Public Version

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of	
CERTAIN MICROFLUIDIC DEVICES	**Inv. No. 337-TA-1068**

ORDER NO. 20: **CONSTRUING CERTAIN TERMS OF THE ASSERTED CLAIMS OF THE PATENTS AT ISSUE (*MARKMAN* CLAIM CONSTRUCTION)**

(April 4, 2018)

I. BACKGROUND

The Commission instituted this Investigation pursuant to subsection (b) of Section 337 of the Tariff Act of 1930, as amended, to determine:

> whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain microfluidic devices by reasons of infringement of one or more of claims 1-12 and 14-16 of the '664 patent; claims 1-15 of the '844 patent; claims 1-21 of the '682 patent; claims 1-27 of the '635 patent; and claims 1, 2, 4-8, and 14-21 of the '160 patent; and whether an industry in the United States exists as required by subsection (a)(2) of section 337[.][1]

82 Fed. Reg. 42116 (Sept. 6, 2017).

The Notice of Investigation ("NOI") names as complainants: Bio-Rad Laboratories, Inc. of Hercules, CA, and Lawrence Livermore National Security, LLC of Livermore, CA ("Complainants"). *Id.* The NOI names as respondent: 10X Genomics, Inc. of Pleasanton, CA ("Respondent," and with Complainants, "the Private Parties"). *Id.* Commission Investigative Staff of the Office of Unfair Import Investigations ("Staff," and with Complainants and Respondent, the "Parties") is also named as a party. *Id.*

On September 13, 2017, a Proposed Scheduling Order issued to guide the timing and conduct of this Investigation. (Order No. 3 (Sept. 13, 2017).). Also on September 13, 2017, an initial determination ("ID") issued setting January 21, 2019 as the target date in this Investigation. (Order No. 2 (Sept. 13, 2017).). On September 29, 2017, an initial procedural schedule ("Procedural Schedule)" issued (Order No. 4 (Sept. 29, 2017)), that adopted dates in the Parties' Joint Proposed Procedural Schedule (Doc. ID No. 624144 (Sept. 27, 2017)).

[1] Initially, the asserted patents were: U.S. Patent No. 9,500,664 ("the '664 patent"); U.S. Patent No. 9,089,844 ("the '844 patent"); U.S. Patent No. 9,636,682 ("the '682 patent"); U.S. Patent No. 9,649,635 ("the '635 patent"); and U.S. Patent No. 9,126,160 ("the '160 patent"). *See, e.g.*, 82 Fed. Reg. 42115.

On January 12, 2018, in response to the Private Parties' Unopposed Joint Motion to Extend Certain Dates in the Procedural Schedule (Motion Docket No. 1068-001 (Jan. 10, 2018)), a revised Procedural Schedule issued. (Order No. 6 (Jan. 12, 2018)). The revised Procedural Schedule extended certain deadlines in the Investigation by one week, including deadlines pertaining to claim construction. (*Id.*). On January 11, 2018, the Parties filed a Joint Motion to File Joint Claim Construction Statement Out of Time. (Motion Docket No. 1068-002 (Jan. 11, 2018)). That Motion was granted the same day, giving the Parties until January 12, 2018, to file their Joint Claim Construction Statement. (Order No. 5 (Jan. 11, 2018)).

On January 12, 2018, consistent with Order No. 5, the Parties filed a Joint Claim Construction Chart. (Doc. ID No. 633763 (Jan. 12, 2018).). On January 23, 2018, the Parties filed an Amended Joint Claim Construction Chart ("Joint CC Chart"). (Doc. ID No. 634525 (Jan. 23, 2018).). The Joint CC Chart lays out the claim terms for which the Parties agree on a meaning and the claim terms for which a meaning remains in dispute. (*Id.*).

On January 23, 2018, Staff and Respondent each filed an opening claim construction brief. (Staff's *Markman* Brief ("SMBr."), Doc. ID No. 634518 (Jan. 23, 2018); Respondent's Opening *Markman* Brief ("ROMBr."), Doc. ID No. 634530 (Jan. 23, 2018).). Complainants filed their opening claim construction brief one day late, on January 24, 2018 (Complainants' Opening *Markman* Brief ("COMBr."), Doc. ID No. 634532 (Jan. 24, 2018)), and shortly thereafter sought leave of court for approval of the late filing, which was granted on January 30, 2018 (Order No. 9 (Jan. 30, 2018)).

Also on January 24, 2018, the Private Parties jointly filed *Markman* Hearing Proposals requesting that a *Markman* hearing be held in conjunction with the evidentiary hearing. (Doc. ID No. 634538 (Jan. 24, 2018).). On January 25, 2018, an order issued that effectively denied the

Private Parties' proposal to delay claim construction until the evidentiary hearing. (Order No. 7 (Jan. 25, 2018).). Order No. 7 also advised the Parties that a *Markman* hearing would not take place, either before or during the evidentiary hearing. (*Id.*). However, the Private Parties were given an opportunity to file reply claim construction briefs. (*Id.*).

On February 2, 2018, the Private Parties filed reply claim construction briefs. (Complainants' Reply *Markman* Brief ("CRMBr."), Doc. ID No. 635547 (Feb. 2, 2018); Respondent's Reply *Markman* Brief ("RRMBr."), Doc. ID No. 635528 (Feb. 2, 2018).). Staff did not file a reply claim construction brief.

On March 12, 2018, the Parties filed pre-hearing briefs. (Complainants' Pre-Hearing Brief ("CPBr.") (Doc. ID No. 638751 (Mar. 12, 2018)); Respondent's Pre-Hearing Statement and Brief ("RPBr.") (Doc. ID No. 638755 (Mar. 12, 2018)).). Complainants' Pre-Hearing Brief clarifies the asserted patents and patent claims remaining in the Investigation. (CPBr. at 9-69.).

II. PATENTS AT ISSUE

The complaint ("Complaint") and NOI identify five (5) asserted patents: U.S. Patent No. 9,126,160 ("the '160 patent"); U.S. Patent No. 9,500,664 ("the '664 patent"); U.S. Patent No. 9,089,844 ("the '844 patent"); U.S. Patent No. 9,636,682 ("the '682 patent"); and U.S. Patent No. 9,649,635 ("the '635 patent"). (*See, e.g.*, Compl. ¶ 1 (July 31, 2018).).

Several asserted patent claims identified in the Complaint and NOI from this Investigation. On March 6, 2018, claims 14-17 of the '160 patent, claim 3 of the '664 patent, claims 2, 8, 11, and 14-15 of the '844 patent, claims 2-3 of the '682 patent, and claims 2-4, 9-10, 15, 22, and 27 of the '635 patent were terminated from this Investigation. (Notice of Commission Determination Not to Review an Initial Determination (Order No. 12) Partially Terminating the Investigation as to Certain Patent Claims (Mar. 6, 2018).). On March 26, 2018,

claims 1 and 18 of the '160 patent, claims 6, 7, 9, and 13 of the '844 patent, claims 4 and 13 of the '682 patent, and claims 5 and 17 of the '635 patent were terminated from this Investigation. (Notice of Commission Determination Not to Review an Initial Determination (Order No. 16) Partially Terminating the Investigation as to Certain Patent Claims (Mar. 26, 2018).).

On March 14, 2018, Complainants filed a motion seeking partial termination of the Investigation based on their withdrawal of allegations with respect to certain additional claims ("Motion to Withdraw"). (Motion Docket No. 1068-015; Mot. at 1). Complainants sought termination of claims 2, 6, 7, and 19 of the '160 patent, claims 5-7, 10, and 12 of the '664 patent, claims 1, 3-5, 10, and 12 of the '844 patent, claims 5, 6, 8, 10-12, 15, 20, and 21 of the '682 patent, and claims 6-8, 11, 12, 18-20, and 23-26 of the '635 patent ("Withdrawn Claims") based on their withdrawal of those claims. (*Id.*). On March 15, 2018, the Court issued an Initial Determination that Complainants' Motion to Withdraw be granted and that the Investigation be terminated with respect to the Withdrawn Claims. (Order No. 19 (Mar. 15, 2018).).

Based on Complainants' Pre-Hearing Brief, four (4) patents and twenty-seven (27) patent claims remain in this Investigation: the '160 patent (claims 4–5, 8, and 20–21); the '664 patent (claims 1, 2, 4, 8, 9, 11, 14, 15, and 16); the '682 patent (claims 1, 7, 9, 14, and 16-19); and the '635 patent (1, 13–14, 16, and 21). (CPBr at 9-69.). Complainants have withdrawn all asserted claims of the '844 patent. (*Id.*). Each remaining asserted patent ("Asserted Patent") contains claim terms construed in this Order.

A. U.S. Patent No. 9,126,160

The '160 patent, entitled "System for Forming an Array of Emulsions," was filed on December 8, 2010 as U.S. Patent Application Serial No. 12/963,523 ("the '523 application").

(JXM–0001 at 1.). The '523 application claims priority to U.S. Provisional Application No. 61/194,043, filed on September 23, 2008. (*Id.* at 1:7-20; CPBr. at 5.). The '523 application issued as the '160 patent on September 8, 2015 and names Kevin D. Ness, Benjamin J. Hindson, Billy W. Colston, Jr., and Donald A. Masquelier as inventors. (JXM–0001 at 1.). Complainant Bio-Rad Laboratories, Inc. is the assignee of the '160 patent. (*Id.*).

The '160 patent relates generally to a system, including method and apparatus, for forming an array of emulsions. (*Id.* at 1:46-47.). "The system may include a plate providing an array of emulsion production units each configured to produce a separate emulsion and each including a set of wells interconnected by channels that intersect to form a site of droplet generation." (*Id.* at 1:47-51.). "Each set of wells, in turn, may include (1) at least one first input well to receive a continuous phase, (2) a second input well to receive a dispersed phase, and (3) an output well configured to receive from the site of droplet generation an emulsion of droplets of the dispersed phase disposed in the continuous phase." (*Id.* at 1:52-57.).

B. U.S. Patent No. 9,500,664

The '664 patent, entitled "Droplet Generation For Droplet-Based Assay," was filed on December 30, 2011 as U.S. Patent Application Serial No. 13/341,669 ("the '669 application"). (JXM-0002 at 1.). The '669 application claims priority to U.S. Provisional Application No. 61/341,218, filed March 25, 2010. (*Id.* at 2; CPBr. at 5.). The '669 application issued as the '664 patent on November 22, 2016 and names Kevin D. Ness, Christopher F. Kelly, and Donald A. Masquelier. (JXM-0002 at 1.). Complainant Bio-Rad Laboratories, Inc. is the assignee of the '664 patent. (*Id.*).

The '664 patent relates generally to systems, including methods and apparatus, for generating droplets suitable for droplet-based assays. (*Id.* at 2:31-33.). "The disclosed systems

may include either one-piece or multi-piece droplet generation components configured to form sample-containing droplets by merging aqueous, sample-containing fluid with a background emulsion fluid such as oil, to form an emulsion of sample containing droplets suspended in the background fluid." (*Id.* at 2:33-38.). "In some cases, the disclosed systems may include channels or other suitable mechanisms configured to transport the sample-containing droplets to an outlet region, so that subsequent assay steps may be performed." (*Id.* at 2:38-42.).

C. U.S. Patent No. 9,636,682

The '682 patent, entitled "System for Generating Droplets—Instruments and Cassette," was filed on November 14, 2016 as U.S. Patent Application Serial No. 15/351,335 ("the '335 application"). (JXM-0004 at 1.). The '335 application claims priority to U.S. Provisional Application No. 61/409,106, filed on November 1, 2010, U.S. Provisional Application No. 61/409,473, filed on Nov 2, 2010, and U.S. Provisional Application No. 61/410,769, filed on November 5, 2010. (*Id.* at 1-2; CPBr. at 5.). The '335 application issued as the '682 patent on May 2, 2017 and names Amy L. Hiddessen, Kevin D. Ness, Benjamin J. Hindson, and Donald A. Masquelier as inventors. (JXM-0004 at 1.). Complainant Bio-Rad Laboratories, Inc. is the assignee of the '682 patent. (*Id.*).

The '682 patent relates generally to a system, including methods, apparatus, and kits, for forming emulsions. (*Id.* at 3:39-40.). "An exemplary system may comprise a device including a sample well configured to receive sample-containing fluid, a continuous phase well configured to receive continuous-phase fluid, and a droplet well." (*Id.* at 3:40-44.). "The device also may include a channel network having a first channel, a second channel, and a third channel that meet one another in a droplet-generation region." (*Id.* at 3:44-47.). "The system also may comprise a holder for the device." (*Id.* at 3:47.). "The system further may comprise an instrument

configured to operatively receive an assembly including the device and the holder and to drive sample-containing fluid from the sample well to the droplet-generation region via the first channel, continuous-phase fluid from the continuous-phase well to the droplet-generation region via the second channel, and sample-containing droplets from the droplet-generation region to the droplet well via the third channel." (*Id.* at 3:47-55.).

D. U.S. Patent No. 9,649,635

The '635 patent, entitled "System for Generating Droplets with Push-Back to Remove Oil," was filed on November 14, 2016 as U.S. Patent Application Serial No. 15/351,331 ("the '331 application"). (JXM-0005 at 1.). The '331 application claims priority to U.S. Provisional Application No. 61/409,106, filed on November 1, 2010, U.S. Provisional Application No. 61/409,473, filed on Nov 2, 2010, and U.S. Provisional Application No. 61/410,769, filed on November 5, 2010. (*Id.* at 1-2; CPBr. at 5.). The '331 application issued as the '635 patent on May 16, 2017 and names Amy L. Hiddessen, Kevin D. Ness, Benjamin J. Hindson, Donald A. Masquelier, and Erin R. Chia as inventors. (JXM-0005 at 1.). Complainant Bio-Rad Laboratories, Inc. is the assignee of the '635 patent. (*Id.*).

The '635 patent relates generally to a system, including methods, apparatus, and kits, for forming and concentrating emulsions. (*Id.* at 3:35-37.). "An exemplary system may comprise a device including a sample well configured to receive sample containing fluid, a continuous-phase well configured to receive continuous-phase fluid, a droplet well, and a channel network interconnecting the wells. (*Id.* at 3:37-41.). "The system also may comprise an instrument configured to operatively receive the device and to create (i) a first pressure differential to produce an emulsion collected in the droplet well and (ii) a second pressure differential to decrease a volume fraction of continuous-phase fluid in the emulsion, after the emulsion has

been collected in the droplet well, by selectively driving continuous-phase fluid, relative to sample-containing droplets, from the droplet well." (*Id.* at 3:41-49.).

III. TERMS ADOPTED AND CONSTRUED IN THIS ORDER

A. Claim Construction and Ground Rules

Claim terms are construed in this Order solely for the purposes of this Section 337 Investigation. Only claim terms in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

Going forward, including during evidentiary hearing ("Hearing") scheduled from May 7-May 11, 2018, the Parties are limited to the claim-term constructions contained in the agreed-upon constructions set forth in the Joint CC Chart filed on January 23, 2018, and the Court's constructions of the disputed claim terms. Ground Rule 1.14 states that "[t]he parties will be bound by their claim construction positions set forth on the date they are required to submit a joint list showing each party's final proposed construction of the disputed claim terms and will not be permitted to alter these absent a timely showing of good cause."

The Parties' claim construction briefs appear to track with agreed-upon and disputed claim terms contained in the Joint CC Chart. (*See, generally*, COMBr., CRMBr.; ROMBr.; RRMBr.; SMBr.). Consequently, pursuant to Ground Rule 1.14, modified or new claim-term constructions set forth for the first time in post-hearing briefs will be considered to be waived if claim terms have not been previously identified as disputed.

For example, it is not appropriate at this stage of the Investigation for Respondent to seek constructions of terms such as "channel" (previously agreed-upon), "fluidically connected" (not

raised previously), and "configured to" (not raised previously). (RPBr. at 28, 34, 77-78, 81, 86.). Pursuant to Ground Rule 1.14, Respondent is bound by its constructions in the Joint CC Chart.

Similarly, it will not be appropriate for any party to seek additional claim construction during the evidentiary hearing or to merely state that a claim term that may be implicated in an expert report or expert testimony has either a "plain or ordinary" meaning, or that a claim term is "indefinite." (*See* Proposed Scheduling Order and Ground Rules (Order No. at 3 at 5; Attachment B, G.R. 1.14 at 9 (Sept. 13, 2017).).

B. Claim Charts in Appendix A

Chart No. 1 in Appendix A is labeled "Court's Constructions of Disputed Claim Terms That Remain Relevant in this Investigation" and is self-explanatory. [2] To make the constructions easier to read, Chart No. 1 replicates in-part the Joint CC Chart that the Parties filed on January 23, 2018. There are six (6) columns in Chart No. 1: (i) Patent/Claim(s); (ii) Term(s) to be Construed; (iii) Complainants' Proposed Construction; (iv) Respondent's Proposed Construction; (v) Staff's Proposed Construction; (vi) the Administrative Law Judge's ("ALJ") Adopted Construction; and (vii) and the Rationale/Support for the Adopted Construction.

Chart No 2 in Appendix A, labeled "Adopted Claim Constructions Based Upon the Parties' Agreed Upon Constructions That Remain Relevant in this Investigation," contains the claim terms that the Parties have agreed upon, as set forth in their Joint CC Chart. The Parties' agreed upon claim constructions were adopted without providing a rationale or explanation.

[2] The Parties' claim construction briefs in total consisted of approximately 145 pages of argument. All of the arguments provided in the Parties' briefs were considered. However, in the interest of space and brevity, the Rationale/Support for the Construction column of Chart No. 1 selectively re-states and addresses only some of those arguments.

IV. APPLICABLE LAW[3]

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). In some cases, the plain and ordinary meaning of claim language is readily apparent and claim construction will involve little more than "the application of the widely-accepted meaning of commonly understood words." *Id.* at 1314. In other cases, claim terms have a specialized meaning and it is necessary to determine what a person of ordinary skill in the art would have understood disputed claim language to mean by analyzing "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, as well as the meaning of technical terms, and the state of the art." *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

The claims themselves provide substantial guidance with regard to the meaning of disputed claim language. *Phillips*, 415 F.3d at 1314. "[T]he context in which a term is used in the asserted claim can be highly instructive." *Id.* Similarly, other claims of the patent at issue, regardless of whether they have been asserted against respondents, may show the scope and meaning of disputed claim language. *Id.*

In cases in which the meaning of a disputed claim term in the context of the patent's claims is uncertain, the specification is "single best guide to the meaning of a disputed term." *Id.* at 1321. Moreover, "[t]he construction that stays true to the claim language and most naturally

[3] The constructions of the disputed claim terms in Chart 1 of Appendix A generally follow and apply the law cited in this Order. To the extent possible, the case law that applies to a construction is either identified explicitly or implicitly in adopting a party's argument or construction.

aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316. As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323.

The prosecution history may also explain the meaning of claim language, although "it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1317. The prosecution history consists of the complete record of the patent examination proceedings before the U.S. Patent and Trademark Office, including cited prior art. *Id.* The prosecution history may reveal "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

If the intrinsic evidence is insufficient to establish the clear meaning of a claim, a court may resort to an examination of the extrinsic evidence. *Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1414 (Fed. Cir. 2000). Extrinsic evidence may shed light on the relevant art, and "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317. In evaluating expert testimony, a court should disregard any expert testimony that is conclusory or "clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." (*Id.* at 1318.). Moreover, expert testimony is only of assistance if, with respect to the disputed claim language, it identifies what the accepted meaning in the field would be to one skilled in the art. *Symantec Corp. v. Comput. Assocs. Int'l, Inc.*, 522 F.3d 1279, 1289 n.3., 1290-91 (Fed. Cir. 2008). Testimony that recites how each expert would construe the term should be accorded little or no weight. *Id.* Extrinsic evidence is inherently "less reliable" than intrinsic

evidence, and "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1318-19.

Extrinsic evidence is a last resort: "[i]n those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

V. PERSON OF ORDINARY SKILL IN THE ART

This is a hypothetical person of ordinary skill and "ordinary creativity." *KSB Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420 (2007). "Factors that may be considered in determining [the] level of ordinary skill in the art include: (1) the educational level of the inventor[s]; (2) type of problems encountered in the art; (3) prior art solutions to the problems; (4) rapidity with which inventions are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Envtl. Designs Ltd. v. Union Oil Co. of California*, 713 F.2d 693, 696-97 (Fed. Cir. 1983) ("*Envtl. Designs*") (citations omitted). "These factors are not exhaustive but merely a guide to determining the level of ordinary skill in the art." *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F3d 1254, 1256 (Fed. Cir. 2007).). The hypothetical person of skill is also separately presumed to have knowledge of all the relevant prior art in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 693, 697 (Fed. Cir. 1983).

The Parties disagreed over the qualifications of a person of ordinary skill in the art ("POSA") for the Asserted Patents. According to Complainants, a POSA "would have had at least the equivalent of a Bachelor's degree in engineering, physics, or chemistry and two years of academic, research, or industry experience related to fluid mechanics, fluid dynamics, or microfluidics." (CPBr. at 12.). According to Respondent and Staff, a POSA "would have had a Ph.D. in chemical engineering, mechanical engineering, biomedical engineering, fluid dynamics,

or a related discipline, with two years of work experience in the field of microfluidic devices." (RPBr. at 17; SPBr. at 21.). The Parties have not explored the reasons for this disagreement.

This Order does not resolve the POSA issue because it is not germane to the claim construction requested by the Parties. In arguing for their proposed constructions of disputed terms, the Parties have appropriately focused on the intrinsic evidence. Neither of the Parties has indicated in any of their filed documents that the POSA definition is necessary or dispositive for construction of the disputed claim terms.

To the extent this issue could be necessary for testimony during the upcoming evidentiary hearing, the Parties should agree on a POSA definition. If the Parties have reserved their positions for the evidentiary hearing, their explanation must address each of the factors set forth in *Envtl. Designs*, *supra*.

VI. SUMMARY OF CONSTRUCTIONS REGARDING DISPUTED CLAIM TERMS

The Parties dispute the construction of "channel junction" and "droplet generation region." The Parties also dispute whether, in the context of the '664 patent, "droplet generation region" is adequately defined by the claim language and therefore does not require separate construction. The Parties agree that "channel junction" and "droplet generation region" have the same meaning. (ROMBr. at 1; COMBr at 1; SMBr. at 13.).

The meaning of "channel junction" and "droplet generation region" is "the intersection of (1) a sample-containing dispersed phase fluid inlet channel, (2) a continuous phase fluid inlet channel, and (3) a droplet outlet channel." To preserve consistency in the interpretation of claim terms across Asserted Patents and adhere to the intrinsic evidence, this construction of "droplet generation region" is incorporated into all asserted claims where that term appears, including claims of the '664 patent.

VII. PROCEEDINGS GOING FORWARD

A. Supplementation in Response to This Order

The Parties may not file supplemental expert reports in response to this Order. No additional discovery will be permitted because of this Order. No re-argument of the claims construed in this Order may occur.

As the Parties proceed in this Investigation, the Parties will be expected to notify Chambers of any issues that have become moot, or have been eliminated for any reason. The Parties' required outlines that must identify any issues, claims, defenses, prior art, theories, or any other content that was originally asserted or argued, should subsequently, in the final outline, identify all issues or contentions and patents that have been dropped or become moot for any reason.

The Parties should redact from expert reports and from any other documents upon which they intend to rely any issues, claims, defenses, prior art, theories, or any other content that has been rendered moot or disallowed as a result of this or other Orders, or termination from this Investigation of patent claims or allegations. The Parties must file on EDIS any expert reports or documents that have been redacted for the reasons stated above, and provide two (2) copies to Chambers.

B. Streamlining the Investigation

To the extent that this *Markman* Order will enable the Parties to streamline the Investigation, the Parties are encouraged to drop issues now in advance of the hearing scheduled for May 7-11, 2018.

For example, Respondent should be notified now which patents/claims will be eliminated so that it (and the Court) do not waste unnecessary resources preparing to address patents or

claims that will be dropped. Moreover, prompt identification of dropped patents/claims will give Respondent time to eliminate invalidity theories.

Complainants are ordered to identify additional eliminated claims and/or patents and to file a statement ("Statement") of its streamlined case (including redacted reports and pre-trial briefs) by April 13, 2018. Respondent is ordered to identify eliminated invalidity theories/prior art and to provide a streamlined Statement (and redacted expert reports and pre-trial briefs) by April 20, 2018. In the event that there are no eliminated claims, defenses, or issues, each of the Private Parties must still file a Statement indicating that there are no such eliminations. Moreover, the Private Parties are encouraged promptly to resolve each issue in this Investigation for which there is no reasonable dispute or little, or weak, evidentiary support.

C. Settlement

It is strongly recommended that the Parties take informal opportunities to engage in settlement.

VIII. CONCLUSION

Constructions of the disputed claim terms are adopted by this Order for the reasons discussed in Chart 1 in Appendix A. The constructions of the agreed-upon claim terms listed in Chart 2 in Appendix A are also adopted by this Order.

Within seven (7) business days of the date of this document, each party shall submit to the Office of the Administrative Law Judges a statement as to whether or not[4] it seeks to have any confidential portion of this document (including Charts 1 and 2) deleted from the public version. Any party seeking redactions to the public version must submit to this office two (2)

[4] This means that parties that do not seek to have any portion of this Order redacted are still required to submit a statement to this effect.

copies of a proposed public version of this document pursuant to Ground Rule 1.10 with red brackets clearly indicating any portion asserted to contain confidential business information.

The Parties' submissions may be made by facsimile and/or hard copy by the aforementioned date. In addition, an electronic courtesy copy is required pursuant to Ground Rule 1.3.2.

The Parties' submissions concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

MaryJoan McNamara
Administrative Law Judge

Inv. No. 337-TA-1068
Appendix A to Order No. 20

Chart 1: Court's Constructions of Disputed Claim Terms That Remain Relevant in this Investigation[1]

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
All Asserted Patents						
'160: **all**[3] '664: **all**[4] '682: **all**[5]	"channel junction" "droplet generation	the intersection of: a channel configured to carry or carrying a sample containing	the intersection of the sample input channel that receives the dispersed phase fluid	the intersection of a dispersed-phase or sample fluid inlet channel, a continuous-	the intersection of (1) a sample-containing dispersed phase fluid inlet channel,	The Parties agree that "channel junction" and "droplet generation region" have the same meaning and that the meaning includes the intersection of three channels. (ROMBr. at 1; COMBr at 1; SMBr. at 13.). The Parties disagree in terms of how to characterize

[1] Underlying means that the Parties have sought construction of that term, either as agreed upon or disputed.

[2] Dependent claims are listed in parentheses beside corresponding independent claims. "All" means all asserted claims.

[3] Heading into the hearing, Complainants accuse Respondent of infringing claims 4–5, 8, and **20**–21 of the '160 patent (independent claims in bold). (CPBr. at 12-21.).

[4] Heading into the hearing, Complainants accuse Respondent of infringing claims **1**, 2, 4, **8**, 9, 11, **14**, 15, and 16 of the '664 patent (independent claims in bold). (CPBr. at 29-41.).

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
'635: **all**[6]	region"	aqueous or dispersed phase fluid (also referred to as discontinuous fluid), a channel configured to carry or carrying a continuous phase fluid (also referred to as oil or	from the sample well, the oil input channel that receives the continuous-phase or background fluid from the oil well, and the droplet outlet channel that outputs to the droplet well, at which	phase or background fluid inlet channel, and a droplet outlet channel, at which droplets are generated	(2) a continuous phase fluid inlet channel, and (3) a droplet outlet channel	the channels. Complainants' construction is too broad insofar as it includes "configured to carry or carrying" language. As Respondent rightly observes, Complainants' construction does not adequately differentiate between channels. (ROMBr. at 26.). This is because, while the aqueous or dispersed phase fluid inlet channel is configured to carry or carries "a sample containing aqueous or dispersed phase fluid," so does the outlet channel because droplets that move through the outlet

[5] Heading into the hearing, Complainants accuse Respondent of infringing claims **1**, 7, 9, **14**, and 16-19 of the '682 patent (independent claims in bold). (CPBr. at 50-58.).

[6] Heading into the hearing, Complainants accuse Respondent of infringing claims **1**, 13–14, **16**, and 21 of the '635 patent (independent claims in bold). (CPBr. at 64-69.).

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
		background fluid) and a channel configured to carry or carrying droplets from the intersection.	droplets are generated[7]			channel include among their constituent parts aqueous or dispersed phase fluid. Similarly, while the continuous phase fluid inlet channel is configured to carry and carries "continuous phase fluid," so does the outlet channel because droplets that move through the outlet channel include among their constituent parts continuous phase fluid. In other words, Complainants' construction could cover the intersection of multiple mixed-use channels that each contain dispersed phase and continuous phase fluid. Such a broad claim scope is not consistent with the intrinsic evidence, which reveals that each inlet channel is characterized by the type of fluid it

[7] First, in its contention interrogatory responses on infringement, Respondent stated that the droplet generation region was "the intersection of (1) a first input channel with a dispersed phase or sample-containing fluid, (2) a second input channel with a continuous phase and (3) a third output channel with sample-containing droplets or emulsions." (CRMBr. at 1.). Next, in the Joint CC Chart, Respondent added the limitation that the sample input channel must "receive the dispersed phase fluid from the sample well." (*Id.*; Joint CC Chart at 3.). Then, in its claim construction brief, Respondent appeared to add the limitation that the sample channel must *extend from* the sample well to the droplet generation region. (ROMBr. at 24, 26, 40.).

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						carries (dispersed phase or continuous phase). (ROMBr. at 21 (citing JXM–0001 ('160 Patent) at 66:28-67:8; JXM–0002 ('664 Patent) at 16:60-17:28).). The construction of "channel junction" and "droplet generation region" that Respondent proposed in the Joint CC Chart is generally consistent with the intrinsic evidence and Respondent's interpretation of its extrinsic evidence.[8]

[8] Respondent offered the expert declaration of Dr. Juan Santiago ("Santiago Declaration"), a tenured professor in Stanford University's Mechanical Engineering Department, who has led teams of engineers in the design, construction, testing, and optimization of microfluidic devices. (RXM–015 (Santiago Declaration) ¶ 5-6, 8.). Dr. Santiago previously served as the chair of the Department's Thermosciences group, which studies fluid mechanics, among other things. (*Id.* ¶ 5.). According to Dr. Santiago, a POSA "would understand [droplet generation region and channel junction], in the context of the Asserted Patents, to require that: the sample input channel comes from the sample well and that this channel receives the fluid contained in the sample well; the oil input channel comes from the oil well and that this channel receives the fluid in the oil well; and the droplet outlet channel outputs an emulsion to the droplet well. The intersection of the sample channel, at least one oil channel, and the droplet (output) channel is where the droplets are formed." (*Id.* ¶ 20.). According to Respondent, Dr. Santiago is saying that "the sample input channel comes from the sample well *in that* the channel receives the fluid contained in the sample well; the oil input channel comes from the oil well *in that* the channel receives the fluid in the oil well; and the droplet outlet channel outputs to the droplet well." (ROMBr. at 26 (emphasis added).). To the extent that they assert that sample channels contain sample-containing fluid from sample-containing wells and oil channels

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						(Joint CC Chart at 3, 8, 10.). In the Asserted Patents, each inlet channel is characterized by the type of fluid it carries (dispersed phase or continuous phase). (ROMBr. at 21 (citing JXM–0001 ('160 Patent) at 66:28-67:8; JXM–0002 ('664 Patent) at 16:60-17:28).). Nevertheless, stating that a channel "receives the ___ fluid *from* the ___ well" does have a narrowing effect insofar as the language requires receipt of fluid in a channel from a well, as opposed to merely requiring that a channel be configured to receive such fluid. This narrowing inappropriately departs from the plain and ordinary meaning of the claim language, as

contain oil from oil wells, Respondent and Dr. Santiago generally enjoy the support of the intrinsic evidence. To the extent they argue that inlet channels must *extend from* particular wells to channel junctions or droplet generation regions, Respondent and Dr. Santiago improperly import limitations from the Asserted Patent specifications and impose a narrowing construction found only in the asserted claims of the '160 patent on all claims asserted by Complainants, as discussed below. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir. 2005) (In evaluating expert testimony, a court should disregard any expert testimony that is "clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent.").

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						informed by the intrinsic evidence. In a sudden departure from its position in the Joint CC Chart, Respondent used its Opening Claim Construction Brief to announce a new and overly narrow construction of "channel junction" and "droplet generation region." Specifically, Respondent argued that "to the extent that Bio-Rad suggests that a channel that does not *extend from the sample well on the one side to the channel junction on the other side of the channel* … is nevertheless a sample channel within the ambit of the asserted claims, this is inconsistent with the claims, specification, and also the prosecution history of the '160 Patent." (ROMBr. at 24 (emphasis added).).[9]

[9] For this argument, Respondent's reliance on RXM–001 (Jan. 8, 2015 Substitute Response to Office Action in U.S. Patent Application No.12/963,523) is misplaced. (ROMBr. at 25-26.). In that submission, which amended a particular set of claims in a patent application that issued as the '160 patent, the applicant did not clearly disclaim coverage of channels that do not extend all the way from wells to "channel junctions" and "droplet generation regions." (RXM–001 at 11-12.). This was because, among other reasons, the applicant argued that the amended claims were

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						Respondent characterizes Complainants as "reach[ing] for a broader construction … that untethers the channel from the sample well that it extends from." (*Id.* at 2-3.). Respondent is correct that asserted claims of the '160 patent contain the "extending … from" limitation. However, Respondent is wrong to import this limitation into the global construction of "channel junction" and, by association, "droplet generation region." (*Id.* at 31, 35, 44, 48.). The first problem with Respondent's new, "extending … from" construction

patentably distinct over the prior art Pollack reference because they disclosed not one but two things missing from Pollack—"each channel being bounded circumferentially" and "at least two input channels extending separately from the input wells to the channel junction." (*Id.*). Thus, the Substitute Response indicates that, from the applicant's perspective, the claims would have been patentably distinct without the "extend from" language, so long as the "bounded circumferentially" limitation remained. Consequently, this is not a clear cut case of an applicant disclaiming claim scope or narrowing an "invention." *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (The prosecution history may also explain the meaning of claim language, although "it often lacks the clarity of the specification and thus is less useful for claim construction purposes.").

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						is that it deviates significantly from the construction it set forth in the Joint CC Chart. For this reason alone, pursuant to Ground Rule 1.14, Respondent's new construction is waived. (Order No. 3 (Proposed Scheduling Order and Notice of Ground Rules) at 5 ("Absent a showing of good cause, the parties will be bound by their proposed constructions for disputed claim terms on the date the joint submission of disputed claim terms is due.").). The second problem with Respondent's new construction is that the claims of the Asserted Patents vary in terms of the required connectivity of channels and wells (*Compare* JXM-0004 ('682 patent) at claim 1 ("an instrument configured . . . to drive sample-containing fluid *from the sample well to the droplet-generation region via the first channel*, continuous-phase fluid from the continuous-phase well to the

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						droplet-generation region via the second channel . . . ") *and* JXM-0002 ('664 patent) at claim 14 ("forming a droplet generation region defined by the intersection of a *first channel fluidically connected with the sample well*, a second channel fluidically connected with the background fluid well . . .") *with* JXM-0001 ('160 patent) at claim 20 ("wherein the set of channels includes at least two input channels *extending separately from the input wells to the channel junction*, at which droplets of the dispersed phase are generated in the continuous phase").). Put another way, in certain asserted claims, a first channel can still be fluidically connected to a sample well even if there are multiple channels in between the sample well and the first channel. (CRMBr. at 8.). The construction of "channel junction" and "droplet generation region" need to account for this variety in terms of how channels and wells connect.

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						Respondent's new proposed "extending from" construction would render superfluous certain claims that require connectedness between a channel and a well but not necessarily the channel extending all the way from the well to the "channel junction" or "droplet generation region." *See, e.g., Stumbo v. Eastman Outdoors, Inc.*, 508 F.3d 1358, 1362 (Fed. Cir. 2007) (rejecting a claim construction that renders other claim terms superfluous, and referring to the construction as "a methodology of claim construction that this court has denounced."); *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) ("A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so."). For example, Respondent's construction would render superfluous terms like "via" in claim 1 of the '682 patent ("from the sample well to the droplet-

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						generation region via the first channel") and "fluidically connected" in claim 14 of the '664 patent ("first channel fluidically connected with the sample well"). Also, Respondent's new global construction requiring that channels *extend from* a well to a "channel junction" or "droplet generation region," without any room for diversity in well and channel connectedness, is inconsistent with the intrinsic evidence on channels. For example, Asserted Patents disclose that a channel can have more than one inlet. (JXM-0001 ('160 patent) at 17:62; JXM-0002 ('664 patent) at 13:25.). Asserted Patents also state that a channel can be branched and nonlinear. (JXM-0001 ('160 patent) at 18:4-5; JXM-0002 ('664 patent) at 13:34-35.).

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						Staff's construction of "channel junction" and "droplet generation region" is closest to the plain and ordinary meaning of these terms as informed by the specifications of the Asserted Patents. This is because Staff characterizes the relevant channels only in terms of the fluid they carry. However, Staff's inclusion of the term "at which droplets are generated" in the construction is unnecessary and redundant, as that function of the "channel junction" and "droplet generation region" is either inherent in the term "droplet generation region" or separately specified in the asserted claims. (*See, e.g.*, JXM-0001 ('160 patent) at 164:6-8 (claim 20) ("wherein the set of channels includes at least two input channels extending separately from the input wells to the channel junction, *at which droplets of the dispersed phase are generated* in the continuous phase")(emphasis added)).

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
'664 Patent						
'664: **1 (2,4)**	a droplet generation region defined by the network of channels and configured to generate sample-containing droplets suspended in the background fluid	a droplet generation region defined by the network of channels and configured to generate sample-containing droplets suspended in the background fluid [no underlining for droplet generation region]	a droplet generation region defined by the network of channels and configured to generate sample-containing droplets suspended in the background fluid		a droplet generation region defined by the network of channels and configured to generate sample-containing droplets suspended in the background fluid	Complainants argue that in the context of the '664 patent, "droplet genération region" does not require a separate construction. (COMBr. at 20.). Complainants contend, against opposition from Respondent and Staff, that, in these claims, "droplet generation region" is specified by the claims themselves and that this condition is signaled by the use of "defined" in the claim language. (*Id.*). Yet, Complainants' request is belied by its own claim construction arguments, which seek to harmonize "channel junction" and "droplet generation region" across Asserted Patents. (COMBr. at 13 ("The disclosure in the '664 patent is no different. The 'droplet generation region,' which the parties agree has the same meaning as channel junction and channel

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						intersection, is 'defined by a network of channels 530 and configured to generate sample containing droplets suspended in the background fluid.' Proposed JXM-0002, '664 patent at 25:62-64. The '664 patent describes the droplet generation region as 'the intersection of a sample channel 534, a pair of background fluid channels 536a, 536b, and droplet channel 538.' Proposed JXM-0002, '664 patent at 25:64-67.").). Moreover, Complainants appear to condition their opposition to the incorporation of the "droplet generation region" construction into the asserted claims of the '664 patent on the adoption of Respondent's construction of that term. (COMBr. at 22.). Complainants' stand against incorporation is now moot, as Respondent's construction of "droplet generation region" was rejected.

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
						To preserve consistency in the interpretation of claim terms across Asserted Patents and remain true to the intrinsic evidence, the construction of "droplet generation region" set forth above is incorporated in asserted claims of the '664 patent.
'664: **14 (15,16)**	forming a droplet generation region defined by the intersection of a first channel fluidically connected with the sample well, a second channel	forming a droplet generation region defined by the intersection of a first channel fluidically connected with the sample well, a second channel fluidically connected with the background	forming a droplet generation region defined by the intersection of a first channel fluidically connected with the sample well, a second channel fluidically connected with the background fluid well, and a third channel fluidically connected with the droplet outlet region		forming a droplet generation region defined by the intersection of a first channel fluidically connected with the sample well, a second channel fluidically connected with the	To preserve consistency in the interpretation of claim terms across Asserted Patents and adhere to the intrinsic evidence, the construction of "droplet generation region" is incorporated in asserted claims of the '664 patent. See row immediately above for analysis.

Patent/ Claim(s)[2]	Term(s) to be Construed	Cs' Proposed Construction	R's Proposed Construction	Staff's Proposed Construction	Adopted Construction	Rationale/Support for the Adopted Construction
	fluidically connected with the background fluid well, and a third channel fluidically connected with the droplet outlet region	fluid well, and a third channel fluidically connected with the droplet outlet region [no underlining for droplet generation region]			background fluid well, and a third channel fluidically connected with the droplet outlet region	

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Chart 2: Adopted Claim Constructions Based Upon the Parties' Agreed Upon Constructions That Remain Relevant in this Investigation[1]

Patent/Claim(s)[2]	Term	Construction
'160 Patent[3]		
'160: **all**	channel	an elongate passage for fluid travel
'160: **all**	dispersed phase	an aqueous phase or other fluid that is immiscible with the continuous phase
'160: 1 **(4,5,8); 20 (21)**	at least two input channels extending separately from the input wells to the channel junction, at which droplets of the dispersed phase are generated in the continuous phase	at least two input channels extending separately from the input wells to the channel junction, at which droplets of the dispersed phase are generated in the continuous phase
'160: 1 **(4,5,8)**	a set of wells connected by channels that form a channel junction	a set of wells connected by channels that form a channel junction
'664 Patent[4]		
'664: **all**	channel	an elongate passage for fluid travel

[1] Underlying means that the Parties have sought construction of that term, either as agreed upon or disputed.

[2] Bolded claims are asserted, whereas un-bolded claims are not. Dependent claims are listed in parentheses beside corresponding independent claims. "All" means all asserted claims.

[3] Heading into the hearing, Complainants accuse Respondent of infringing claims 4–5, 8, and **20**–21 of the '160 patent (independent claims in bold). (CPBr. at 12-21.).

[4] Heading into the hearing, Complainants accuse Respondent of infringing claims **1**, 2, 4, **8**, 9, 11, **14**, 15, and 16 of the '664 patent (independent claims in bold). (CPBr. at 29-41.).

Patent/Claim(s)[2]	Term	Construction
'664: **all**	sample	a compound, composition, and/or mixture of interest, from any suitable source(s)
'664: **1 (2,4)**	a network of channels / a channel network	an interconnected arrangement of channels
'664: **1 (2,4)**	wherein the first channel is configured to transport sample-containing fluid from the sample well to the droplet generation region	wherein the first channel is configured to transport sample-containing fluid from the sample well to the droplet generation region
'664: **1 (2,4)**	a network of channels…fluidically interconnecting the sample well, the background fluid well, and the droplet well	a network of channels. . . fluidically interconnecting the sample well, the background fluid well, and the droplet well
'664: **8 (9,11)**	transporting sample-containing fluid through a first channel, from the sample well to a droplet generation region	transporting sample-containing fluid through a first channel, from the sample well to a droplet generation region
'682 Patent[5]		
'682: **all**	channel	an elongate passage for fluid travel
'682: **all**	sample	a compound, composition, and/or mixture of interest, from any suitable source(s)
'682: **1 (7,9); 14 (16-19)**	a network of channels / a channel network	an interconnected arrangement of channels

[5] Heading into the hearing, Complainants accuse Respondent of infringing claims **1**, 7, 9, **14**, and 16-19 of the '682 patent (independent claims in bold). (CPBr. at 50-58.).

Patent/Claim(s)[2]	Term	Construction
'682: **1 (7,9)**	a channel network having a first channel, a second channel, and a third channel that meet one another in a droplet-generation region	an interconnected group of channels having a first channel, a second channel, and a third channel that meet one another in a droplet-generation region
'682: **1 (7,9)**	an instrument configured . . . to drive sample containing fluid from the sample well to the droplet-generation region via the first channel	an instrument configured…to drive sample-containing fluid from the sample well to the droplet-generation region via the first channel
'682: **14 (16-19)**	a corresponding channel network for each sample well, the channel network including a droplet-generation region and fluidically connecting the sample well to one of the continuous-phase wells and one of the droplet wells	a corresponding channel network for each sample well, the channel network including a droplet-generation region and fluidically connecting the sample well to one of the continuous-phase wells and one of the droplet wells
'682: **14 (16-19)**	such that sample-containing fluid flows from each sample well to the corresponding droplet-generation region	such that sample-containing fluid flows from each sample well to the corresponding droplet-generation region
'635 Patent[6]		
'635: all	channel	an elongate passage for fluid travel
'635: all	sample	a compound, composition, and/or mixture of interest, from any suitable source(s)

[6] Heading into the hearing, Complainants accuse Respondent of infringing claims **1**, 13–14, **16**, and 21 of the '635 patent (independent claims in bold). (CPBr. at 64-69.).

Patent/Claim(s)[2]	Term	Construction
'635: **1 (13-14)**	a first pressure differential to drive sample-containing fluid from the sample well to the droplet-generation region via the first channel	a first pressure differential to drive sample-containing fluid from the sample well to the droplet generation region via the first channel
'635: **16 (21)**	a network of channels / a channel network	an interconnected arrangement of channels
'635: **16 (21)**	a plurality of separate channel networks, each sample well being fluidically connected to one of the continuous-phase wells and one of the droplet wells via one of the channel networks, each channel network having a first channel, a second channel, and a third channel that meet one another in a droplet-generation region	a plurality of separate channel networks, each sample well being fluidically connected to one of the continuous-phase wells and one of the droplet wells via one of the channel networks, each channel network having a first channel, a second channel, and a third channel that meet one another in a droplet-generation region
'635: **16 (21)**	a first pressure differential to drive sample-containing fluid from each sample well and continuous-phase fluid from each continuous-phase well, such that sample-containing droplets are formed in the droplet-generation region	a first pressure differential to drive sample-containing fluid from each sample well and continuous-phase fluid from each continuous-phase well, such that sample-containing droplets are formed in the droplet-generation region

PUBLIC CERTIFICATE OF SERVICE

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served by hand upon the Commission Investigative Attorney, **Whitney Winston, Esq.**, and the following parties as indicated, on **April 16, 2018**.

Lisa R. Barton, Secretary
U.S. International Trade Commission
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