IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

CORE LABORATORIES, LP,	)	
	)	
Plaintiff,	)	
	)	
vs.	)	Case No. CIV-11-1157-M
	)	
SPECTRUM TRACER SERVICES, L.L.C.,	)	
STEVE FAUROT AND KELLY BRYSON,	)	
	)	
Defendants.	)	

ORDER

The parties have filed a Joint Claim Construction and Prehearing Statement, opening claim construction briefs, and responses to the opening claim construction briefs. On June 20, 2012, the Court held a *Markman* hearing. During the hearing plaintiff Core Laboratories called an expert witness, Gary Wooley. On June 22, 2012, Plaintiff's Supplemental Brief Regarding Claim Construction was filed.

I. Introduction

Plaintiff Core Laboratories, LP ("Core") owns U.S. Patent Nos. 6,659,175 (the '175 Patent), and 7,032,662 (the '662 Patent). Core is a provider of proprietary and patented services used to maximize hydrocarbon recovery from Core's producing fields. SpectraChem is one such service. One way Core maximizes production is through the process known as facturing. Facturing requires the injection of several materials into a hydrocarbon-bearing formation. If the removal of these materials is not done promptly it can increase the cost to the operator of the well by delaying production and causing excess removal expenses.

The '175 and the '662 Patents generally describe a method where a tracer is admixed with

a material that is injected into an oil well. After the mixture is injected into an oil well, the injected material is recovered along with reservoir fluids as a production fluid. The '175 and the '662 Patents specifically describe two methods of determining the extent of recovery of materials injected. The first method is known as the mass balance approach. In the mass balance approach, the total amount of tracer admixed with the injected material is known. The amount of injected admixture recovered is determined by using a formula. The second method is the relative rate of recovery method. Using the relative rate of recovery method, samples of production fluid are taken and plotted against time and/or flow rates on a graph.

II. Standards Governing Claim Construction

The purpose of a *Markman* hearing is for the Court, as a matter of law, to decide upon clear definitions of a patent's terms for a jury to use in determining whether there has been infringement. In *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), the Federal Circuit restated the pertinent principles a court must apply when it engages in claim construction:

> The first paragraph of section 112 of the Patent Act, 35 U.S.C. § 112, states that the specification
>
> > shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains ... to make and use the same ....
>
> The second paragraph of section 112 provides that the specification
>
> > shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
>
> Those two paragraphs of section 112 frame the issue of claim interpretation for us. The second paragraph requires us to look to the language of the claims to determine what "the applicant regards as his invention." On the other hand, the first paragraph requires that the specification describe the invention set forth in the claims.

* * *

It is a "bedrock principle" of patent law that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Innova [Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)]; *see also Vitronics [Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 2004)] ("we look to the words of the claims themselves ... to define the scope of the patented invention)"; *Markman [v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996)] ("The written description part of the specification itself does not delimit the right to exclude. That is the function and purpose of claims."). . . . Because the patentee is required to "define precisely what his invention is," the Court explained, it is "unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms." *White v. Dunbar*, 119 U.S. 47, 52, 7 S.Ct. 72, 30 L.Ed. 303 (1886); *see also Cont'l Paper Bag Co. v. E. Paper Bag Co.*, 210 U.S. 405, 419, 28 S.Ct. 748, 52 L.Ed. 1122 (1908) ("the claims measure the invention"); *McCarty v. Lehigh Valley R.R. Co.*, 160 U.S. 110, 116, 16 S.Ct. 240, 40 L.Ed. 358 (1895) ("if we once begin to include elements not mentioned in the claim, in order to limit such claim ..., we should never know where to stop"); *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339, 81 S.Ct. 599, 5 L.Ed.2d 592 (1961) ("the claims made in the patent are the sole measure of the grant").

We have frequently stated that the words of a claim "are generally given their ordinary and customary meaning." *Vitronics*, 90 F.3d at 1582; *see also Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed.Cir.1999); *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1249 (Fed.Cir.1998). We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application. *See Innova*, 381 F.3d at 1116 ("A court construing a patent claim seeks to accord a claim the meaning it would have to a person of ordinary skill in the art at the time of the invention."); *Home Diagnostics, Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1358 (Fed.Cir.2004) ("customary meaning" refers to the "customary meaning in [the] art field"); *Ferguson Beauregard/Logic Controls v. Mega Sys., LLC*, 350 F.3d 1327, 1338 (Fed.Cir.2003) (claim terms "are examined through the viewing glass of a person skilled in the art"); *see also PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1363 (Fed.Cir.2005) (meaning

of claim "must be interpreted as of [the] effective filing date" of the patent application); *Schering Corp. v. Amgen Inc.*, 222 F.3d 1347, 1353 (Fed.Cir.2000)(same).

The inquiry into how a person of ordinary skill in the art understands a claim term provides an objective baseline from which to begin claim interpretation. *See Innova*, 381 F.3d at 1116. That starting point is based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art. *See Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1119 (Fed.Cir.2002) (patent documents are meant to be "a concise statement for persons in the field"); *In re Nelson*, 47 C.C.P.A. 1031, 280 F.2d 172, 181 (1960) ("The descriptions in patents are not addressed to the public generally, to lawyers or to judges, but, as section 112 says, to those skilled in the art to which the invention pertains or with which it is most nearly connected.").

Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification. This court explained that point well in *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed.Cir.1998):

> It is the person of ordinary skill in the field of the invention through whose eyes the claims are construed. Such person is deemed to read the words used in the patent documents with an understanding of their meaning in the field, and to have knowledge of any special meaning and usage in the field. The inventor's words that are used to describe the invention – the inventor's lexicography – must be understood and interpreted by the court as they would be understood and interpreted by a person in that field of technology. Thus the court starts the decisionmaking process by reviewing the same resources as would that person, *viz.*, the patent specification and the prosecution history.

See also Medrad, Inc. v. MRI Devices Corp., 401 F.3d 1313, 1319 (Fed.Cir.2005) ("We cannot look at the ordinary meaning of the term ... in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history."); *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1310

(Fed.Cir.2005) (intrinsic record "usually provides the technological and temporal context to enable the court to ascertain the meaning of the claim to one of ordinary skill in the art at the time of the invention"); *Unitherm Food Sys., Inc. v. Swift-Eckrich, Inc.*, 375 F.3d 1341, 1351 (Fed.Cir.2004) (proper definition is the "definition that one of ordinary skill in the art could ascertain from the intrinsic evidence in the record").

In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. *See Brown v. 3M*, 265 F.3d 1349, 1352 (Fed.Cir.2001) (holding that the claims did "not require elaborate interpretation"). In such circumstances, general purpose dictionaries may be helpful. In many cases that give rise to litigation, however, determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art. Because the meaning of a claim term as understood by persons of skill in the art is often not immediately apparent, and because patentees frequently use terms idiosyncratically, the court looks to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean." *Innova*, 381 F.3d at 1116. Those sources include "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art." *Id.*; *see also Gemstar-TV Guide Int'l, Inc. v. Int'l Trade Comm'n*, 383 F.3d 1352, 1364 (Fed.Cir.2004); *Vitronics*, 90 F.3d at 1582-83; *Markman*, 52 F.3d at 979-80.

Quite apart from the written description and the prosecution history, the claims themselves provide substantial guidance as to the meaning of particular claim terms. *See Vitronics*, 90 F.3d at 1582; *see also ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1088 (Fed.Cir.2003) ("the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms").

To begin with, the context in which a term is used in the asserted claim can be highly instructive. . . .

Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of

a claim term. *Victronics*, 90 F.3d at 1582. Because claim terms are normally used consistently throughout the patent, the usage of a term in one claim can often illuminate the meaning of the same term in other claims. *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed.Cir.2001); *CVI/Bata Ventures, Inc. v. Tura LP*, 112 F.3d 1146, 1159 (Fed.Cir.1997). . . .

The claims, of course, do not stand alone. Rather, they are part of "a fully integrated written instrument," *Markman*, 52 F.3d at 978, consisting principally of a specification that concludes with the claims. For that reason, claims "must be read in view of the specification, of which they are a part." *Id.* at 979. As we stated in *Vitronics*, the specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." 90 F.3d at 1582.

* * *

Shortly after the creation of this court, Judge Rich wrote that "[t]he descriptive part of the specification aids in ascertaining the scope and meaning of the claims inasmuch as the words of the claims must be based on the description. The specification is, thus, the primary basis for construing the claims." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed.Cir.1985). On numerous occasions since then, we have reaffirmed that point, stating that "[t]he best source for understanding a technical term is the specification from which it arose, informed, as needed, by the prosecution history." *Multiform Desiccants*, 133 F.3d at 1478; *Metabolite Labs, Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed.Cir.2004) ("In most cases, the best source for discerning the proper context of claim terms is the patent specification wherein the patent applicant describes the invention."); *see also, e.g., Kinik Co. v. Int'l Trade Comm'n*, 362 F.3d 1359, 1365 (Fed.Cir.2004) ("The words of patent claims have the meaning and scope with which they are used in the specification and the prosecution history."); *Moba, B.V. v. Diamond Automation, Inc.*, 325 F.3d 1306, 1315 (Fed.Cir.2003) ("[T]he best indicator of claim meaning is its usage in context as understood by one of skill in the art at the time of invention.").

* * *

In addition to consulting the specification, we have held that a court "should also consider the patent's prosecution history, if it is in evidence." *Markman*, 52 F.3d at 980; *see also Graham v. John*

Deere Co., 383 U.S. 1, 33, 86 S.Ct. 684, 15 L.Ed.2d 545 (1966) ("[A]n invention is construed not only in the light of the claims, but also with reference to the file wrapper or prosecution history in the Patent Office."). The prosecution history, which we have designated as part of the "intrinsic evidence," consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent. *Autogiro*, 384 F.2d at 399. Like the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent. *See Lemelson v. Gen. Mills, Inc.*, 968 F.2d 1202, 1206 (Fed.Cir.1992). Furthermore, like the specification, the prosecution history was created by the patentee in attempting to explain and obtain the patent. Yet because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes. *See Inverness Med. Switz. GmbH v. Warner Lambert Co.*, 309 F.3d 1373, 1380-82 (Fed.Cir.2002) (the ambiguity of the prosecution history made it less relevant to claim construction); *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1580 (Fed.Cir.1996) (the ambiguity of the prosecution history made it "unhelpful as an interpretive resource" for claim construction). Nonetheless, the prosecution history can often inform the meaning of the claim language by demonstrating 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. *Vitronics*, 90 F.3d at 1582-83; *see also Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed.Cir.2005) ("The purpose of consulting the prosecution history in construing a claim is to 'exclude any interpretation that was disclaimed during prosecution.'"), *quoting ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1580 (Fed.Cir.1988); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed.Cir.1995).

Although we have emphasized the importance of intrinsic evidence in claim construction, we have also authorized district courts to rely on extrinsic evidence, which "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980, *citing Seymour v. Osborne*, 78 U.S. (11 Wall.) 516, 546, 20 L.Ed. 33 (1870); *see also Vitronics*, 90 F.3d at 1583. However, while extrinsic evidence "can shed useful light on the relevant art," we have explained that it is "less significant than the intrinsic record in determining 'the legally operative meaning of claim language.'" *C.R.*

Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 862 (Fed.Cir.2004), *quoting Vanderlande Indus. Nederland BV v. Int'l Trade Comm'n*, 366 F.3d 1311, 1318 (Fed.Cir.2004); *see also Astrazenca AB v. Mutual Pharm. Co.*, 384 F.3d 1333, 1337 (Fed.Cir.2004).

Within the class of extrinsic evidence, the court has observed that dictionaries and treatises can be useful in claim construction. *See Renishaw*, 158 F.3d at 1250; *Rexnord*, 274 F.3d at 1344. We have especially noted the help that technical dictionaries may provide to a court "to better understand the underlying technology" and the way in which one of skill in the art might use the claim terms. *Victronics*, 90 F.3d at 1584 n. 6. Because dictionaries, and especially technical dictionaries, endeavor to collect the accepted meanings of terms used in various fields of science and technology, those resources have been properly recognized as among the many tools that can assist the court in determining the meaning of particular terminology to those of skill in the art of the invention. *See Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed.Cir.2002). Such evidence, we have held, may be considered if the court deems it helpful in determining "the true meaning of language used in the patent claims." *Markman*, 52 F.3d at 980.

We have also held that extrinsic evidence in the form of expert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, to explain how an invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308-09 (Fed.Cir.1999); *Kep Pharms. v. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed.Cir.1998). However, conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court. Similarly, a court should discount 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." *Key Pharms.*, 161 F.3d at 716.

We have viewed extrinsic evidence in general as less reliable than the patent and its prosecution history in determining how to read claim terms, for several reasons. First, extrinsic evidence by definition is not part of the patent and does not have the specification's virtue of being created at the time of patent prosecution for the purpose of

> explaining the patent's scope and meaning. Second, while claims are construed as they would be understood by a hypothetical person of skill in the art, extrinsic publications may not be written by or for skilled artisans and therefore may not reflect the understanding of a skilled artisan in the field of the patent. Third, extrinsic evidence consisting of expert reports and testimony is generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence. The effect of that bias can be exacerbated if the expert is not one of skill in the relevant art or if the expert's opinion is offered in a form that is not subject to cross-examination. *See Senmed, Inc. v. Richard-Allan Med. Indus., Inc.*, 888 F.2d 815, 819 n. 8 (Fed.Cir.1989). Fourth, there is a virtually unbounded universe of potential extrinsic evidence of some marginal relevance that could be brought to bear on any claim construction question. In the course of litigation, each party will naturally choose the pieces of extrinsic evidence most favorable to its cause, leaving the court with the considerable task of filtering the useful extrinsic evidence from the fluff. *See Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 595, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993) ("Expert evidence can be both powerful and quite misleading because of the difficulty in evaluating it."). Finally, undue reliance on extrinsic evidence poses the risk that it will be used to change the meaning of claims in derogation of the "indisputable public records consisting of the claims, the specification and the prosecution history," thereby undermining the public notice function of patents. *Southwall Techs.*, 54 F.3d at 1578.
>
> In sum, extrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence. Nonetheless, because extrinsic evidence can help educate the court regarding the field of the invention and can help the court determine what a person of ordinary skill in the art would understand claim terms to mean, it is permissible for the district court in its sound discretion to admit and use such evidence. In exercising that discretion, and in weighing all the evidence bearing on claim construction, the court should keep in mind the flaws inherent in each type of evidence and assess that evidence accordingly.

Id. at 1311-19.

III. Discussion

The parties disagree about the meaning of the following terms and phrases: (1) extent, (2)

extent of recovery, (3) amount, (4) amount of ["admixture' or material of interest"] recovered, (5) calculating, (6) calculating the amount of ["admixture' or 'material of interest"] recovered, and (7) oil well. The disputed terms and phrases are discussed in turn.

A. Extent

While the parties agree that this term should have its ordinary meaning, Core contends in the context of the '175 Patent and the '162 Patent "extent" means "degree". *See, e.g.*, '175 patent at Title; col 2, ll 13-19; col. 3, ll 29-34; col. 4, ll 46-50; *see also* '662 patent at Title; Abstract; col. 1, ll 19-24; col. 2 ll 6-31; col. 3, ll 54-59; col. 5, ll 9-12. Core also contends defendants' circular construction of the term "extent" does not fit the context of the patents and would be confusing to the jury. Finally, during the *Markman* hearing Core's expert Dr. Wooley testified that Core's proposed claim constructions are consistent with the understanding of a person of ordinary skill in the art. The defendants, referring to a definition found in *Webster's Third International Dictionary*, 805 (1993), propose that the term "extent" should mean "the point or degree to which something extends."

Because the context of the patent is important in determining the proper construction of a claim term, *see Phillips v. AWH Corp.*, 415 F.3d 1303 at 1313 (Fed. Cir. 2005) (en banc), the Court finds that the term "extent" should be construed in light of the context of the '175 and '662 Patents. Accordingly, having carefully reviewed the claims and the specifications, the Court finds that the term "extent" should be construed as follows: "degree".

B. Extent of Recovery

The parties' positions and arguments as to the claim term "extent of recovery" are similar to the arguments above. Core contends "extent of recovery" should have its ordinary meaning.

Specifically, Core contends in the context of the '175 and '662 Patents, "extent of recovery" means "degree of recovery". Core contends its proposed construction of extent of recovery is supported by the patent claims and specification and that defendants' is not. Again, Core's proposed construction is supported by the written report and testimony of its expert Dr. Wooley. Defendants propose "extent of recovery" should mean "the point or degree to which the recovery of the ['materials injected' or 'material of interest'] recovered". Defendants contend their definition suggests a mathematical computation which fits perfectly with the content of the rest of the claim. Relying on the Notice of Allowability defendants contend the calculation steps and the specificity set forth therein are the reason the '175 Patent was approved.

For the reasons previous stated, the Court finds that the term "extent of recovery" should be construed as meaning "degree of recovery".

C. Amount

Core contends that the term "amount" should have its ordinary meaning. Specifically, Core contends that the term "amount" should be construed to mean "quantity". Defendants contend that the term "amount" should be construed to mean "the total number or quantity".

Core asserts its proposed construction is consistent with and supported by the patent claims and specifications. *See, e.g.,* '175 patent col. 5, ll 23-52. Core contends the word total does not exist in the original claim language; thus, defendants' proposed construction alters the meaning of the claim. Core's proposed construction of the term "amount" is also supported by the expert report and testimony of Dr. Wooley.

Defendants' proposed definition for "amount" is "total number or quantity." Defendants contend the word "total" in the proposed construction is not inconsistent with the ordinary usage,

referencing *Webster's Third New International Dictionary*. Defendants also contend its proposed construction of the term "amount" is consistent with patent specifications. Defendants contend the entire purpose of the patents is to determine the total amount of admixture left in a well and if any of the required calculations do not include the fact that it is a total amount, the calculation is not functional.

Having carefully reviewed the parties submissions and the intrinsic and extrinsic evidence, the Court finds the term "amount" should be construed in light of the context of the '175 and '662 Patents. Because the original claim language does not include the word "total" the Court finds that the term "amount" should be construed as follows: "quantity".

D. Amount of ["admixture" or "material of interest"] recovered

Core proposes this term be construed consistently with the term "amount" as discussed above. Core contends in the context of the '175 and the '662 Patents, "amount of ['admixture' or 'material of interest'] " means "quantity of ['admixture' or 'material of interest'] recovered". *See, e.g.,* '175 patent col. 5, ll 23-52. Core also contends its proposed construction is supported by the expert testimony and report of Dr. Wooley. During the *Markman* hearing Dr. Wooley testified that the distinction between "the total amount" and "the amount" will raise questions for the jury not addressed in the actual claim language. Additionally, Core contends defendants' proposed construction for this term is inconsistent with defendants' proposed construction for "amount" set forth above. Specifically, defendants' proposed construction for "amount" includes the word "number" while defendants' proposed construction for "amount of ['admixture' or 'material of interest'] recovered" does not include the word "number".

Defendants propose the definition "the total quantity of ['admixture' or 'material of interest']

recovered" for this term. Defendants contend the calculation of the amount of admixture recovered must include the total amount recovered and that Core's mass balance approach will not function unless total amounts are used in the calculation.

Having carefully reviewed the parties' submissions and the intrinsic and extrinsic evidence, the Court finds that the term "amount of ['admixture' or 'material of interest'] recovered" should be construed as follows: "quantity of ['admixture' or 'material of interest] recovered".

E. Calculating and Calculating the amount of ["admixture" or "material of interest"] recovered

Core proposed that "calculating" and "calculating the amount of ['admixture' or 'material of interest'] recovered" should have its ordinary meaning. Specifically, Core proposes that "calculating" in the context of the '175 and the '662 Patents means "determining by mathematical process" and that "calculating the amount of ['admixture' or 'material of interest'] recovered" should be construed to mean "determining by mathematical process the amount of ['admixture' or 'material of interest'] recovered". *See* Merriam-Webster online dictionary. Core also contends its proposed construction of these terms are consistent with and supported by the patent claims and specification. *See, e.g.* '175 patent col. 5, ll 28-52. Core contends its proposed construction is also supported by its expert Dr. Wooley. Core contends the patent claims and specification, as well as its proposed construction for "calculating" and "calculating the amount of ['admixture' or 'material of interest'] recovered", encompass both the mass balance approach and the relative rate of recovery approach of analyzing for tracer concentration. Core also contends defendants' proposed construction violates the doctrine of claim differentiation. Specifically, Core contends defendants' proposed construction of these terms would violate the doctrine of claim differentiation by limiting Claim 1 of the '175 Patent to the mass balance approach based on Claim 9 of the '175 Patent's

limitation. *See Bradford Co. v. Conteyor, N.A., Inc.,* 603 F.2d 1262, 1271 (Fed. Cir. 2010).

Defendants' proposed definition for "calculating" is "ascertaining the amount of something by mathematical calculation". Defendants cite to *Webster's Third New International Dictionary* (1993). Defendants contend this definition is common in the industry. Defendants also contend Core's proposed construction is not supported by the intrinsic or the extrinsic evidence. Specifically, defendants disagree with Core's position that simply plotting tracer concentration over time satisfies the calculation step of the relative rate of recovery approach. Defendants contend putting a concentration on a graph is not "calculating" or "calculating the amount of admixture recovered" and Core's expansive definition should not be adopted.

Having carefully reviewed the parties' submissions and the intrinsic and extrinsic evidence presented, the Court finds that the term "calculating" and "calculating the amount of ['admixture' or 'material of interest'] recovered" should be construed as follows: "determining by mathematical process" and "determining by mathematical process the amount of ['admixture' or 'material of interest'] recovered".

F. Oil Well

The parties' disagreement over this term is limited to the '175 Patent. The parties agree that the '662 patent defines "oil well" as "hydrocarbon (gas and oil) production wells drilled in the earth, such as those that can require stimulation by hydraulic fracturing, but also any other type of well used in oil and gas production."

There are several different definitions in the '175 Patent for the term "oil well". Core's proposed definition for "oil well", taken from actual '175 language, is "hydrocarbon production wells, but also any other type of well that can require stimulation by hydraulic fracturing." *See* '175

patent at col. 2, ll 21-23. Core's proposed construction is again supported by its expert Dr. Wooley's report and testimony. Defendants propose the definition for "oil well" from the '662 Patent. Defendants contend the '662 Patent definition for the term "oil well" is a synthesis of the numerous definitions of oil well found throughout the '175 Patent.

Having carefully reviewed the parties's submissions and the intrinsic and extrinsic evidence, and construing the term "oil well" in the content of the '175 Patent, the Court finds a person of ordinary skill in the art would understand "oil well" in this context to mean "hydrocarbon production wells, but also any other type of well that can require stimulation by hydraulic fracturing". Accordingly, the Court finds that the term "oil well" should be construed as follows: "hydrocarbon production wells, but also any other type of well that can require stimulation by hydraulic fracturing".

IV. Conclusion

Accordingly, the Court finds that the terms and phrases at issue should be construed as set forth above.

IT IS SO ORDERED this 3rd day of July, 2012.

VICKI MILES-LaGRANGE
CHIEF UNITED STATES DISTRICT JUDGE