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**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION**

NALCO CO.,

Plaintiff and
Counterdefendant,

v.

TURNER DESIGN, INC.,

Defendant and
Counterclaimant.

Case No. 13-cv-02727 NC

**ORDER CONSTRUING TERMS OF
U.S. PATENT NO. 6,255,118**

Re: Dkt. No. 69, 71, 72

The parties in this patent infringement action dispute the construction of three terms in United States Patent No. 6,255,118, which covers a method of testing industrial water systems. The Court finds that the first and third disputed terms require construction, but that the second disputed term does not. Because it is supported by the intrinsic evidence, the Court adopts Nalco's proposed construction of the first disputed term. The Court adopts its own construction of the third disputed term, guided by the language of the specification.

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I. BACKGROUND

Turner and Nalco sell competing equipment used to test and treat industrial water systems. Dkt. No. 1 at ¶¶ 5, 9; Dkt. No. 69 at 7. On July 3, 2001, the U.S. Patent Office issued United States Patent No. 6,255,118 (“the ’118 Patent”) entitled “Method for Using an All Solid-state Fluorometer in Industrial Water System Applications.” Dkt. No. 1 at ¶ 6. On June 13, 2013, Nalco brought a complaint for patent infringement against Turner Designs, alleging that Turner induced infringement of the ’118 patent by “encouraging its customers to use its products (including but not limited to the Little Dipper Inline Fluorometer) in a manner that directly infringed, and continues to infringe the ’118 patent.” *Id.* at ¶ 10. Turner brought counterclaims for declarations of non-infringement of the ’118 patent and invalidity, as well as monopolization and attempted monopolization in violation of the Sherman Act. Dkt. No. 49 at 13-21.

The parties dispute the construction of three terms in claim 1 of the ’118 Patent:

- (1) “a sample chamber which is a cell”;
- (2) “programming said fluorometer to produce an output signal proportional to the detected fluorescence”; and
- (3) “emitting light having a wavelength of from about 370 nm to about 500 nm.”

Dkt. No. 47-2. The parties have each submitted claim construction briefing in accordance with the Patent Local Rules, which outlines each party’s proposed construction. Dkt. Nos. 69, 71, 72. Claim 1 of the ’118 patent reads in full:

1. A method for monitoring concentrations of chemicals in industrial water systems, the method consisting essential of the steps of:
 - a) providing a solid state fluorometer, wherein said fluorometer comprises:
 - i) a solid-state excitation source to direct light in a specified direction, wherein said excitation source is either a light emitting diode, with said light emitting diode **emitting light having a wavelength of from about 370 nm to about 500 nm**, or a solid state diode laser having an integral photodiode, with said laser emitting light having a wavelength of from about 635 nm to

- 1 about 1600 nm;
- 2 ii) a detector receiving the fluorescence from the excitation of the
- 3 sample and producing an output signal proportional to the
- 4 quantity of fluorescence received on the detector, wherein said
- 5 detector is a silicon photodiode;
- 6 iii) **a sample chamber which is a cell**, where the entrance to the cell
- 7 is not covered by a species-specific membrane;
- 8 b) providing an industrial water system, wherein a chemical treatment or
- 9 additive has been added to said industrial water system, wherein a fluorescent
- 10 tracer is present in said chemical treatment or additive in a known proportion
- 11 to said chemical treatment or additive;
- 12 c) using said fluorometer to detect the fluorescence of the fluorescent tracer in
- 13 the industrial water system;
- 14 d) **programming said fluorometer to produce an output signal**
- 15 **proportional to the detected fluorescence;** and
- 16 e) controlling dosage of chemical treatments or additives to the industrial water
- 17 system based on the concentration of fluorescent tracer detected by said
- 18 fluorometer.

19 Dkt. No. 70-18 at 19 (emphasis added).

20 This Court has subject matter jurisdiction over this action under 28 U.S.C. §§ 1331

21 and 1338(a). The parties have consented to the jurisdiction of a magistrate judge. Dkt.

22 Nos. 11, 15.

23 II. LEGAL STANDARD

24 The construction of terms found in patent claims is a question of law to be

25 determined by the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed.

26 Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). “[T]he interpretation to be given a term

27 can only be determined and confirmed with a full understanding of what the inventors

28 actually invented and intended to envelop with the claim.” *Phillips v. AWH Corp.*, 415 F.3d

1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa’ per Azioni*, 158

F.3d 1243, 1250 (Fed. Cir. 1998)). Consequently, courts construe claims in the manner that

“most naturally aligns with the patent’s description of the invention.” *Id.*

The first step in claim construction is to look to the language of the claims

themselves. *See generally Breville Pty Ltd. v. Storebound LLC*, No. 12-cv-01783 JST, 2013

WL 3153383 (N.D. Cal. June 19, 2013). “It is a ‘bedrock principle’ of patent law that ‘the

1 claims of a patent define the invention to which the patentee is entitled the right to
2 exclude.” *Phillips*, 415 F.3d at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water*
3 *Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). A disputed claim term should
4 be construed in light of its “ordinary and customary meaning,” which is “the meaning that
5 the term would have to a person of ordinary skill in the art in question at the time of the
6 invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at
7 1312. In some cases, the ordinary meaning of a disputed term to a person of skill in the art
8 is readily apparent, and claim construction involves “little more than the application of the
9 widely accepted meaning of commonly understood words.” *Id.* at 1314. Claim
10 construction may deviate from the ordinary and customary meaning of a disputed term only
11 if (1) a patentee sets out a definition and acts as his own lexicographer, or (2) the patentee
12 disavows the full scope of a claim term either in the specification or during prosecution.
13 *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

14 Ordinary and customary meaning is not the same as a dictionary definition.
15 “Properly viewed, the ‘ordinary meaning’ of a claim term is its meaning to the ordinary
16 artisan after reading the entire patent. Yet heavy reliance on the dictionary divorced from
17 the intrinsic evidence risks transforming the meaning of the claim term to the artisan into
18 the meaning of the term in the abstract, out of its particular context, which is the
19 specification.” *Id.* at 1321. Typically, the specification “is the single best guide to the
20 meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582
21 (Fed. Cir. 1996). It is therefore “entirely appropriate for a court, when conducting claim
22 construction, to rely heavily on the written description for guidance as to the meaning of
23 claims.” *Phillips*, 415 F.3d at 1315. However, while the specification may describe a
24 preferred embodiment, the claims are not necessarily limited only to that embodiment. *Id.*

25 Finally, courts may consider extrinsic evidence in construing claims, such as “expert
26 and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980.
27 Expert testimony may be useful to “provide background on the technology at issue, to
28 explain how an invention works, to ensure that the court’s understanding of the technical

1 aspects of the patent is consistent with that of a person of skill in the art, or to establish that
2 a particular term in the patent or the prior art has a particular meaning in the pertinent
3 field.” *Phillips*, 415 F.3d at 1318. However, extrinsic evidence is “less reliable than the
4 patent and its prosecution history in determining how to read claim terms.” *Id.* If intrinsic
5 evidence mandates the definition of a term that is at odds with extrinsic evidence, courts
6 must defer to the definition supplied by the intrinsic evidence. *Id.*

7 III. CLAIM CONSTRUCTION

8 The parties dispute the proper construction of three terms within the first claim of the
9 ’118 patent. The Court will only construe the three terms with disputed constructions. *See*
10 *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1331 (Fed. Cir. 2007) (courts
11 “lack the power to construe other terms not disputed by the parties”).

12 A. “A sample chamber which is a cell”

13 Disputed Term	14 Nalco’s Proposal	15 Turner’s Proposal
16 “A sample chamber 17 which is a cell”	18 No construction. 19 Or if construction is 20 necessary, “a bounded space 21 containing the sample when 22 fluorescence occurs”	23 “A transparent vessel for 24 sample analysis”

19 First, Nalco argues that construction of the term “a sample chamber which is a cell”
20 is not necessary. The Court disagrees. The term “a sample chamber which is a cell” is
21 ambiguous and its ordinary and customary meaning to a person of skill in the art would not
22 be obvious to a lay juror. *See Bd. of Trs. of Leland Stanford Junior Univ. v. Roche*
23 *Molecular Sys., Inc.*, 528 F. Supp. 2d 967, 976 (N.D. Cal. 2007) (finding construction
24 unnecessary where “a juror can easily use these terms in her infringement fact-finding
25 without further direction from the court.”). The Court will therefore construct the term.

26 i. “Transparent” is an improper limitation.

27 Turner’s proposed construction, limiting the term “a sample chamber which is a cell”
28 to a “transparent” vessel, derives from its arguments that the patent applicant acted as a

1 lexicographer and defined the term to include a transparency limitation, and that he
2 disavowed a scope that would not include a transparent cell. Both of these arguments fail.

3 **a) Lexicography**

4 First, Turner argues that the '118 patent applicant acted as a lexicographer and
5 defined the term “a sample chamber which is a cell” to mean a “sample cell.” In turn,
6 Turner argues that the specification indicates that a “sample cell” means a “transparent
7 vessel for sample analysis.” This argument fails because nowhere in the patent does the
8 patent applicant reveal a clear intent to define the disputed term, nor does the language of
9 the specification support Turner’s proposed definition.

10 To act as a lexicographer, the patent applicant must “exhibit an express intent to
11 impart a novel meaning to claim terms.” *Bell Atl. Network Servs., Inc. v. Covad Commc’ns*
12 *Grp., Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001) (internal quotation marks omitted); *see*
13 *also Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295 (Fed. Cir. 2004) (finding
14 that patentee must “clearly state[] any special definitions of the claim terms in the patent
15 specification or file history.”). The patentee may offer an express definition by using words
16 such as “meaning” or “defined as,” *Thorner*, 669 F.3d at 1366, or the patentee may define
17 by implication by “us[ing] a claim term throughout the entire patent specification, in a
18 manner consistent with only a single meaning.” *Bell Atl.*, 262 F.3d at 1271. But when a
19 claim term is defined by implication, “the ‘implied’ redefinition must be so clear that it
20 equates to an explicit one.” *Thorner*, 669 F.3d at 1368.

21 For example, in *Irdeto*, the Federal Circuit found that the patentee acted as a
22 lexicographer in defining the term “group.” 383 F.3d at 1300-01. There, the parties
23 disputed the construction of the term “group keys,” where the patent claimed a method of
24 controlling the broadcast of digital signals using “service keys,” “group keys,” and “box
25 keys.” *Id.* at 1296. The patentee argued that the term “group” should be construed to cover
26 any number of subscribers, whether comprised of one individual subscriber or every
27 subscriber. *Id.* at 1300. The accused infringer argued that the patent should be read to
28 define “group” as a subset of subscribers, and could not be read to include all subscribers.

1 *Id.* The court agreed with the accused infringer and found that although the plain meaning
2 of the term group might include every subscriber, the patentee acted as a lexicographer in
3 defining the term “group” to mean a subset of subscribers. *Id.* The court noted that the
4 PTO initially rejected the patented claims for indefiniteness, finding that the term “group
5 key” had no meaning to a person of ordinary skill in the art. *Id.* at 1298. The patentee
6 overcame the rejection by responding that “a patentee or in this case a patent applicant may
7 be his own lexicographer. We believe that [group key is] very adequately described in the
8 specification.” *Id.* The court found that by engaging in this exchange with the PTO, the
9 patentee “unequivocally directed the patent examiner, as well as the public, to the
10 specification as the complete source of meaning for the disputed terms.” *Id.* at 1303.

11 Having found that the patent applicant evinced a clear intent to act as a lexicographer
12 in defining the disputed term, but that the patent lacked an explicit definition of the term,
13 the court looked to the use of the term within the patent to derive its meaning by
14 implication. *Id.* at 1303. The court found that the specification “repeatedly, consistently,
15 and exclusively use[d] ‘group’ to denote fewer than all subscribers” and the patent
16 contained “no affirmative indication that ‘group’ can consist of all subscribers within the
17 system.” *Id.* The court therefore affirmed the district court’s construction of “group key” to
18 mean a key “associated with a subset of the total subscriber base.” *Id.* at 1299.

19 Turner urges the Court to follow this precedent and find that the ’118 patent
20 applicant intended to act as a lexicographer of the term “a sample chamber which is a cell.”
21 But unlike the accused infringer in *Irdeto*, who pointed to a prosecution history that
22 explicitly demonstrated the applicant’s intent to act as lexicographer, Turner has pointed to
23 no language in the patent or prosecution history that demonstrates the patent applicant’s
24 intent to define the disputed term. In support of its argument, Turner points to an
25 amendment in the file history in which the patent applicant notes that “[t]he instant claimed
26 method requires the use of a fluorometer with a sample cell.” Dkt. No. 71-2 at 6. Turner
27 argues that because the only part of the claim that could be the sample cell is the “sample
28 chamber which is a cell,” then the patent applicant must have been defining “sample

1 chamber which is a cell” to mean “sample cell.” This falls short of the “express intent” to
2 define required by the Federal Circuit. *Bell Atl.*, 262 F.3d at 1268. The use of the phrase
3 “sample cell” was in the context of distinguishing prior art that taught the use of “species-
4 selective membranes.” Dkt. No. 71-2 at 6. The phrase “sample cell” was not provided in
5 the context of clarifying the proposed term “sample chamber which is a cell,” and the Court
6 finds it unreasonable to infer that the patent applicant intended to define the term, given the
7 context that the phrase was used in, and given that the Federal Circuit requires explicit
8 intent to redefine.

9 Even if the Court were to find that the patent applicant wished to act as a
10 lexicographer, Turner’s proposed definition—limiting the term “sample chamber which is a
11 cell” to mean “sample cell,” which in turn means only a “transparent” cell—is not
12 supported by the specification. Unlike the term “group” in the *Irdeto* patent, which was
13 used frequently throughout the specification to describe a subset of subscribers, the patent
14 in this case does not ever use the term “sample chamber which is a cell” except in the claim
15 itself. The patent offers little guidance on what this term means, but it offers no indication
16 that this term is limited to only “transparent vessels.” The word “transparent” or any
17 synonym thereof appears nowhere in the specification, whereas the word “subset” appeared
18 throughout the *Irdeto* specification when describing a “group.” *See Irdeto*, 383 F.3d at
19 1300-01. The ’118 specification indicates that “the sample stream passes through the flow
20 cell” and that “detection of fluorescence occurs from the front surface of the sample cell,”
21 but nowhere does the patent indicate that the “flow cell” or “sample cell” must be
22 transparent.

23 The only language in the ’118 patent having anything to do with transparency is
24 found in a portion of the specification discussing the value of lasers in certain solid-state
25 fluorometers. There, the specification instructs that “direct contact with the solution may
26 have advantages in terms of performance (less light scatter and better signal-to-noise) and
27 reliability (no glass flow cell to break).” Dkt. No. 70-18 at 18. Turner argues that this
28 passage indicates that flow cells are glass, and the ’118 patent includes a “flow cell.” But

1 the Court finds that the language indicates just the opposite—if the ordinary and customary
2 meaning of a flow cell were a transparent cell, the patent applicant would not have needed
3 to include the modifier that the flow cell was glass. *See Thorner*, 669 F.3d at 1368
4 (rejecting accused infringer’s argument that patent applicant redefined “attached” to mean
5 only “affixed to an exterior surface” where specification used language “attached to [an]
6 outer surface,” because “[i]f the applicant had redefined the term ‘attached’ to mean only
7 ‘attached to an outer surface,’ then it would have been unnecessary to specify that the
8 attachment was ‘to [an] outer surface.’”). Even if Turner’s definition of flow cell were
9 correct, nowhere does the specification require a flow cell in every embodiment of the
10 patent.

11 Despite the lack of express language supporting a transparency limitation, Turner
12 argues that a “sample cell” must be transparent because the claimed embodiment appears
13 transparent. The preferred embodiment at Figure 1 of the patent shows a “Cell,”
14 represented by a white box with a black border. Dkt. No. 70-18 at 4. Even if the court were
15 to limit the term “sample chamber which is a cell” to this preferred embodiment, it is not
16 clear from the figure that the cell is transparent. The same figure contains “9 V Batteries,”
17 which also appear as a white box with a black border. Turner does not argue that the patent
18 requires transparent 9 volt batteries, yet it argues that the figure clearly supports a limit that
19 the cell envisioned by the preferred embodiment be transparent.

20 Nor is it clear, as Turner argues, whether it is factually true that the claimed
21 embodiment could not function with an opaque cell. *See* Dkt. Nos. 73, 77, 80. Turner
22 argues that the sample cell must be transparent because the patent incorporates by reference
23 U.S. Pat. No. 5,171,450, which teaches a solid-state fluorometer with a transparent flow
24 cell. But the reference to the ’450 patent is used to disclose the “application of fluorescent
25 tagged polymers” and in no way indicates that the ’118 patent method could not function
26 without use of the specific fluorometer taught in the ’450 patent. That the ’450 patent
27 requires a transparent cell does not mean that the ’118 patent requires the same. Even
28 Turner’s expert, offered for the purpose of proving that the claimed method cannot function

1 with an opaque cell, testifies that the sample cells in the '118 patent "require transparent
2 openings" to allow light from the source to pass to the sample. That a cell has a transparent
3 window or opening does not support a limitation that the cell as a whole be "transparent."

4 Fortunately, the Court need not determine at this stage whether the preferred
5 embodiment at Figure 1 would only function with a transparent cell, because it is improper
6 for the Court to limit the patent to the preferred embodiment when the language of the
7 patent does not clearly support such a limitation. *Phillips*, 415 F.3d at 1323 ("[W]e have
8 expressly rejected the contention that if a patent describes only a single embodiment, the
9 claims of the patent must be construed as being limited to that embodiment."). Here, the
10 language of the patent and its history do not support that the patent applicant intended to act
11 as a lexicographer at all, yet alone that it wished to define the term "sample chamber which
12 is a cell" as a "transparent" cell.

13 **b) Disavowal**

14 Next, Turner argues that the transparent limitation is necessary because the patent
15 applicant disavowed an embodiment that eliminated the need for a transparent sample cell.
16 This fails for a similar reason. Like the standard for acting as a lexicographer, the standard
17 for disavowal is "similarly exacting." *Thorner*, 669 F.3d at 1366. To qualify as disavowal,
18 the specification must include "expressions of manifest exclusion or restriction,
19 representing a clear disavowal of claim scope." *Teleflex, Inc. v. Ficoso N. Am. Corp.*, 299
20 F.3d 1313, 1325 (Fed. Cir. 2002). Here, Turner argues that because the '118 patent does
21 not claim the method that eliminates the need for a "glass flow cell," the patent applicant
22 disavowed a method free from the "glass flow cell" and the '118 patent must be read to
23 include the glass flow cell. This argument is not logically sound. The method described in
24 this portion of the patent involves "direct contact with the solution." Thus this unclaimed
25 method is free from a glass flow cell, because it is free from any type of flow cell. Even if
26 the '118 patent did not claim the particular method free from a flow cell, it does not follow
27 that every embodiment of the '118 patent must contain a glass flow cell. An embodiment
28 with an opaque cell would also be free from a glass flow cell. This isolated phrase is

1 insufficient to result in disavowal, because “[p]rosecution disclaimer does not apply to an
2 ambiguous disavowal.” *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1375
3 (Fed. Cir. 2008); *N. Telecom Ltd. v. Samsung Elec. Co.*, 215 F.3d 1281, 1293-95 (Fed. Cir.
4 2000) (holding that prosecution disclaimer did not “support the judicial narrowing of a clear
5 claim term” because the inventors’ statements were amenable to multiple reasonable
6 interpretations).

7 **c) Extrinsic Evidence**

8 Although Turner points to extrinsic evidence—in the form of technical dictionaries,
9 websites, and expert testimony—to support its proposed definition limiting the sample
10 chamber to a transparent vessel, the Court finds this evidence insufficient to overcome the
11 language of the specification, which makes clear that a transparency limitation was not
12 envisioned by the patent applicant. The Federal Circuit has repeatedly counseled that
13 extrinsic evidence is less reliable than the specification and prosecution history, *Phillips*,
14 415 F.3d at 1318, and that where the intrinsic evidence makes the meaning of a term clear,
15 contrary extrinsic evidence cannot be used to overcome the ordinary meaning. *Bell Atl.*,
16 262 F.3d at 1268-69 (“[I]f the meaning of the claim limitation is apparent from the intrinsic
17 evidence alone, it is improper to rely on extrinsic evidence other than that used to ascertain
18 the ordinary meaning of the claim limitation.”).

19 **ii. “Vessel” is an improper limitation.**

20 Turner hardly addresses why the Court should construe “a sample chamber which is
21 a cell” to mean a “vessel,” and the Court finds that the term vessel is a limiting construction
22 that is not supported by the specification. The specification describes one embodiment in
23 which “two or more diode lasers of different wavelengths could simultaneously monitor
24 several tracers as the sample stream passes through the flow cell.” Dkt. No. 70-18 at 17.
25 The fact that the patent envisions the sample “passing through” the cell, indicates that the
26 cell has an entrance and exit, which would allow the sample to pass through. This ability to
27 pass through is in keeping with the use of the term “chamber,” which ordinarily has an
28 entrance and exit. *See Applied Sci. & Tech., Inc. v. Advanced Energy Indus., Inc.*, 204 F.

1 Supp. 2d 712 (D. Del. 2002) (finding that a “plasma chamber” in context of the patent must
2 “include a means for ingress and egress of gases.”). By contrast, a vessel typically does not
3 allow water to pass through (unless that vessel is a sinking ship) and the Court will not give
4 a term a construction that reads out one of the claimed embodiments. *Chimie v. PPG*
5 *Indus., Inc.*, 402 F.3d 1371, 1377 (Fed. Cir. 2005) (“[A] construction that would not read on
6 the preferred embodiment would rarely if ever be correct and would require highly
7 persuasive evidentiary support.”) (internal quotation marks omitted).

8 **iii. The Court adopts Nalco’s construction of the first disputed term.**

9 The Court finds that Nalco’s proposed construction—“a bounded space containing
10 the sample when fluorescence occurs”—to be supported by the specification. Although the
11 Court has found that the specification does not reveal an intent to act as lexicographer or to
12 disavow claimed scope, the specification may nonetheless “assist in resolving ambiguity
13 where the ordinary and accustomed meaning of the words used in the claims lack sufficient
14 clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex,*
15 *Inc.*, 299 F.3d at 1325. The term “a sample chamber which is a cell” is less than crystal
16 clear, but the context of the patent assists the reader in being sure that this term consists of a
17 space containing the sample, which the specification tells us “is a portion of an industrial
18 water stream.” Dkt. No. 70-18 at 15. The language of the claim, the figures of the patent,
19 and the description of its function support a broad construction of the term. *See Renishaw*
20 *PLC*, 158 F.3d at 1249 (noting courts must not “add a narrowing modifier before an
21 otherwise general term that stands unmodified in a claim.”). The Court finds that the
22 ordinary and customary meaning of “a sample chamber which is a cell” is “a bounded
23 space containing the sample when fluorescence occurs.”

24 Turner’s concern that “bounded space” is too indefinite is premature. First, any
25 argument regarding invalidity for indefiniteness is more appropriately made at summary
26 judgment. *See Elekta Instrument S.A. v. O.U.R. Scientific Int’l, Inc.*, 214 F.3d 1302, 1309
27 (Fed. Cir. 2000) (“having concluded that the amended claim is susceptible of only one
28 reasonable construction, we cannot construe the claim differently from its plain meaning in

1 order to preserve its validity.”). For now, the Court notes that a “bounded space” is limited
2 by the context of the patent, which deals with only industrial water treatment systems.
3 Therefore, not just any bounded space would function as a “sample chamber which is a
4 cell,” since at the very least it must be a bounded space that can hold a sample in the
5 industrial water treatment context.

6 **B. “Programming said fluorometer to produce an output signal proportional to the
7 detected fluorescence”**

8 Disputed Term	Nalco’s Proposal	Turner’s Proposal
9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 “Programming said fluorometer to produce an output signal proportional to the detected fluorescence”	No construction. Or if construction is necessary, “configuring said fluorometer to produce an output signal proportional to the detected fluorescence”	“Inputting computer instructions into said fluorometer to cause it to produce an output proportional to the detected fluorescence”

15 First, the Court notes that although their briefs address the disputed claim term as
16 “programming said fluorometer to produce an output signal proportional to the detected
17 fluorescence,” the parties only discuss the proposed meanings of the word “programming.”
18 At oral argument the parties agreed that the only term actually in dispute is the word
19 “programming,” and therefore the Court will focus on that term.

20 Unlike the first disputed term, the Court finds that construction of the term
21 “programming” is not necessary. The Federal Circuit has held that when commonplace
22 words are used, then the “ordinary meaning of claim language as understood by a person of
23 skill in the art may be readily apparent even to lay judges, and claim construction in such
24 cases involves little more than the application of the widely accepted meaning of commonly
25 understood words.” *Phillips*, 415 F.3d at 1314. The Court finds that a juror, given the
26 context of the patent, could understand the meaning of “programming” to a person of
27 ordinary skill in the art. Attempting to construct the word programming by replacing it with
28 a synonym would be an “exercise in redundancy,” *U.S. Surgical Corp. v. Ethicon, Inc.*, 103

1 F.3d 1554, 1568 (Fed. Cir. 1997), that would “contribute nothing but meaningless verbiage
2 to the definition of the claimed invention.” *Harris Corp. v. IXYS Corp.*, 114 F.3d 1149,
3 1152 (Fed. Cir. 1997).

4 Even if the Court were to construe the term “programming,” it would not apply
5 Turner’s limiting definition. Turner’s proposed construction, limiting the word
6 “programming” to computer programming, finds no support in the specification or
7 prosecution history. Turner’s only intrinsic evidence supporting its definition is a single
8 phrase in the specification, noting that a voltage signal from the detector may be compared
9 to pre-set values of fluorescent tracer, and that comparison “may take place either
10 electronically or via a microcomputer.” Dkt. No. 70-18 at 16. But this portion of the
11 specification is not discussing programming of the fluorometer to produce an output signal,
12 but rather, the next step of using the output signal to control the treating agent. Although
13 the patent is clear that this later process *may* take place using a microcomputer, the patent
14 does not require use of a microcomputer. More importantly, there is no discussion of
15 computer programming when discussing the fluorometer’s production of an output signal.
16 Instead, the specification notes that “an amplifier is constructed and arranged to receive the
17 signal from the detector to produce an amplified output signal.” *Id.* at 14. Thus the
18 language of the patent is clear in its lack of a requirement that the programming step be
19 done through a computer, and the Court need not look at any extrinsic evidence for further
20 clarification. *See Energy Transp. Grp., Inc. v. William Demant Holding A/S*, 697 F.3d
21 1342, 1349 (Fed. Cir. 2012) (declining to limit term “programming” to “externally
22 calculated” where “the specification gives no reason to construe the claims to require that
23 an external computer calculate the values programmed into the filter.”).

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1 C. “emitting light having a wavelength of from about 370 nm to 500 nm”

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Disputed Term	Nalco’s Proposal	Turner’s Proposal
“emitting light having a wavelength of from about 370 nm to 500 nm”	No construction. Or if construction is necessary, “ emitting light having a wavelength in the near-UV range ”	“emitting light in the entire spectrum from about 370 nm to about 500 nm”

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8 First, for the same reasons explained regarding the first disputed term, the Court
9 finds it necessary to construct the third term. The term “emitting light having a wavelength
10 of from about 370 nm to 500 nm” is ambiguous, and the Court must look to the
11 specification to clarify its meaning.

12 Turner argues that the language in the specification supports its proposed definition
13 because the patent teaches that “LEDs operating at higher than specified forward currents
14 have been found to emit *a portion* of their optical output in the near-UV region of the
15 spectrum, i.e., in the range of from about 370 nm to about 500 nm.” Dkt. No. 70-18 at 17
16 (emphasis added). Turner argues that the reference to emitting “a portion” of optical output
17 in the specified range means that the LED emits light “continuously in a wide spectrum,
18 which covered the 370nm to 500nm range.” Dkt. No. 71 at 31. That is one reading of the
19 phrase, but another interpretation is that the LEDs have been found to emit a portion of their
20 *potential* optical output in the near-UV range, rather than a portion of a continuous wider
21 spectrum. This ambiguous phrase is not enough to read in a limitation that the patent
22 requires emitting light “in the entire spectrum,” especially in light of the language of the
23 claim term itself, which requires “a” wavelength. As Turner itself notes, “the indefinite
24 article ‘a’ is commonly interpreted as ‘one or more.’” *See, e.g., Free Motion Fitness, Inc. v.*
25 *Cybox Intern., Inc.*, 423 F.3d 1343, 1350-51 (Fed. Cir. 2005). Thus there is nothing about
26 “a” wavelength that would require light in the entire spectrum, when a wavelength could be
27 a single narrow wavelength, a wavelength covering the entire spectrum, or several
28 wavelengths within the spectrum. Similarly, “in the range” indicates that the wavelength

1 could fall wholly inside of the range, rather than covering the entire spectrum.

2 Nor is reference to a single example of prior art that may or may not support
3 Turner’s construction sufficient. The ’118 patent incorporates a reference to T. Araki and
4 H. Misawa as an example of prior art teaching that “LEDs operating at higher than specified
5 forward currents have been found to emit a portion of their optical output in the near-UV
6 region of the spectrum, i.e., in the range of from about 370 nm to about 500 nm.” Dkt. No.
7 70-18 at 17. Turner argues that this Araki prior art teaches a method of operating LEDs at
8 higher than specified currents and causing them to emit light in a wide spectrum which
9 covers the entire near-UV region. Putting aside whether Turner’s interpretation of Araki is
10 correct or whether this argument requires support of an expert witness, the patent does not
11 require the use of this Araki method. The specification says that “in some cases” LEDs
12 may be used in this unconventional fashion, and that one “example” of that method is the
13 Araki reference. This language is insufficient to read the patent as requiring the Araki
14 method, so any limitation in the Araki method cannot properly be placed on the claim term.

15 Finally, Nalco argues that the term must be read to include the entire spectrum
16 because LED lights at the time of patenting were only capable of emitting light in the entire
17 near-UV spectrum, rather than a specific point in the spectrum. This limitation is not
18 supported by the language of the specification, which notes that “[s]atellite emissions of
19 380-390 nm have been observed from a variety of blue LEDs at higher than specified
20 operating currents and voltages.” Dkt. No. 70-18 at 17. Turner argues that this narrower
21 range represents only the peak of a much wider spectrum, which may be true. But even if
22 Turner is correct that targeted light emissions were not possible at the time of the invention,
23 that does not require the Court to adopt its limited construction, as the law “does not require
24 that an applicant describe in his specification every conceivable and possible future
25 embodiment of his invention.” *Bd. of Trs. of Leland Stanford Junior Univ.*, 528 F. Supp. 2d
26 at 981 (construing claims “to cover later developed technology that was unavailable but
27 known at the time of the invention.”). The specification demonstrates that the technology
28 of emitting light within the near-UV spectrum was understood at the time, if not yet totally

1 precise, as the language evinces an intent to target specific light emissions to achieve certain
2 results. *Id.* (“This satellite peak may be used to excite fluorescence from near-UV
3 absorbing fluorophores for industrial water stream applications.”). This language,
4 combined with the specification’s absence of explicit language limiting the term to include
5 only the “entire” spectrum, leads the Court to find that Turner’s proposed construction is
6 not supported by the intrinsic evidence. Turner’s reliance on *MagSil Corp. v. Hitachi*
7 *Global Storage Techs., Inc.*, is misplaced. 687 F.3d 1377 (Fed. Cir. 2012). That case
8 involved summary judgment based on invalidity for lack of enablement, and did not address
9 claim construction.

10 The Court finds that the proper construction of this term is “emitting light having a
11 wavelength in the range of from about 370 nm to about 500 nm.” The specification
12 supports this construction because the embodiment at issue requires use of LEDs emitting
13 light in the near-UV region, which the specification describes as “in the range of from about
14 370 nm to about 500 nm.” Dkt. No. 70-18 at 17. If a wavelength is “in the range,” it could
15 be a wavelength that is narrower than the entire spectrum of the near-UV region, or that is
16 wide enough to emit light in the entire spectrum. This construction of the claim term avoids
17 the improper limitation that Turner proposes.

18 **D. Evidentiary Objections**

19 Nalco objects to several pieces of evidence that Turner offers in support of its
20 proposed constructions. Dkt. Nos. 75, 80. The Court first notes that almost all of the
21 evidence in dispute is extrinsic. Putting aside the objections and considering the extrinsic
22 evidence, the Court finds that it is not sufficient to adopt a construction of the first and third
23 terms that contradicts the meanings of the terms that are apparent based on the specification.
24 *See Phillips*, 415 F.3d at 1318; *Bell Atl.*, 262 F.3d at 1268-69 (“[I]f the meaning of the
25 claim limitation is apparent from the intrinsic evidence alone, it is improper to rely on
26 extrinsic evidence other than that used to ascertain the ordinary meaning of the claim
27 limitation.”). Because the Court has considered Turner’s extrinsic evidence but does not
28 rely on that evidence in reaching its conclusion, the Court declines to rule on Nalco’s

1 evidentiary objections to extrinsic evidence, which are numbers 1-5 at docket entry 75, and
2 numbers 1-5 at docket entry 80.

3 Nalco also objects to Turner’s discussion of the Araki paper, which is incorporated
4 into the ’118 patent, as improper expert testimony. Dkt. No. 75, objections number 6 & 7.
5 The objection is well-taken, as Turner is offering its interpretation of a scientific paper on a
6 highly technical topic. But even taking Turner’s interpretation as true, it would not change
7 the Court’s construction of the third term. The patent does not require use of the Araki
8 method in every embodiment, so reading “entire” into the construction based on the Araki
9 paper is improper. Because the Court has considered the evidence but does not rely on it in
10 reaching its conclusion, the Court declines to rule on Nalco’s evidentiary objections.

11 IV. CONCLUSION

12 For the foregoing reasons, the Court construes the disputed terms in U.S. Patent No.
13 6,255,118 as follows:

15 Term	15 Construction
16 “A sample chamber which is a 17 cell”	“a bounded space containing the sample when fluorescence occurs”
18 “programming”	No construction.
19 “emitting light having a 20 wavelength of from about 370 nm to 500 nm”	“emitting light having a wavelength in the range of from about 370 nm to about 500 nm.”

21
22
23 IT IS SO ORDERED.

24 Date: June 25, 2014



25
26 Nathanael M. Cousins
United States Magistrate Judge