# In the United States Court of Federal Claims

No. 04-1376
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| NET RESULTS, INC., | * | |
| Plaintiff, | * | Claim Construction; Patent Infringement, 28 U.S.C. § 1498(a); RCFC 54(b) (Motion for Reconsideration). |
| v. | * | |
| THE UNITED STATES, | * | |
| Defendant. | * | |

**Deanna D. Allen, Thomas Owen Mason**, Cooley, LLP, Washington, D.C., Counsel for Plaintiff.

**John Andrew Hudalla**, United States Department of Justice, Civil Division Washington, D.C., Counsel for the Government.

**BRADEN,** *Judge*.

## MEMORANDUM OPINION AND ORDER REGARDING CLAIM CONSTRUCTION

## I. RELEVANT FACTS.[1]

Sometime in March 1996, Walter Thomas Wollny demonstrated a subsurface plastic explosive detecting system to the United States Army ("the Army"), in response to a request for proposals. Compl. ¶¶ 11-12. On August 19, 1996, Mr. Wollny filed an application with the

[*] In light of the protective order in this case, the court originally filed this Memorandum Opinion And Order under seal and asked the parties to submit any proposed redactions. The parties have informed the court that no redactions are required. The court therefore reissues this Memorandum Opinion And Order as originally filed.

[1] The facts cited and discussed herein were derived from: the August 24, 2004 Complaint ("Compl."); Plaintiff's December 17, 2012 Exhibits 1-13 ("12/17/12 Pl. Exs. 1-13"); the Government's January 10, 2013 Exhibits A-D ("1/10/13 Gov't Exs. A-D"); and Plaintiff's January 23, 2013 Exhibits 1-7 ("1/23/13 Pl. Exs. 1-7").

United States Patent and Trademark Office ("USPTO"), with the title "Mine Detecting Device Having a Housing Containing Metal Detector Coils and an Antenna," that issued on October 21, 1997, as U.S. Patent No. 5,680,048 ("the '048 patent"). Compl. ¶¶ 14-15. Net Results, Inc. ("Net Results") is a corporation organized under the laws of Nevada that develops and sells mine detection devices and is the assignee of the '048 patent. Compl. ¶¶ 4-5. The invention claimed in the '048 patent was the same device that Mr. Wollny demonstrated to the Army. Compl. ¶ 16. Subsequently, the Army awarded contracts to six other companies to produce mine detection devices that allegedly infringe the '048 patent. Compl. ¶¶ 21-23.

On August 27, 1998, Net Results filed an administrative claim with the Army alleging infringement of the '048 patent. Compl. ¶ 25. Six years went by without any action, although the Army promised to issue a decision during March-April 2004. Compl. ¶¶ 26-29.

## II. PROCEDURAL HISTORY.

On August 24, 2004, Net Results filed a Complaint in the United States Court of Federal Claims alleging that the Army infringed the '048 patent. Compl. ¶¶ 1-43. This case initially was assigned to the Honorable Lawrence M. Baskir. On December 22, 2004, the Government filed an Answer. On July 31, 2007, the court entered a Scheduling Order to facilitate patent claim construction. On August 27, 2007, Net Results filed a Notice Of Disclosure Of Asserted Claims. On June 24, 2008, the parties filed a Joint Claim Construction Statement ("JCCS"), stipulating to the meaning of sixteen claim terms ("JCCS App. A") and identifying three other claim terms for the court to construe ("JCCS App. B"). On August 20, 2008, the Government filed a Claim Construction Brief. On September 4, 2008, Net Results filed a Response. On December 16, 2008, the court held a claim construction hearing in Washington, D.C. and on February 18, 2009 the court issued an unpublished Claim Construction Order ("Order") that construed three terms: "mine detection system;" "housing;" and "said metal detector coils concentrically surrounding said antenna." Order (ECF No. 65) at 3.

On October 11, 2012, this case was transferred to the undersigned judge. On October 17, 2012 and November 6, 2012, the court convened status conferences to ascertain how the parties wished to proceed. On November 14, 2012, the parties filed a Joint Stipulation Regarding Claim Construction ("Stip."), wherein they agreed to be bound by and not appeal construction of the fourteen terms defined in JCCS App. A. Stip. at 1.[2] On December 17, 2012, however, Net Results filed a Motion For Reconsideration ("Pl. Mot. to Recon."), of three terms: "ground penetrating radar system" in claims 1 and 6; "antenna" in claims 1-4 and 6; and "monostatic" and "bistatic" in claim 5, together with 12/17/12 Pl. Exs. 1-13. On the same day, the Government also filed a Motion For Reconsideration ("Gov't Mot. to Recon."), of the term "said metal detector coils concentrically surrounding said antenna" in claim 1. Gov't Mot. to Recon. at 1. On January 10, 2013, the Government filed an Opposition ("Gov't Opp."), together with 1/10/13 Gov't Exs. A-D and Net Results filed an Opposition ("Pl. Opp."), together with 1/10/13 Pl. Exs.

[2] The parties stipulated to constructions for "signal processor," "in communication with," "transmitter," "receiver," "field of view," "stepped continuous wave," "impulse," "pulse," "swept FM," "continuous wave," "balance bridge," "mine detection system," "metal detector system," and "housing." Stip. at 1-2.

1-5. On January 23, 2013, Net Results also filed a Reply ("Pl. Reply") together with 1/23/07 Pl. Exs. 1-7 and the Government filed a Reply ("Gov't Reply").

On May 29, 2013, the court held a claim construction hearing in Washington, D.C. ("5/29/13 TR 1-114").

On June 11, 2013, the parties filed a Joint Stipulation Regarding Partial Claim Construction, wherein they agreed that "said metal detector coils concentrically surrounding said antenna" should be construed, in part, as stating that the "metal detector coils share a common central axis" with the antenna. Joint Stipulation Regarding Partial Claim Construction (ECF No. 153) at 1.

## III. DISCUSSION.

### A. Jurisdiction.

The United States Court of Federal Claims has jurisdiction to adjudicate claims that allege that "an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same[.]" 28 U.S.C. § 1498(a) (2006). The August 24, 2004 Complaint properly invokes the court's jurisdiction under 28 U.S.C. § 1498(a).

### B. Standing.

The United States Supreme Court has held that "the question of standing is whether the litigant is entitled to have the court decide the merits of the dispute or of particular issues." *Warth v. Seldin*, 422 U.S. 490, 498 (1975). Standing must be determined "as of the commencement of suit." *Rothe Dev. Corp. v. Dep't of Def.*, 413 F.3d 1327, 1334 (Fed. Cir. 2005) (quoting *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 570 n.5 (1992)). The party invoking federal jurisdiction bears the burden of establishing standing. *See Lujan*, 504 U.S. at 560-61. Specifically, "a plaintiff must show [that] it has suffered an 'injury in fact' that is . . . concrete and particularized and . . . actual or imminent, not conjectural or hypothetical; . . . the injury is fairly traceable to the challenged action of the defendant; and . . . it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision." *Friends of the Earth, Inc. v. Laidlaw Envtl. Serv., Inc.*, 528 U.S. 167, 180-81 (2000).

The August 24, 2004 Complaint alleges that Net Results incurred injury that is concrete, particularized, and fairly traceable to the allegations regarding patent infringement, and the financial injury incurred can be redressed by a monetary award. For these reasons, the court has determined that Net Results has standing to seek adjudication of the patent infringement claims set forth in the August 24, 2004 Complaint.

### C. Standard Regarding Reconsideration Of Prior Stipulated Claim Constructions.

The court may entertain a motion to reconsider a stipulated claim construction. *See Energy Transp. Grp., Inc. v. William Demant Holding A/S*, 697 F.3d 1342, 1349 (Fed. Cir. 2012) ("Claim construction is a question of law[.]"), *cert. denied*, 133 S. Ct. 2010 (2013); *Abbott v. United States*, 212 Ct. Cl. 562, 564 (1976) ("[S]tipulations of law do not bind the court."); *see also* RCFC 54(b) (granting the court authority to revise "any order or other decision" . . . "at any time before the entry of a judgment"). Decisions on motions under RCFC 54(b) are left to the sound discretion of the court. *See Moses H. Cone Mem. Hosp. v. Mercury Const. Corp.*, 460 U.S. 1, 12 (1983) (stating that "every order short of a final decree is subject to reopening at the discretion of the district judge" (citing Fed. R. Civ. P. 54(b)).[3] Since both parties have requested reconsideration of prior stipulated claim constructions and final trial preparation has not commenced, neither party is prejudiced by the court's decision to reconsider the construction of the five claims at issue.

### D. Controlling Precedent Concerning Construction Of Patent Claims.

#### 1. A Federal Trial Judge Is Required To Construe Patent Claims.

In *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996) ("*Markman III*"), the United States Supreme Court unanimously affirmed the *en banc* decision of the United States Court of Appeals for the Federal Circuit in *Markman v. Westview Instruments, Inc*., 52 F.3d 967 (Fed. Cir. 1995) (*en banc*) ("*Markman II*"), holding that the meaning and scope of a patent's claims are issues of law to be determined by a federal trial judge. *Id*. at 978-79. The significance of *Markman III*, however, was the United States Supreme Court's deference to the appellate court's analysis for conducting claim construction. 517 U.S. at 390 ("It was just for the sake of such desirable uniformity that Congress created the Court of Appeals for the Federal Circuit as an exclusive appellate court for patent cases, H.R. Rep. No. 97-312, at 20-23 (1981), observing that increased uniformity would 'strengthen the United States patent system in such a way as to foster technological growth and industrial innovation.' *Id.* at 20."). The court now turns to the analysis required by our appellate court.

#### 2. The Federal Trial Judge Should First Examine Intrinsic Evidence.

The United States Court of Appeals for the Federal Circuit has instructed federal trial judges first to examine "intrinsic evidence," because it is the "*most significant source of the legally operative meaning* of disputed claim language." *Vitronics Corp. v. Conceptronic Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (emphasis added). Our appellate court has identified intrinsic

[3] Federal Rule of Civil Procedure 54(b) is identical to RCFC 54(b). In such situations, our appellate court "examines the general federal law interpreting the corresponding Federal Rule of Civil Procedure as persuasive." *Wheeler v. United States*, 11 F.3d 156, 157 n.1 (Fed. Cir. 1993) (citing *Widdoss v. Sec'y of the Dep't of Health & Human Servs.*, 989 F.2d 1170, 1178 n.7 (Fed. Cir. 1993)).

evidence as the "claim language, the written description, and, if introduced, the prosecution history." *Phonometrics, Inc. v. N. Telecom Inc.*, 133 F.3d 1459, 1464 (Fed. Cir. 1998).

**a. The Claim Language.**

The federal trial judge is required to examine patent claim terms and phrases "through the viewing glass of a person skilled in the art." *Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1298 (Fed. Cir. 2003); *see also Hockerson-Halberstadt, Inc. v. Avia Group Int'l, Inc.*, 222 F.3d 951, 955 (Fed. Cir. 2000) (requiring the court to give claim terms "their ordinary and accustomed meaning as understood by one of ordinary skill in the art."). In conducting this examination, the trial judge must determine, as a threshold matter, whether there is ambiguity in any claim term requiring construction. *See Vitronics*, 90 F.3d at 1582 (directing the trial judge to "look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention").

**b. The Specification.**

As a matter of law, the specification is the "written description of the invention." 35 U.S.C. § 112(a). For this reason, the United States Court of Appeals for the Federal Circuit has required that claims "must be read in view of the specification, of which they are a part." *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (*en banc*). 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 the disputed term." *Id.* The specification is accorded deference in claim construction, because it is the patentee's statement to the public describing the invention. *See Honeywell, Int'l, Inc. v. ITT Indus., Inc.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) ("[T]he public is entitled to take the patentee at his word[.]").

The United States Court of Appeals for the Federal Circuit has recognized two circumstances where the specification is of particular importance. The first is where the specification includes a "special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess." *Phillips*, 415 F.3d at 1316; *see also Edwards Lifesciences LLC v. Cook, Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (stating where two terms are used interchangeably, it "is akin to a definition equating the two"). Specifically,

> a patentee can act as his own lexicographer to specifically define terms of a claim contrary to their ordinary meaning'[;] the written description in such a case must clearly redefine a claim term 'so as to put a reasonable competitor or one reasonably skilled in the art on notice that the patentee intended to so redefine that claim term.

*Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc.*, 214 F.3d 1302, 1307 (Fed. Cir. 2000) (quoting *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357 (Fed. Cir. 1999)); *see also Vitronics*, 90 F.3d at 1582 (holding that, in ascertaining the scope of the patent, deference should be afforded claims as defined by their "customary meaning," with the caveat that the law affords patentees the right to serve as a "lexicographer," if a special or unique definition is clearly stated in the specifications or prosecution history).

The second is where the specification "may reveal an intentional disclaimer, or disavowal, of claim scope by the inventor." *Phillips*, 415 F.3d at 1316; *see also Edwards Lifesciences LLC*, 582 F.3d at 1329-30 (holding that where a specification uses a term only in a specific context, that term should not be construed to have a broader scope). The import of these decisions is that the inventor's intent to disavow claim scope "must be clear" to overcome the terms' customary meaning. *See Voda v. Cordis Corp.*, 536 F.3d 1311, 1320 (Fed. Cir. 2008).

Where the language of a claim is ambiguous, the "evidence intrinsic to the patent—particularly the patent's specification, including the inventors' statutorily-required written description of the invention—is the primary source for determining claim meaning." *Astrazeneca AB v. Mut. Pharm. Co., Inc.*, 384 F.3d 1333, 1336 (Fed. Cir. 2004); *see also id*. at 1337 ("[T]he patent is an integrated document, with the claims 'pointing out and distinctly claiming,' 35 U.S.C. § 112, the invention described in the rest of the specification and the goal of claim construction is to determine what an ordinary artisan would deem the invention claimed by the patent, taking the claims together with the rest of the specification."). Of course, the utility of the specification still depends on whether the "written description of the invention [is] . . . clear and complete enough to enable those of ordinary skill in the art to make and use it." *Vitronics*, 90 F.3d at 1582.

Three additional rules of construction must be considered. First, federal trial judges have been advised not to construe a claim to exclude the preferred embodiment disclosed in a specification, because "[s]uch an interpretation is rarely, if ever, correct[.]" *Vitronics*, 90 F.3d at 1583. Second, when more than one embodiment is present, as a matter of law, the court "do[es] not interpret claim terms in a way that excludes disclosed examples in the specification." *Verizon Servs. Corp. v. Vonage Holding Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007); *see also Phillips*, 415 F.3d at 1323 (recognizing that the embodiments in a patent often are examples meant to teach a person of ordinary skill in the art how to make and use the invention, but should not be construed to limit the invention only to a specific embodiment). Where, to cover all embodiments, it would be necessary for the court to interpret a term in a manner inconsistent with the term's ordinary meaning, and there was no evidence that the applicant was acting as his own lexicographer, the United States Court of Appeals for the Federal Circuit held that the term can be interpreted to claim less than all the embodiments. *See Helmsderfer v. Bobrick*

*Washroom Equip., Inc*., 527 F.3d 1379, 1383 (Fed. Cir. 2008) (holding that, even if "totally" would have covered all embodiments, "partially" could not include "totally" unless the applicant had acted as his own lexicographer); *see also Baran v. Med. Device Tech., Inc.*, 616 F.3d 1309, 1315-16 (Fed. Cir. 2010) (holding that if a term is used in the specification to differentiate two different embodiments and it is used in the claims to describe the invention, it is proper to construe the claims to cover only one of the two embodiments, because the differentiation concedes coverage of one of the embodiments).

Third, federal trial judges must not "import" or graft limitations from the specification into the claim. *See Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1331 (Fed. Cir. 2011) (reaffirming that "the role of a [federal trial judge] in construing claims is not to redefine claim recitations or to read limitations into the claim to obviate factual questions of infringement and validity but rather to give meaning to the limitations actually contained in the claims, informed by the written description, the prosecution history[,] if in evidence, and any relevant extrinsic evidence."); *see also Kara Tech. Inc. v. Stamps.com Inc.*, 582 F.3d 1341, 1348 (Fed. Cir. 2009) ("The patentee is entitled to the full scope of his claims, and we will not limit him to his preferred embodiment or import a limitation from the specification into the claims."); *SciMed Life Sys. Inc. v. Advanced Cardiovascular Sys. Inc.*, 242 F.3d 1337, 1340 (Fed. Cir. 2001) (stating that reading a limitation from the specification into a claim is "one of the cardinal sins of patent law"); *Intervet Am., Inc. v. Kee-Vet Labs., Inc.*, 887 F.2d 1050, 1053 (Fed. Cir. 1989) (holding that "[federal trial judges] cannot alter what the patentee has chosen to claim as his invention, that limitations appearing in the specification will not be read into claims, and that interpreting what is meant by a word in a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper") (internal quotation marks and emphasis omitted).

**c. The Prosecution History.**

In addition, federal trial judges have been advised that "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." *Phillips*, 415 F.3d at 1317; *see also Digital Biometrics, Inc. v. Identix, Inc*., 149 F.3d 1335, 1344 (Fed. Cir. 1998) (observing that the prosecution history "may contain contemporaneous exchanges between the patent applicant and the [USPTO] about what the claim means").

And, under certain circumstances, the prosecution history can trump the specification. *See Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 22 (1966) (holding that claims narrowed to obtain issuance over prior art during prosecution may not subsequently be interpreted by the specification to cover what was disclaimed before the USPTO); *see also Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 733-34 (2002) ("When . . . the patentee originally claimed the subject matter alleged to infringe but then narrowed the claim in response to a rejection, he may not argue that the surrendered territory compromised unforeseen subject matter that should be deemed equivalent to the literal claims of the issued patent."). Therefore, prosecution history may preclude "a patentee from regaining, through litigation, coverage of subject matter relinquished during prosecution of the application

of the patent." *Wang Labs v. Mitsubishi Elecs. Am., Inc*., 103 F.3d 1571, 1577-78 (Fed. Cir. 1997). In sum, regardless of whether an examiner agreed or disagreed with an applicant's statements during prosecution, any argument made "may lead to a disavowal of the claim scope[.]" *Seachange Int'l, Inc. v. C-Cor Inc.*, 413 F.3d 1361, 1374 (Fed. Cir. 2005); *see also Microsoft Corp. v. Multi-Tech Sys.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (same).

**3. The Federal Trial Judge May Examine Extrinsic Evidence, But Only In Limited Circumstances.**

When the intrinsic evidence unambiguously reveals the meaning of a patent claim, it is improper, as a matter of law, for the judge to rely on extrinsic evidence, *i.e.*, evidence outside of the patent record, such as expert and inventor testimony, dictionaries, learned treatises, and articles. *See Vitronics*, 90 F.3d at 1584 (allowing extrinsic evidence "to help the court come to the proper understanding of the claims," but not to contradict intrinsic evidence or vary the scope of the claims); *see also Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1414 (Fed. Cir. 2000) (cautioning federal trial judges to "turn[] to extrinsic evidence only when the intrinsic evidence is insufficient to establish the clear meaning of the asserted claim").

**E. The '048 Patent Claims.**

The '048 patent has twenty claims:

1. A mine detection system comprising:
a wand having a first end and an opposite second end;
a housing mounted onto said first end of said wand;
a signal processor supported by said wand;
a ground penetrating radar system in communication with said signal processor, said radar system including a transmitter, a receiver, and an antenna, said antenna having a first field of view; and
a metal detector system in communication with said signal processor, said metal detector system including metal detector coils, said metal detector coils having a second field of view;
said antenna and said metal detector coils being contained within said housing, said metal detector coils concentrically surrounding said antenna.
2. The mine detection system according to claim 1, wherein said first field of view of said antenna is substantially similar to said second field of view of said metal detector coils.
3. The mine detection system according to claim 1, wherein said antenna is selected from the group consisting of co-polarized, cross polarized, dual polarized, circularly polarized, and combinations thereof.
4. The mine detection system according to claim 1, wherein said first field of view of said antenna is offset from said second field of view of said metal detector coils by a predetermined angle.
5. The mine detection system according to claim 1, wherein said radar system is selected from the group consisting of stepped continuous wave, impulse,

pulse, swept FM, continuous wave, monostatic, bistatic, balance bridge and combinations thereof.

6. A mine detection system comprising:

a wand having a first end and an opposite second end;

a housing mounted onto said first end of said wand;

a signal processor supported by said wand;

a ground penetrating radar system in communication with said signal processor, said radar system including a transmitter, a receiver, and an antenna, said antenna being contained within said housing and including an antenna feed and a collimation lens for producing a collimated beam, said antenna feed being mounted onto said lens; and

a metal detector system in communication with said signal processor, said metal detector system including metal detector coils contained within said housing.

7. The mine detection system according to claim 6, wherein said antenna is selected from the group consisting of co-polarized, cross polarized, dual polarized, circularly polarized, and combinations thereof.

8. The mine detection system according to claim 6, further including a lens support and spacer contained within said housing for supporting said lens.

9. The mine detection system according to claim 6, wherein said radar system is selected from the group consisting of stepped continuous wave, impulse, pulse, swept FM, continuous wave, monostatic, bistatic, balance bridge and combinations thereof.

10. The mine detection system according to claim 6, wherein said collimation lens is spherical.

11. The mine detection system according to claim 10, wherein said antenna feed is mounted onto said spherical lens at an angle offset from vertical.

12. The mine detection system according to claim 11, further including a radiometer in communication with said signal processor and said antenna feed.

13. The mine detection system according to claim 10, wherein two antenna feeds are mounted onto said lens.

14. The mine detection system according to claim 13, wherein said two antenna feeds are configured to operate within identical frequency bands.

15. The mine detection system according to claim 13, wherein said two antenna feeds are configured to operate in different frequency bands for increasing operational bandwidth of said radar system.

16. The mine detection system according to claim 10, wherein three antenna feeds are mounted onto said lens.

17. The mine detection system according to claim 16, wherein said three antenna feeds are configured to operate within identical frequency bands.

18. The mine detection system according to claim 16, wherein said three antenna feeds are configured to operate in different frequency bands for increasing operational bandwidth of said radar system.

19. The mine detection system according to claim 16, including a radiometer utilizing said three antenna feeds to produce an array of contiguous beams perpendicular to a scan direction.

20. An object detection system comprising a ground penetrating radar system, a metal detector system, a radiometer and a multi-sensor module including at least one radar antenna and metal detector coils, and wherein:
    said radar antenna includes at least three antenna feeds and a spherical lens for producing a collimated beam;
    said metal detector coils and said radar antenna are co-boresighted;
    said radiometer utilizes at least two antenna feeds of said at least three antenna feeds to produce an array of contiguous beams perpendicular to a scan direction; and
    said at least two antenna feeds are mounted on said spherical lens at a point offset from vertical by a predetermined angle.

Pl. Ex. 1 (the "048 patent") (shading provided by the court to show the claims that the parties requested to be re-construed by the court).

### F. Construction Of Patent Claim Terms Requested By The Parties.

#### 1. "Ground penetrating radar system."

The term "ground penetrating radar system" appears in independent claims 1 and 6. Net Results and the Government previously agreed that the term should be construed as "[a] system for detecting anomalies in or on the ground by transmitting electromagnetic energy and receiving reflected energy." JCCS App. A at 1. Net Results, however, now proposes a different construction.

##### a. The Parties' Arguments.

Net Results proposes that the court re-construe a "ground penetrating radar system" as "a radar (*radio detection and ranging*) system for detecting and *locating* anomalies in or on the ground by transmitting electromagnetic energy and receiving reflected energy." Pl. Mot. to Recon. at 7 (citing '048 patent at col. 7, ll. 52-67) (emphasis added by court to identify new language proposed by Net Results).

First, Net Results argues "ranging" should be added to the construction, because "Radar" is a universally known acronym for "RAdio Detection And Ranging." Pl. Mot. to Recon. at 7; 5/29/13 TR at 30-33. In fact, the Government's definition of radar includes ranging; ground-penetrating radar requires the same specificity. Pl. Mot. to Recon. at 8 n.7 (citing 12/17/12 Pl. Ex. 2 at A-024-25 (quoting dictionary definitions of "radar" contained in the Government expert's report)). Therefore, without the qualifying term "ranging," claims 1 and 6 fail to describe "the location of the perceived object, such as by providing the distance to the object or its depth below ground." Pl. Mot. to Recon. at 8.

In addition, the specification discusses the ability of ground penetrating radar systems to detect *and* locate objects that are buried. '048 patent at col. 1, ll. 47-50 (stating that the invention can be used for "locating pipes, voids under pavement, steel beams and other internal structures in buildings"); '048 patent at col. 1, ll. 32-35 (noting "the use of radar for detection and location

of subsurface strata."). Net Results also relies on the fact that "[t]he specification describes four prior art references disclosing conventional ground penetrating radars" that expressly reference ranging capability. Pl. Mot. to Recon. at 9-10 & n.8 (citing '048 patent at col. 1, ll. 16-36)); 5/29/13 TR at 35-36; *see also V-Formation, Inc. v. Benetton Grp. SpA*, 401 F.3d 1307, 1311-12 (Fed. Cir. 2005) (holding that employing a cited prior art reference may be "a guide to the proper construction of [a] term")).

The Government counters that the prior agreed claim construction was correct, because the specification does not teach "ranging" and neither the cited prior art nor extrinsic evidence requires that "ranging" be included in a ground penetrating radar system. Gov't Opp. at 4-7; 5/29/13 TR at 56-58. In fact, nowhere in the specification is it required that the invention's output include ranging data. Gov't Opp. at 4. Instead, the specification describes only the "peak response" of the metal detector and radar as occurring "at the same location, which improves target location accuracy[.]" Gov't Opp. at 4-5 (quoting '048 patent at col. 2, ll. 15, 25-29).

As for prior art U.S. Patent No. 5,307,272 ("the '272 patent"), sections that Net Results cites teach only "that the disclosed mine detector with ground penetrating radar can detect mines buried at a specified depth, but they do not teach that the mine detector can determine that depth." Gov't Opp. at 7 (citing 12/17/12 Pl. Ex. 8 at col. 7, ll. 58-62; col. 9, ll. 43-49). In addition, the other three prior art references that Net Results cites do not disclose a ground penetrating radar in a mine detection system. Gov't Opp. at 7.

Moreover, Net Results' extrinsic expert testimony from Dr. Mensa "'cannot overcome more persuasive intrinsic evidence.'" Gov't Opp. at 5 (quoting *Finisar v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1328 (Fed. Cir. 2008)). Dr. Mensa has no expertise in ground penetrating radar. Gov't Opp. at 6 (citing 1/10/13 Gov't Ex. B (1/12/11 Dr. Mensa Dep. at 335-36 ("Q. Have you ever worked in the field of ground penetrating radar? A. Not specifically. I have worked in the field of radar. How you apply the radar is immaterial to the functions of radar. . . . [T]he radar is a radar whether it is looking up, down, or sideways.")). In addition, contrary to Net Results' assertions, the fourth prior art reference of the '048 patent, *i.e.*, the '272 patent "does not suggest ranging." Gov't Opp. at 6.

As such, the Government contends that a person of ordinary skill in mine detection would not consider "ground penetrating radar" to require "ranging." Gov't Opp. at 4 (citing 1/10/13 Gov't Ex. A at 335-338 (1/7/11 deposition of Dr. Lloyd S. Riggs) (stating that "[t]here are ground penetrating radars that only detect and do not range" and citing examples of such radars)). Dr. Riggs testified that "[t]he object -- the intent there is, is there something at all. I want to know if there is something at all. If I get a return, I'm not going to step there or I'm going to at least investigate further before I do[,]" whereas ranging tells the operator of the detector the distance the object is from the detector. 1/10/13 Gov't Ex. A at 337 (1/7/11 Riggs Dep.).

**b. The Court's Construction.**

Claim construction begins with an analysis of the intrinsic evidence. *See Phillips*, 415 F.3d at 1324; *see also Function Media, L.L.C. v. Google, Inc.*, 708 F.3d 1310, 1320 (Fed. Cir.

2013) ("'The words of a claim are generally given their ordinary and customary meaning,' which 'is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.'" (quoting *Phillips*, 415 F.3d at 1313)).

None of the '048 patent claims use the term "ranging" nor describe the capability of detecting a target's depth. The specification also does not mention "ranging." Nor was "ranging" discussed in the prosecution history. Prosecution History, ECF No. 152. But, four prior art references listed in the specification mention "ranging" capability; three do so explicitly. 12/17/12 Pl. Ex. 5 (U.S. Pat. No. 3,775,765) at col. 1, ll. 35-38; 12/17/12 Pl. Ex. 6 (U.S. Pat. No. 4,072,942) at col. 3, ll. 5-9; 12/17/12 Pl. Ex. 7 (U.S. Pat. No. 4,698,634) at col. 10, ll. 66-68. The fourth mentions a "near surface analysis subprocess" and a "sub-surface analysis subprocess," implying a device capable of distinguishing objects at or near the surface from those farther below the surface. 12/17/12 Pl. Ex. 8 (the '272 patent) at col. 8, l. 5 to col. 10; l. 49. Taken together, claims 1 and 6 of the '048 patent, the specification, and prior art references support the proposition that a "radar" *can* include "ranging" capability; they do not, however, require that "radar" *must* include "ranging."

The United States Court of Appeals for the Federal Circuit has recognized that in certain circumstances extrinsic evidence "can help the court determine what a person of ordinary skill in the art would understand claim terms to mean," but "the court should keep in mind the flaws inherent in each type of evidence and assess that evidence accordingly." *Phillips*, 415 F.3d at 1319. In this case, the historic extrinsic evidence reflects that the term "radar" evolved from its origins as an acronym for Radio Detection And Ranging, and, on August 19, 1996, when the '048 patent application was filed, the industry did not consider radar as requiring ranging capability. *See* THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS 906 (7th ed. 2000) (providing a 1983 aerospace and electronic system definition from a since-withdrawn standard, a 1997 aerospace and electronic systems definition, and a 1998 industry applications definition).[4] In sum, this provides three definitions of "radar" adopted in different years and reflecting two different standards, *i.e.*, the "aerospace and electronic system" standard and the "industry application" standard. None of the three definitions required "ranging" capability. *Id.* The IEEE's 1983 aerospace and electronic system standard defined radar as providing "one or more of the following [types of information about a target]: distance (range) . . . ; direction . . . ; rate of change of range . . . ; description or classification of target[.]" *Id.* The IEEE's 1997 aerospace and electronic system standard defined radar as a system that "extract[s] location and other information from the echo signal" of transmitted electromagnetic signals. *Id.* This definition, however, referred to "ranging" only in a note describing the origin of the term "radar." *Id.* ("*Notes:* 1. Radar is an acronym for radio detection and ranging."). *Id.* In contrast, the IEEE's 1998 industry application standard defined radar as**:** "A device that radiates electromagnetic waves and utilizes the reflection of such waves from distant objects to determine their existence or position." *Id.* Although the '048 patent application was filed on August 19, 1996, before the issuance of the 1997 and 1998 IEEE standard definitions, those definitions were

[4] IEEE, the Institute of Electrical and Electronics Engineers, describes itself as "the world's largest professional association dedicated to the advancement of technology." IEEE: Advancing Technology for Humanity, http://www.ieee.org/about/today/at_a_glance.html (last visited July 30, 2013).

published soon enough after the filing of the '048 patent application to reflect what a person skilled in the art at the time of the invention would understand about the term "radar." *See Phillips*, 415 F.3d at 1313 (stating that the proper claim construction is the meaning that existed at the time the patent application was filed); *cf. Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 816 (Fed. Cir. 2007) (Moore, J., dissenting) (citing a definition used in a later patent application as evidence of how a person skilled in the art at the time of the invention would understand a claim term). The bottom line is that all three definitions indicate that "radar" would not be understood to include a requirement for "ranging."

In contrast, the specification uses the word "location," when describing how "the metal detector's peak response, at the center of the coils, coincides with the radar's peak response that occurs at the same location." '048 patent at col. 2, ll. 25-29. That "location," however, is in the two-dimensional plane above the surface where the mine detection device actually operates. As such, the specification's use of the word "location" does not require ranging capability, as Net Results' expert conceded. 12/17/12 Pl. Ex. 3 at 280 (1/12/11 Mensa Dep.) ("Q. So by locating, what do you mean? A. Some measure of depth as an example or maybe other measures. Q. What other measures could there be? A. It could be location in the *lateral dimension*. I just distinguished between detecting the presence of something and locating it." (emphasis added)).

For these reasons, the court has determined that the parties' prior agreed construction of "ground-penetrating radar system" should be modified by including the descriptive words "and locating" so that the '048 patent would read: "A system for detecting *and locating* anomalies in or on the ground by transmitting electromagnetic energy and receiving reflected energy."

**2. "Antenna."**

The term "antenna," used as a noun, appears in claims 1-4, 6-7, and 20 of the '048 patent. The term "antenna" also appears in claims 6, 11-12, and 14-20 as an adjective, describing a type of feed. Net Results and the Government previously agreed that "antenna," when used as a noun, should be interpreted as "a conductor by which electromagnetic waves are sent out or received." JCCS App. A at 1. Net Results, however, now proposes a new construction, but apparently only as to claims 1 and 2. Pl. Mot. to Recon. at 11 n.10.

**a. The Parties' Arguments.**

Net Results proposes interpreting the noun "antenna" in Claims 1 and 2 as "a *device, comprised of one or more elements*, by which electromagnetic waves are sent out *and* received." Pl. Mot. to Recon. at 11 (emphasis added by court to identify new language proposed by Net Results); 5/29/13 TR at 36-38. Net Results argues that the previously agreed construction is overly restrictive, because it excludes "multi-element antenna embodiments" disclosed in the specification, including the preferred embodiment in Figure 5. Pl. Mot. to Recon. at 11-12 (citing '048 patent, col. 6, ll. 16-18).

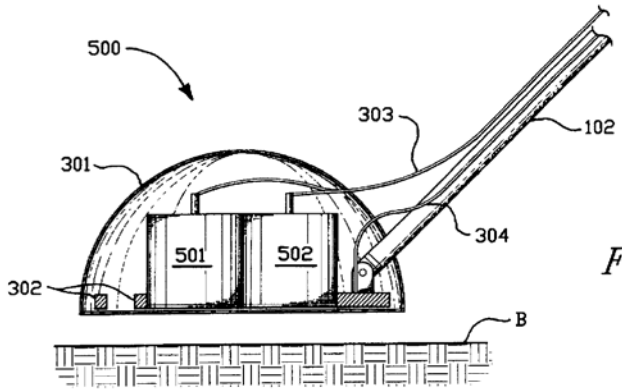

FIG. 5

In support, Net Results also points to other multiple-component embodiments. Pl. Mot. to Recon. at 12 (citing '048 patent, col. 5, ll. 13-17; col. 5, ll. 33-40); 5/29/13 TR at 38-41.

The Government stands by the prior agreed construction and asserts that "a conductor" does not exclude embodiments that have multiple antennas from the specification. Gov't Opp. at 8-9. This is so, because "an" appears before "antenna" in claim 1. Gov't Opp. at 9. The United States Court of Appeals for the Federal Circuit interprets "an" to mean "one or more." Gov't Opp. at 9 (citing *Baldwin Graphics Sys., Inc. v. Siebert*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) ("[T]his court has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.' " (quoting *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000))).

Net Results replies that the dispute is not whether the construction covers multiple antennas, but whether the patent discloses that "antenna" includes a combination of antenna elements, such as elements 501 and 502 of Figure 5, depicting a "multi-element" combination. Pl. Reply at 7-8.

**b. The Court's Construction.**

The '048 patent uses the term "antenna" as a noun to describe both single-element devices and multi-element devices, in which each element is an "antenna." '048 patent at col. 6, ll. 16-20 (describing an embodiment in which "[t]he radar antenna . . . is two . . . antennas"). Although the Government correctly argues that claim 1 reads on devices having one or more antennas (Gov't Opp. at 9; 5/29/13 TR at 63-64, 66-67), that fact and the parties' original joint claim construction do not capture the specification's unambiguous statement that more than one antenna, considered collectively, constitutes a single antenna, as set forth in the specification and Figure 5. *See* '048 patent at col. 6, ll 16-20; *see also* '048 patent at col. 5, ll. 13-17 ("The conventional antenna . . . used in conventional ground penetrating radar systems . . . may be a single antenna for both transmitting or receiving, or may include an antenna for transmitting and a separate antenna for receiving.").

For these reasons, the court has determined that "antenna" when used as a noun in claims 1-2 should be construed as "a device, comprised of one or more elements by which

electromagnetic waves are sent out or received." In doing so, the court has removed the second comma to specify that the '048 patent refers to an "antenna" as a multi-element device only where each element is an "antenna." This construction is also applicable to claims 4, 6-7. *See Phillips*, 415 F.3d at 1314 ("[C]laim terms are normally used consistently throughout the patent[.]"). Since the court has not been requested to construe "antenna" when used as an adjective in claims 6, 11-20, it does not do so here. *See Aventis Pharm. Inc. v. Amino Chems Ltd.*, 715 F.3d 1363, 1374 (Fed. Cir. 2013) (citing *Microprocessor Enhancement Corp. v. Tex. Instruments, Inc.*, 520 F.3d 1367, 1375 (Fed. Cir. 2008) (holding that, while there is a presumption that a claim term will be construed consistently when used throughout the claims, there is no requirement that a claim term be construed uniformly, particularly if it would lead to a "nonsensical reading"); *Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1030-31 (Fed.Cir.2002) (construing the term "substantially" to have different interpretations based on a "subtle but significant difference" in context and usage).

### 3. "Monostatic."

The term "monostatic" appears in claim 5 of the '048 patent. '048 patent, col. 8, l. 15. Net Results and the Government previously agreed that "monostatic" should be interpreted as "[a] radar system having a single antenna for both receiving and transmitting." JCCS App. A at 2. Net Results, however, now proposes a new claim construction.

#### a. The Parties' Arguments.

Net Results proposes interpreting "monostatic" as "a radar system having *one or more antenna elements that both receive and transmit electromagnetic waves*." Pl. Mot. to Recon. at 19 (emphasis added by court to identify new language proposed by Net Results). Net Results argues that this construction, unlike the previously agreed construction, is also consistent with Net Results' new construction of an "antenna" as "comprised of other antennas." Pl. Reply at 11-12; 5/29/13 TR at 50-51. This construction of monostatic also recognizes that antennas both receive and transmit electromagnetic waves and that an antenna can be comprised of a monostatic antenna with separate elements, such as one or more bistatic antennas. Pl. Mot. to Recon. at 19.

The Government responds that the previously agreed construction is consistent with the specification that describes a conventional ground radar system as having an antenna that "may be a single antenna for both transmitting or receiving, or may include an antenna for transmitting and a separate antenna for receiving." '048 patent at col. 5, ll. 15-17. Net Results' new construction, however, eliminates the distinction between monostatic and bistatic. Gov't Opp. at 13.

#### b. The Court's Construction.

Net Results' proposed construction changes the previously agreed construction in two respects. First, it specifies the things that a monostatic radar system's antenna receives and transmits—electromagnetic waves. Second, it broadens the definition of "monostatic" to include radar systems comprised of multiple antenna elements that both receive and transmit electromagnetic waves. Pl. Mot. to Recon. at 19; 5/29/13 TR at 46-47. Neither change is

necessary to produce a construction consistent with the specification's use of "monostatic." Since the court has construed an "antenna" as "[a] device, comprised of one or more elements by which electromagnetic waves are sent out or received," and the radar system in claim 5 is "[t]he mine detection system according to claim 1" including an antenna, the "monostatic" radar in claim 5 must receive and transmit electromagnetic waves. '048 patent at col. 7, ll. 53-60; col. 8, ll. 13-17. In addition, because claim 5 reads on "stepped continuous wave, impulse, pulse, swept FM, continuous wave, monostatic, bistatic, balance bridge and combinations thereof" radar systems, it also reads on combinations of monostatic systems. '048 patent at col. 8, ll. 13-17.

For these reasons, the court has determined that the term "monostatic" should be construed in the same manner as the parties previously agreed, *i.e.*, as "[a] radar system having a single antenna for both receiving and transmitting." JCCS App. A at 2.

#### 4. "Bistatic."

The term "bistatic" also appears in claim 5 of the '048 patent. '048 patent, col. 8, l. 15. Net Results and the Government previously agreed that "bistatic" should be interpreted as "[a] radar system having separate receiving and transmitting antennas." JCCS App. A at 2. Net Results, however, now proposes a new claim construction.

##### a. The Parties' Argument.

Net Results proposes interpreting "bistatic" as "a radar system having separate *antenna elements for* receiving and transmitting *electromagnetic waves*." Pl. Mot. to Recon. at 20 (emphasis added by court to identify new language proposed by Net Results). Net Results argues this construction is consistent with the "ordinary meaning" of its proposed construction of "antenna" as well as the testimony of the Government's expert. Pl. Mot. to Recon. at 20 (citing 12/17/12 Pl. Ex. 13 at 10 (citing MERRIL I. SKOLNIK, INTRODUCTION TO RADAR SYSTEMS (2d ed. 1980); Anthony V. Alongi, *A Short-Pulse High-Resolution Radar for Cadaver Detection*, PROCEEDINGS INT'L ELECTRONIC CRIME COUNTERMEASURES (1973).)); *see also* 5/29/13 TR at 51-54.

The Government responds that the previously agreed claim construction for "bistatic" was correct, *i.e.*, "[a] radar system having separate receiving and transmitting antennas." Gov't Opp. at 12. Net Results' new construction, however, eliminates the distinction between monostatic and bistatic. Gov't Opp. at 13.

##### b. The Court's Construction.

For the reasons given in the court's discussion of "monostatic," the court has determined that the term "bistatic" should be construed in the same manner as the parties previously agreed, *i.e.*, as "[a] radar system having separate receiving and transmitting antennas." JCCS App. A at 2.

### 5. "Said metal detector coils concentrically surrounding said antenna."

Judge Baskir interpreted "said metal detector coils concentrically surrounding said antenna" as "the metal detector coils and the antenna have a common center point, on a common axis, and are located on the same plane." Order at 14. The Government has requested reconsideration of this construction. Both parties propose different constructions.

#### a. The Parties' Arguments.

The Government contends that Judge Baskir's construction incorrectly requires that the metal detector coils and antenna be coplanar, although such a requirement is supported by neither the specification nor the prosecution history. Gov't Mot. to Recon. at 8. The Government also argues that Judge Baskir's construction improperly requires both a "common center point" and a "common axis"; the Government reasons that the requirement of a "common center point" is narrower and thus inconsistent with the requirement of a "common axis." Gov't Mot. to Recon. at 10.

Therefore, the Government proposes interpreting "said metal detector coils concentrically surrounding said antenna," as "[t]he metal detector coils *and the antenna are centered on a common axis and are located in basically the same place*." Gov't Mot. to Recon.. at 3 (emphasis added by court to identify new language proposed by the Government). The Government argues that "concentric" appears in the specification only once, to describe Figure 3, where the radar antenna and metal detector coils are both co-located and co-boresighted. Gov't Mot. to Recon. at 4-5; 5/29/13 TR at 71-73, 75-76.

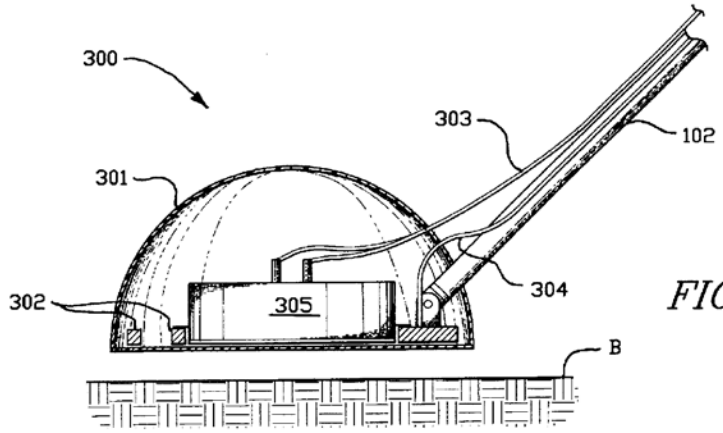


FIG. 3

Therefore, the Government reasons that, "'concentrically surrounding' must incorporate and be compatible with the meanings of . . . co-located and co-boresighted." Gov't Mot. to Recon. at 5.

Even if Figure 3 is read to depict a coplanar embodiment,[5] as a matter of law, "courts may not limit patent claims to what is depicted in the drawing figures, because this would wrongly 'import limitations onto the claim from the specification, which is fraught with danger.'" Gov't Mot. to Recon. at 8 (quoting *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333-34 (Fed. Cir. 2007) (internal quotation omitted); *see also Arlington Indus., Inc. v. Bridgeport Fittings, Inc.*, 632 F.3d 1246, 1254 (Fed. Cir. 2011) (reversing a claim construction where the trial court imported limitations onto the claims from the drawings, despite the lack of "expressions of manifest exclusion or restriction")).

In contrast, Net Results proposes interpreting "said metal detector coils concentrically surrounding said antenna" as "[t]he metal detector coils *share a common central axis with* the antenna, *and encircle or extend around the antenna, defining a space in which the antenna resides*." Pl. Opp. at 8 (emphasis added by court to identify new language proposed by Net Results). Net Results identifies Figures 3-9 as support for including "a common central axis." Pl. Opp. at 10.

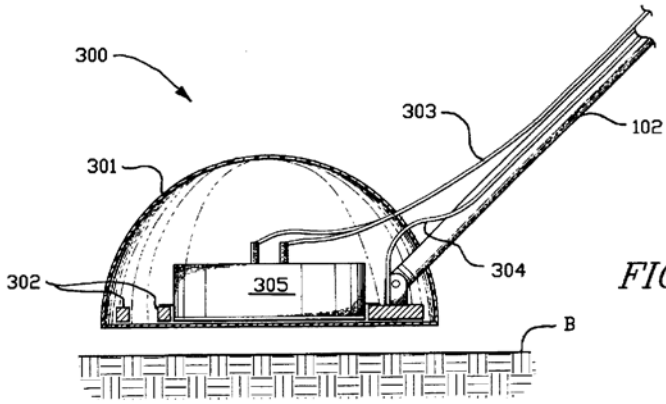


FIG. 3

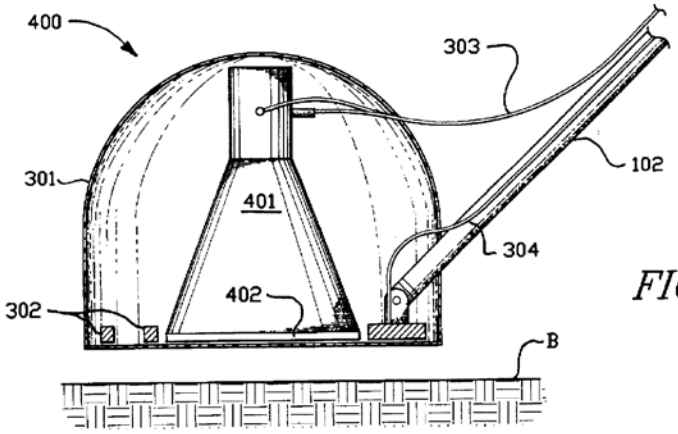


FIG. 4

[5] The Government argues that Figure 3 does not depict a coplanar embodiment. Gov't Mot. to Recon. at 9; *see also* 5/29/13 TR at 71-72.

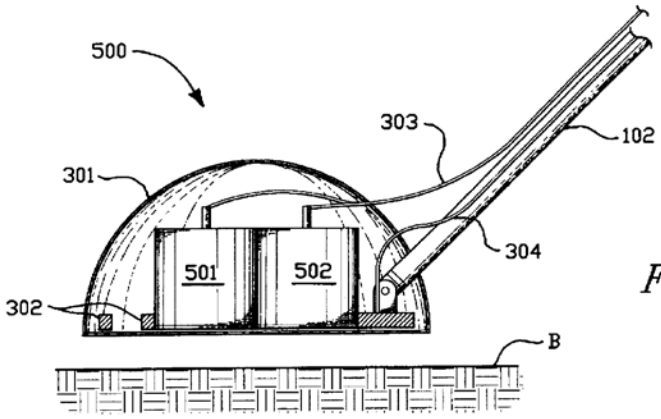


FIG. 5

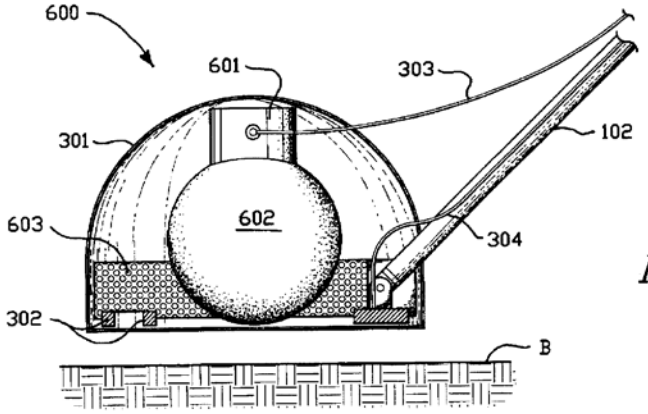


FIG. 6

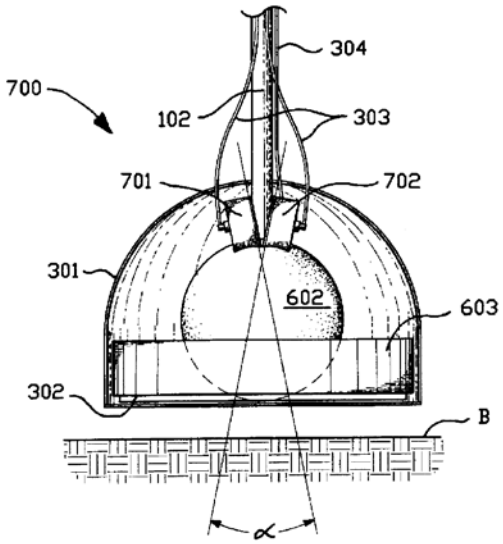


FIG. 7

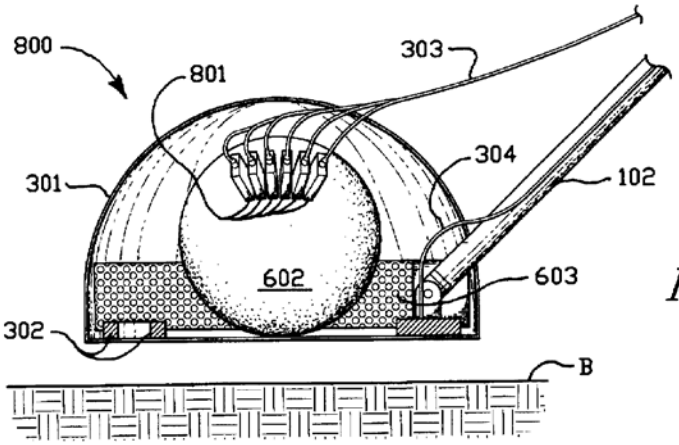


FIG. 8

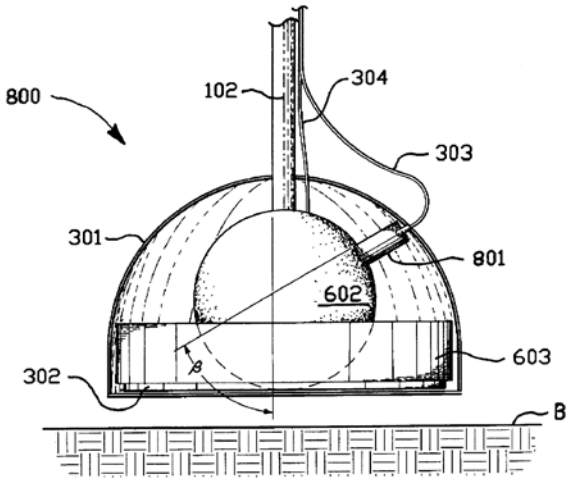


FIG. 9

Net Results also argues that "surrounding" should be interpreted in accordance with its plain and ordinary meaning. Pl. Opp. at 11. In the context of the '048 patent, "surrounding" means "encircles or extends around the antenna, defining a space in which the antenna resides." Pl. Opp. at 11. The metal detector coils surround the antenna only if the antenna resides within a space defined by the coils. Pl. Opp. at 12. "Because the term 'surrounding' is unambiguous and because the patentee has not provided any clear intent to depart from the plain and ordinary meaning, it would be error to construe 'surrounding' otherwise." Pl. Opp. at 12 (citing *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 989-90 (Fed. Cir. 1999) ("[C]laim terms cannot be narrowed by reference to the written description or prosecution history unless the language of the claims invites reference to those sources.")); *see also* 5/29/13 TR at 87.

In addition, Net Results contends that the Government improperly equates "concentrically" with "co-located" and "co-boresighted," although the specification never uses these adjectives as synonyms. Pl. Opp. at 15. Likewise, including "co-located" and "co-boresighted" within the term "concentrically" reads a limitation from the specification into the

claims. Pl. Opp. at 15 (citing *Specialty Composites v. Cabot Corp.*, 845 F.2d 981, 987 (Fed. Cir. 1988) (cautioning that "[w]here the specification does not *require* a limitation, that limitation should not be read from the specification into the claims")). Therefore, Net Results contends that "the mere fact that the embodiment of Figure 3 happens to be concentric, co-located, and co-boresighted does not support [the Government's] faulty conclusion that concentric means co-located and co-boresighted." Pl. Opp. at 16; *see also* 5/29/13 TR at 87-90. Moreover, "concentrically" in independent claim 1 cannot include co-boresighted, because dependent claim 2 describes a system that is co-boresighted; but dependent claim 4 describes a system that is not co-boresighted. Pl. Opp. at 16-17. In other words, independent claim 1 must be broader than dependent claims 2 and 4. Pl. Opp. at 16-17.

Net Results also objects to the Government adding the words "located in basically the same space," because that incorporates an unclaimed term "co-located." Pl. Opp. at 16-17; *see also* 5/29/13 TR at 91. And, the Government fails to account for the meaning of "surrounding." Pl. Opp. at 18.

The Government replies that Net Results incorrectly uses the definition of "surrounding" from an analysis of Figures 3-9, that improperly "import[s] limitations onto the claim from the specification[.]" Gov't Reply at 7 (quoting *MBO Labs.*, 474 F.3d at 1333). The specification references to the metal detector coils and the radar antenna having "vertically aligned centers of gravity" imply that "concentrically surrounding" must be construed broadly enough to encompass "vertically aligned arrangements" that are "not necessarily coplanar." Gov't Reply at 7 (citing '048 patent at col. 2, ll. 19-22; col. 6, ll. 1-4). The Government adds that dictionary definitions are inconclusive as to the meaning of "concentrically surrounding" in the context of the '048 patent. Gov't Reply at 10. Nothing in the dictionary definition of "surrounding" precludes an embodiment where there is a small vertical displacement between the metal detector coils and the radar antenna. Gov't Reply at 10.

**b. The Court's Construction.**

Claim terms should be construed in accordance with their "plain and ordinary meaning[.]" *Power Integrations, Inc. v. Fairchild Semiconductor Int'l, Inc.*, 711 F.3d 1348, 1361 (Fed. Cir. 2013). As defined in the '048 patent:

> Co-boresighting the metal detector coils with the radar antenna aligns both sensors so that the center of their respective fields of view are pointed at the same location. Co-locating the metal detector coils with the radar antenna places the coils and antenna in basically the same space, (see FIGS. 3-9).
>
> * * *
>
> Co-location here means that the metal detector coils and the radar antenna are physically aligned on the same axis, and therefore have vertically aligned centers of gravity thus improving stability for hand held operation.

'048 patent at col. 2, ll. 5-10, 19-22.

On one hand, the Government's proposed construction—"The metal detector coils and the antenna are centered on a common axis and are located in basically the same place."—does not identify which object is being surrounded and which object surrounds it, and thus it cannot convey the plain and ordinary meaning of "[s]aid metal detector coils concentrically surrounding said antenna." Therefore, the court rejects the Government's proposed construction.

On the other hand, Net Results' proposed construction—"The metal detector coils share a common central axis with the antenna, and encircle or extend around the antenna, defining a space in which the antenna resides."—is too restrictive. To borrow Net Results' analogy, a belt concentrically surrounds the wearer's trousers, but one would not describe the belt as "defining a space in which the [trousers] reside[]." Only a part of the trousers resides within the space defined by the belt. Therefore, Net Results' proposed construction is inconsistent with the "plain and ordinary meaning" of "concentrically surrounding."

For these reasons, the court has determined that the term "said metal detector coils concentrically surrounding said antenna" should be construed as "The metal detector coils share a common central axis with the antenna, and encircle or extend around the antenna."

## IV. CONCLUSION.

For the reasons discussed herein, Net Results' December 17, 2012 Motion For Reconsideration is granted-in-part and denied-in-part. The Government's December 17, 2012 Motion For Reconsideration is denied. Within 15 days, the court will convene a teleconference to determine what, if any, additional discovery is needed before a trial date is set.

**IT IS SO ORDERED.**

s/ Susan G. Braden
**SUSAN G. BRADEN**
**Judge**