63 ("[A]ll the patents that claim bioremediation of the grease and oil washed from a part are restricted to an embodiment wherein a substantial amount of the biodegradation takes place proximate to the fluid surface.") (emphasis omitted).)

The Court begins with the language of the claims themselves, which generally "provide[s] substantial guidance as to the meaning of particular claim terms." Phillips, 415 F.3d at 1314. As seen from the text of claims 1 and 6, neither of the claim phrases at issue either explicitly or implicitly require that biodegradation take place at the surface of the fluid. Instead, both claims merely recite that the biodegradation take place "within the fluid [in the tank]." Notably, when the Applicant desired to limit its invention to an embodiment where biodegradation takes place at the surface of the fluid, it knew how to do so. For example, claim 3 of the '110 patent recites a parts washing system "wherein [a] substantial portion of the microorganisms and hydrocarbons accumulate proximate to said fluid surface such that a substantial amount of biodegradation takes place proximate to said fluid surface." The presence of such a limitation there and not in these claims suggests they should not be so-limited.

Defendant also points to language in the specification in support of their position that all embodiments should be limited to biodegradation taking place at or near the surface of the fluid. The portion of the specification cited teaches that:

[T]he fluid 72 and organic contaminants pass through the support grid 58, and drain hole 52 to deposit into the tank cavity 44.... Within the tank cavity 44, a large percentage of the microorganisms and organic contaminants will tend to accumulate proximate to the surface of the cleaning fluid 72 such that a large portion of the biodegradation takes place proximate to the surface of the cleaning fluid 72.

'110 patent, col. 6, l. 49-col. 7, l. 3. The parties do not dispute that, generally speaking, oil and grease, if left undisturbed, will float on top of the cleaning fluid. The specification merely discusses this phenomenon in the context of explaining a preferred embodiment of the invention. Nowhere, however, does the Applicant's disclosure indicate that it intended to limit the invention to embodiments where a substantial amount of the biodegradation takes place at the surface of the fluid. *Cf.* Phillips, 415 F.3d at 1323 ("Much of the time, upon reading the specification in that context, it will become clear whether the patentee is setting out specific examples of the invention ..., or whether the patentee intends for the claims and the embodiments to be strictly coextensive."). It would be inappropriate to import the limitation into these claims due to the Applicant's discussion of a natural phenomenon that "tend[s] to" happen.

J. Walter's primary argument with regard to its proposed construction is that ChemFree, during prosecution of the '491 patent, made a representation that serves to limit all embodiments in all patents stemming from the '902 application to an embodiment where the bioremediation, or a substantial portion thereof, takes place at the fluid surface. (Def.'s Opening Brief at 62-63 ("Applicants' characterization of the scope of the invention during prosecution limits the scope of all the patents-in-suit to the same extent-all the patents that claim bioremediation of the grease and oil washed from a part are restricted to an embodiment wherein a *substantial amount of the biodegradation takes place proximate to the fluid surface*.").) To be clear, J. Walter seeks to impose a limitation on the claims in the '125 patent based not on representations made during prosecution of that patent, but on representations made during prosecution of its sibling '491 patent.

During prosecution of the '491 patent, the Examiner initially rejected all pending claims as obvious over three prior art references. '491 Patent File History, Examiner's First Office Action at 2 (mailed July 19, 1996). In response to the Examiner's rejection, the Applicant cancelled independent claim 23 and amended remaining independent claims 26 and 35. Id., Applicant's Resp. to First Office Action at 1-3 (filed Dec. 22, 1997). With respect to claim 35, which eventually issued as the only independent claim of the '491 patent, the Applicant added two limitations to the claimed method for cleaning parts: "accumulating the microorganisms and the hydrocarbons adjacent a fluid surface defined by the fluid in the tank[ ] and biodegrading the hydrocarbons proximate to the fluid surface." Id. at 2-3. These limitations appear in the claim as issued. *See* '491 patent, col. 8, ll. 41-45. In connection with the amendment, the Applicant argued in the "remarks" portion of the response as follows:

The method of cleaning hydrocarbons from a part in the parts washer, as recited in claims 35-41, as now amended, includes exposing the part to a fluid within the basin and providing a flowpath for the fluid between the basin and the tank, wherein microorganisms are disposed within the parts washer, and the improvement thereto comprises heating the fluid, *accumulating microorganisms and the hydrocarbons adjacent a fluid surface defined by the fluid in the tank, and then biodegrading hydrocarbons proximate to the fluid surface*.

Such an improved construction of a parts washing system and method for cleaning hydrocarbons from a part are not believed to be taught by the cited art of record.

* * * FN8

FN8. In the portion omitted, the Applicant discusses in detail why the references cited by the Examiner do not render the claimed invention obvious.

In addition, even if the cited references were modified as stated by the Examiner, Applicant respectfully submits that such a combination still would not make the invention recited by the claims, as now amended, obvious. *As recited* in claims 23 [FN9] and 35-41, as now amended, the fluid defines a surface in the tank and *a substantial portion of the microorganisms and hydrocarbons washed from the part tend to accumulate proximate to the fluid surface so that a substantial amount of the biodegradation takes place proximate to the fluid surface*. Such a feature is not taught by the cited references.
FN9. It is unclear why the Applicant's first amendment refers to claim 23 since that document expressly cancels that claim and thus shows no amendment thereto. '491 Patent File History, Applicant's Response to First Office Action at 1 (filed Dec. 22, 1997).

'491 Patent File History, Applicant's Resp. to First Office Action at 8 (filed Dec. 22, 1997) (emphases added).

J. Walter argues this amendment (and accompanying argument) " 'unambiguously reflects' [the Applicant's] understanding of the invention in all the related-and asserted-patents." (Def.'s Opening Brief at 62.) This understanding, it asserts, "limits the scope of all the patents-in-suit to the same extent-all the patents that claim bioremediation of the grease and oil washed from a part are restricted to an embodiment wherein a substantial amount of the biodegradation takes place proximate to the fluid surface." (Id. at 62-63.) For this proposition, J. Walter relies upon Microsoft Corp. v. Multi-Tech Systems, Inc., 357 F.3d 1340 (Fed.Cir.2004). As will be seen below, J. Walter's reliance on *Microsoft* is misplaced.

In *Microsoft v. Multi-Tech Systems, Inc.,* Multi-Tech sued Net2Phone, Inc. for infringement of several patents related to computer-based systems and methods for simultaneously transmitting voice and/or data to a remote site. Microsoft, 357 F.3d at 1344. In response to Multi-Tech's lawsuit, Microsoft filed suit in the same court seeking a declaratory judgment of noninfringement, invalidity, and unenforceability of seven of Multi-Tech's patents. *Id*. Multi-Tech filed a counterclaim against Microsoft alleging infringement of five of its patents. *Id*. The dispute among the parties centered in large part over the construction of three terms: "sending," "transmitting," and "receiving" certain types of data. Microsoft and Net2Phone, the accused infringers, argued that the specification and prosecution history mandated that Multi-Tech's claims be limited to systems using point-to-point telephone lines. *Id*. at 1346. Multi-Tech argued that the claim language was broad enough to encompass communications over a packet-switched network, such as the Internet. *Id*.

The Federal Circuit agreed with Microsoft and Net2Phone that the "sending," "transmitting," and "receiving" limitations at issue should be "limited to communications over a telephone line and excluding the use of a packet-switched network." *Id*. The court first looked to the claims themselves and determined that the language used did not operate to limit the scope of the claims to point-to-point telephone lines

because it was broad enough to encompass packet-switched networks. *Id*. at 1347. Nevertheless, the court concluded that "the specification shared by all three patents leads to the 'inescapable conclusion' that the communications between the local and remote sites of the claimed inventions must occur directly over a telephone line." *Id*. at 1348. The court's conclusion was based on several important facts. The court noted that the specification common to the three patents "repeatedly and consistently describes the local and remote systems of the claimed inventions as communicating directly over a telephone line." *Id.; cf. id*. ("[T]he specification refers to data transmission 'over' or 'through' a telephone line roughly two dozen times."). The court also found important that the portion of the specification delineating the "Summary of the Invention" discussed the invention in terms of a standard telephone line. *Id*. These "clear statements in the specification that the invention ... is directed to communications 'over a standard telephone line' " led the Federal Circuit to conclude that the "sending," "transmitting," and "receiving" required the communications to occur over a telephone line and not a packet-switched network. *Id*. at 1347-48.

The Federal Circuit also concluded that placing the telephone line limitation on these claims was required by the prosecution history. During prosecution of one of the patents at issue in that case, in response to an office action rejecting the claims as obvious, the applicant gave a "summary of the invention," which included a representation that the communications system disclosed in the specification "operates over a standard telephone line." *Id*. at 1349. The court determined that this statement "makes clear that Multi-Tech viewed the local and remote sites of its inventions as communicating directly over a telephone line." *Id*. Importantly, the court also determined that this limiting statement was applicable to all patents which shared the common specification, even though those patents were not before the examiner when the statement was made, because the general statement directed to the " 'communications system' disclosed '[i]n the[ ] specification' ... was a representation of [the applicant's] understanding of the inventions disclosed in all three patents." *Id*. at 1349-50.

Defendant's reliance on *Microsoft* in this case is misplaced. Neither the common specification shared by the parts washing patents nor the prosecution history of any one of those patents support limiting all embodiments in all patents to biodegradation taking place at or near the fluid surface. As discussed above, the only reference in the specification to the biodegradation occurring at the fluid surface is the disclosure that "a large percentage of the microorganisms and the organic contaminants will tend to accumulate proximate to the surface of the cleaning fluid 72 such that a large portion of the biodegradation takes place proximate to the surface of the cleaning fluid 72." '110 patent, col. 6, l. 49-col. 7, l. 3. This solitary generalization is a far cry from the "repeated[ ] and consistent[ ]" representations in the specification in *Microsoft,* including the statement in the "Summary of the Invention," which led the Federal Circuit to the " 'inescapable conclusion' that the communications ... must occur directly over a telephone line." *Id*. at 1348.

Defendant J. Walter also relies upon the statement made by the Applicant in the prosecution history that "a substantial portion of the microorganisms and hydrocarbons washed from the part tend to accumulate proximate to the fluid surface so that a substantial amount of the biodegradation takes place proximate to the fluid surface. Such a feature is not taught by the cited references." This statement, devoid of context, is surely damning evidence that the invention being discussed must be limited to an embodiment where a substantial portion of biodegradation takes place at the fluid surface. J. Walter does not, however, acknowledge the context in which the statement was made. When the it made this argument to the Examiner, the Applicant specifically referred to the pending claims which explicitly recited those limitations. *See* '491 Patent File History, Applicant's Resp. to First Office Action at 8 (filed Dec. 22, 1997) ("As recited in claims ... 35-41, as now amended ..."). In essence, the Applicant merely recited the language of the claims and stated that the prior art did not teach such an arrangement. Thus, this is not the situation

presented in *Microsoft,* where the statement made during prosecution broadly described the inventions in general as possessing a certain characteristic. Microsoft, 357 F.3d at 1349 ("That statement, which expressly related to the specification shared by all three patents and the communications system disclosed in all three patents, makes clear that Multi-Tech viewed the local and remote sites of its inventions as communicating directly over a telephone line."); *cf.* Ventana Med. Sys., Inc. v. BioGenex Labs., Inc., 473 F.3d 1173, 1184 (Fed.Cir.2006) (noting that "[s]tatements made during the continued prosecution of a sibling application may 'inform the meaning of the claim language by demonstrating how the inventor understood the invention,' " but noting that the utility of such analysis is diminished when the claim language is different).

For these reasons, the Court declines to impose a limitation on these claims whereby biodegradation must occur at or near the top of the tank. The Court construes "allowing the microorganisms within the fluid to biodegrade the hydrocarbons" to mean "let or permit the microorganisms within the cleaning fluid to biodegrade the hydrocarbons." The Court construes "retaining the hydrocarbons within the fluid in the tank while the microorganisms biodegrade the hydrocarbons" to mean "the hydrocarbons remain in the cleaning fluid while the microorganisms biodegrade them."

2. "substantial"

In contrast to the claim phrases construed above, in some instances the Applicant did claim a parts washer configuration where the biodegradation is claimed to occur at or near the surface of the fluid. For example, dependent claim 2 of the '110 patent recites a system for cleaning hydrocarbons from a part "wherein the fluid defines a fluid surface in the tank, and wherein [a] *substantial* portion of the microorganisms live in the fluid proximate to said fluid surface." '110 patent, col. 8, ll. 42-44. Similarly, claim 3 recites "[t]he combination of claim 2, wherein a *substantial* portion of the microorganisms and hydrocarbons accumulate proximate to said fluid surface such that a *substantial* amount of biodegradation takes place proximate to said fluid surface." Id., col. 8, ll. 45-49. In these claims, the parties dispute the meaning of "substantial."

Plaintiff ChemFree argues that the term "substantial" as used in these claims should mean "a part of the whole that is considerable in extent relative to the whole" or "a quantity that is considerable in extent." J. Walter argues that "substantial" should mean a majority, or more than 50%. (*E.g.,* Def.'s Opening Brief at 35 ("Although the term 'substantial portion' has more than one ordinary meaning, it should be construed to mean 'majority' because it is used throughout the entire intrinsic record in a manner consistent with this ordinary meaning.").)

The intrinsic record is unhelpful in discerning a precise meaning of the term. For instance, the specification notes that "a *large percentage* of the microorganisms and organic contaminants will tend to accumulate proximate to the surface of the cleaning fluid 72 such that a *large portion* of the biodegradation takes place proximate to the surface of the cleaning fluid 72." '110 patent, col. 6, l. 66-col. 7, l. 3 (emphases added). Notably, this discussion of biodegradation is made with respect to a preferred embodiment of the invention, which militates against its use in limiting the term. Moreover, these relative terms do little to inform what "substantial" or "large" mean in context with the whole.

Nor does the prosecution history enlighten the meaning of "substantial." In a Preliminary Amendment, made prior to any action by the PTO in that particular application, Applicant added new claims and made the following remarks:

As recited in claims 23 and 31-37, as now amended, the fluid defines a fluid surface in the tank and a

substantial portion of the microorganisms and hydrocarbons washed from the part tend to accumulate proximate to the fluid surface so that a substantial amount of the biodegradation takes place proximate to the fluid surface. Such a feature is not taught by the cited references.

'110 Patent File History, Applicant's Preliminary Amendment at 7. The amendment also states that

[b]y having the biodegradation occur primarily at the fluid surface within the tank, a vapor barrier is created within the tank to minimize evaporation of the cleaning fluid and thus minimize the amount of cleaning fluid that must be replenished.

Id. While these remarks certainly make clear that the Applicant intends the systems in these claims to have a "substantial" amount of biodegradation take place proximate to the fluid surface, they do little to inform the meaning of what a "substantial" amount of microorganisms or biodegradation is.

Despite the words "large" and "primarily" in the specification and prosecution history, nowhere does the intrinsic record of the '110 patent indicate that "substantial" as used therein should have anything other than its plain and ordinary meaning. Certainly, the record does not evidence an intent to redefine the term to mean an amount more than 50%. *Cf.* Phillips 415 F.3d at 1316 ("[O]ur cases recognize that the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs."). If Applicant had intended for substantial to have such meaning, it could have said so, or it could have used an equivalent term-for example, "most" or "almost all."

"Without an express intent to impart a novel meaning to claim terms, an inventor's claim terms take on their ordinary meaning." York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1572 (Fed.Cir.1996); *see also* Phillips 415 F.3d at 1312 ("[T]he words of a claim 'are generally given their ordinary and customary meaning.' ") (citation omitted). Dictionaries are often consulted to determine a term's plain and ordinary meaning. Phillips, 415 F.3d at 1314. The plain and ordinary meaning of "substantial" is a portion or amount that is considerable in quantity. *See Merriam-Webster's Collegiate Dictionary* 1170 (10th ed.2001) ("considerable in quantity: significantly great").

The Court accords "substantial" its plain and ordinary meaning: "a portion or amount that is considerable in quantity." While this definition does not lend itself to numerical exactitude, it is faithful to the term's plain meaning. It will be a question for the factfinder to further delimit the scope of the phrase in determining whether the claim reads upon the accused device or whether a prior art reference invalidates the claim. This analysis may also require expert testimony.

D. Miscellaneous Terms

In the last category, the parties dispute the meaning of "surfactant-based."

1. "surfactant-based"

Claim 1 of the '226 patent recites a method of washing parts which includes a step of using "a cleaning fluid." '226 patent, col. 10, ll. 23-26. Claim 3 of the '226 patent, which is dependent upon Claim 1, describes "[t]he method of claim 1, wherein the cleaning liquid is surfactant-based." Id., col. 10, ll. 42-43. The parties agree that a surfactant is a surface active agent, or a substance that is capable of reducing the surface tension of a liquid in which it is dissolved. They differ, however, on what it means to be "surfactant- *based*."

Plaintiff ChemFree argues it means "the cleaning fluid contains one or more surface active agents." Defendant argues it means that "the cleaning liquid is more than eighty percent surfactant."

As discussed in the specification, prior art parts washers generally used a cleaning fluid composed of mineral spirits solvents to clean parts. Id., col. 1, ll. 19-48. Although using mineral spirits is an effective way to clean parts, there are many drawbacks to its use. Id., col. 1, ll. 28-30. For example, the use of mineral spirits poses safety and health concerns to users of parts washers. Id., col. 1, ll. 31-43. In addition, the use of mineral spirits creates disposal problems due to extensive governmental regulation. Id., col. 1, ll. 43-48. Thus, one of the aims of the parts washing patents, specifically the '226 patent, is to use a cleaning fluid solution that is not based on mineral spirits. Id., col. 1, ll. 58-61 ("There is, therefore, a need in the industry for a system which provides for parts washing and reduces environmental problems associated with mineral spirits as a cleaning (washing) component.").

As opposed to prior art cleaning fluids comprised of mineral spirits, the parts washing patents contemplate using a cleaning fluid solution comprised of surfactants instead. Id., col. 2, ll. 8-9. ("The cleaning fluid includes a surfactant that functions to remove organic waste from the parts being washed."); id., col. 3, ll. 25-26 ("An advantage of the parts washing system is that it does not employ a volatile and flammable cleaning fluid...."). The specification does not, however, indicate that the surfactant portion of the cleaning fluid must constitute a certain portion or percent.FN10 Rather, it merely indicates that surfactants are a substantial or significant ingredient of the contemplated cleaning solution. Id., col. 6, ll. 37-40 ("A suitable cleaning fluid 72, for example, is a mixture of pH neutral emulsifiers and surfactants containing no volatile organic compounds, phosphates, formaldehyde, biocides, or other toxic materials."); *see also* id., col. 2, ll. 8-9 ("The cleaning fluid includes a surfactant that functions to remove organic waste from the parts being washed.").

FN10. Nor has J. Walter attempted to explain where its 80% figure comes from, other than to argue it is the "common and ordinary meaning" of the term.

Instead of some kind of numerical quantification, it appears from the claims and specification that when the Applicant uses the phrase "surfactant-based," it is used in the sense that the cleaning fluid's active ingredient for cleaning and degreasing is a surfactant solution instead of a mineral spirits solution, much in the same way that a paint's designation as "water-based" or "oil-based" indicates that the paint's solvent (also known as the paint's vehicle) uses either water or oil. In other words, the "-based" designation here, as in the paint context, merely makes clear that the product uses one thing instead of another. The specification confirms this understanding. For example, it recounts a series of tests in which mineral spirits solvents are compared to surfactant-based solutions in order to determine the ability of surfactant-based solutions to clean and degrease parts. *See generally* id., col. 8, l. 37-col. 9, l. 22. This demonstrates the Applicant's intent to use "surfactant-based" to distinguish between solutions which use mineral spirits as a cleaning agent and those which use surfactants as a cleaning agent.

The Court construes "surfactant-based" as "a cleaning fluid whose active cleaning agent is one or more surfactants."

IV. Conclusion

In view of the foregoing, the Court construes the disputed terms as follows: FN11

FN11. The Court has attempted to construe all terms presently at issue. Due to the over 300 pages of claim construction briefing, as well as Defendant's 11th hour withdrawal of many terms prior to the *Markman* hearing, determining which terms are presently at issue was somewhat complicated. If the Court inadvertently omitted construction of a term that remains in dispute, the parties are **DIRECTED** to file a joint submission no later than ten (10) days after entry of this Order, in the nature of a joint claim construction statement, outlining those terms in dispute.

claim term / phrase in dispute	Court's construction
"flowpath" "flowpath ... between"	"the path taken by the cleaning fluid from the basin to the tank"
"providing a flowpath"	"supplying a flowpath"
"filter" "porous medium"	"a porous material through which the cleaning fluid is passed in order to trap particulate matter while allowing the cleaning fluid, hydrocarbons, and microorganisms to pass through"
"interposing [or positioning] a filter within the flowpath"	"placing a filter in the flowpath"
"the heater is constructed and arranged to add heat to the fluid while the fluid is disposed within the tank"	"the heater warms the cleaning fluid while the cleaning fluid is in the tank"
"heating the fluid"	"making the cleaning fluid warmer while the cleaning fluid is in the tank."
"measuring the temperature of the fluid, wherein the heating step is responsive to the step of measuring the temperature"	"determining the temperature of the cleaning fluid, wherein the heating step reacts or is responsive to such temperature determination"
"allowing the microorganisms within the fluid to biodegrade the hydrocarbons"	" let or permit the microorganisms within the cleaning fluid to biodegrade the hydrocarbons"
"retaining the hydrocarbons within the fluid in the tank while the microorganisms biodegrade the hydrocarbons"	"the hydrocarbons remain in the cleaning fluid while the microorganisms biodegrade them"
"substantial"	"a portion or amount that is considerable in quantity"
"surfactant-based"	"a cleaning fluid whose active cleaning agent is one or more surfactants"

SO ORDERED.

N.D.Ga.,2007.
ChemFree Corp. v. J. Walter, Inc.