

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
TYLER DIVISION**

**ICH INTELLECTUAL CAPITAL  
HOLDINGS, Inc.,  
Plaintiff,**

**v.**

**BADGER METER, Inc., et al.,  
Defendants.**

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**NO. 6:11cv468 LED-JDL**

**PATENT CASE**

**MEMORANDUM OPINION AND ORDER**

This claim construction opinion construes the disputed terms of U.S. Patent Nos. 7,315,257 (“the ‘257 patent”) and 7,248,181 (“the ‘181 patent”) (collectively the “patents-in-suit”). For the reasons stated herein, the Court adopts the constructions set forth below.

**BACKGROUND**

Plaintiff ICH Intellectual Capital Holdings, Inc. (“ICH”) alleges Defendants<sup>1</sup> infringe several claims of the patents-in-suit. The parties have presented extensive claim construction briefing. (Doc. Nos. 159, 164, 169, 172).

On May 3, 2013, ICH filed its opening claim construction brief in this case (Doc. No. 159) (“ICH BR.”). All Defendants, except Transparent Technologies, Inc. (“Transparent”) and Metron-Farnier, LLC (“Metron”), collectively filed a single responsive claim construction brief (Doc. No. 164) (“DEFS.’ BR.”). Transparent and Metron filed a separate responsive brief (Doc.

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<sup>1</sup> Defendants are: Badger Meter, Inc.; Mueller Water Products, Inc.; Transparent Technologies, Inc.; Metron-Farnier, LLC; Tantalus Systems Corp.; Tantalus Systems, Inc.; ESCO Technologies, Inc.; Aclara Power-Line Systems Inc.; Landis+Gyr Inc.; Trilliant Networks Inc.; Tropos Networks, Inc.; and the City of Winnsboro, Texas (collectively “Defendants”).

No. 169) (“TRANS-MET BR.”).<sup>2</sup> ICH filed a single reply brief addressing both responses (Doc. No. 172) (“REPLY”).

### **CLAIM CONSTRUCTION PRINCIPLES**

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1115 (Fed. Cir. 2004)). The Court examines a patent’s intrinsic evidence to define the patented invention’s scope. Id. at 1313–14; Bell Atl. Network Servs., Inc. v. Covad Comm’ns Group, Inc., 262 F.3d 1258, 1267 (Fed. Cir. 2001). Intrinsic evidence includes the claims, the rest of the specification and the prosecution history. Phillips, 415 F.3d at 1312–13; Bell Atl. Network Servs., 262 F.3d at 1267. The Court gives claim terms their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention. Phillips, 415 F.3d at 1312–13; Alloc, Inc. v. Int’l Trade Comm’n, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

Claim language guides the Court’s construction of claim terms. Phillips, 415 F.3d at 1314. “[T]he context in which a term is used in the asserted claim can be highly instructive.” Id. Other claims, asserted and unasserted, can provide additional instruction because “terms are normally used consistently throughout the patent.” Id. Differences among claims, such as additional limitations in dependent claims, can provide further guidance. Id.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” Id. (quoting Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is

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<sup>2</sup> Transparent and Metron’s response addresses disputed terms 7-10, which are found only in claims asserted by ICH against Transparent and Metron.

dispositive; it is the single best guide to the meaning of a disputed term.” Id. (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996)); Teleflex. Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1325 (Fed. Cir. 2002). In the specification, a patentee may define his own terms, give a claim term a different meaning that it would otherwise possess, or disclaim or disavow some claim scope. Phillips, 415 F.3d at 1316. Although the Court generally presumes terms possess their ordinary meaning, this presumption can be overcome by statements of clear disclaimer. See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1343-44 (Fed. Cir. 2001). This presumption does not arise when the patentee acts as his own lexicographer. See Irdeto Access, Inc. v. EchoStar Satellite Corp., 383 F.3d 1295, 1301 (Fed. Cir. 2004).

The specification may also resolve ambiguous claim terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” Teleflex, Inc., 299 F.3d at 1325. For example, “[a] claim interpretation that excludes a preferred embodiment from the scope of the claim ‘is rarely, if ever, correct.’” Globetrotter Software, Inc. v. Elam Computer Group Inc., 362 F.3d 1367, 1381 (Fed. Cir. 2004) (quoting Vitronics Corp., 90 F.3d at 1583). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims.” Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 1571 (Fed. Cir. 1988); see also Phillips, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patentee may define a term during prosecution of the patent. Home Diagnostics Inc. v. LifeScan, Inc., 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the

specification, a patent applicant may define a term in prosecuting a patent”). The well-established doctrine of prosecution disclaimer “preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution.” *Omega Eng’g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). The prosecution history must show that the patentee clearly and unambiguously disclaimed or disavowed the proposed interpretation during prosecution to obtain claim allowance. *Middleton Inc. v. 3M Co.*, 311 F.3d 1384, 1388 (Fed. Cir. 2002); see also *Springs Window Fashions LP v. Novo Indus., LP*, 323 F.3d 989, 994 (Fed. Cir. 2003) (“The disclaimer . . . must be effected with ‘reasonable clarity and deliberateness.’”) (citations omitted). “Indeed, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover.” *Spectrum Int’l v. Sterilite Corp.*, 164 F.3d 1372, 1378–79 (Fed. Cir. 1988) (quotation omitted). “As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public’s reliance on definitive statements made during prosecution.” *Omega Eng’g, Inc.*, 334 F.3d at 1324.

Although, “less significant than the intrinsic record in determining the legally operative meaning of claim language,” the Court may rely on extrinsic evidence to “shed useful light on the relevant art.” *Phillips*, 415 F.3d at 1317 (quotation omitted). Technical dictionaries and treatises may help the Court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but such sources may also provide overly broad definitions or may not be indicative of how terms are used in the patent. *Id.* at 1318. Similarly, expert testimony may aid the Court in determining the particular meaning of a term in the pertinent field, but “conclusory, unsupported assertions by experts as to the definition of a claim

term are not useful.” Id. Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” Id.

## **DISCUSSION**

### **A. Overview of the Patent-in-Suit**

The ‘181 patent is titled “Automated Meter Reading System” and is a continuation of the ‘257 patent titled “Automated Meter Reader Having High Product Delivery Rate Alert Generator.” Both patents relate to automated meter readers (“AMR”) for utility meters. AMR products allow for remote monitoring of use, diagnostic, and status data from utility meters, and are aimed at the reduction or elimination of the need for field personnel (meter readers) to visually inspect each meter. ‘181 patent, at 1:40–55. The patents-in-suit cover an AMR device and system “adapted to couple to utility meters’ to achieve these technical advantages. ABSTRACT ‘181 and ‘257 patents.

Claim 1 of the ‘181 patent and Claim 7 of the ‘257 patent are representative and set forth below:

1. An automated meter reading (AMR) system, comprising:
  - an interface module adapted to couple to a meter measuring a quantity of delivered product and providing a first signal indicative of the measured quantity, the module including a wireless transmitter modulating and transmitting the first signal as an RF signal at a transmission interval of less than about every 30 seconds,
  - adapted to facilitate readings by a field operator walking or driving in close proximity to the system, at a power level no greater than 1 mW and at a frequency in an unlicensed frequency band, adapted to reduce interference in the unlicensed frequency band; and

a profile module operatively coupled to the interface module and having a transceiver and a controller receiving the first signals, the profile module creating and storing usage profile data as a function of the 10 measured quantity, wherein the usage profile data is generated at a profile data interval and is adapted to be obtained by a remote user via the transceiver.

‘181 patent at 10: 61–77; 11: 1–13.



7. A device for coupling to a meter measuring product delivery, comprising:  
 an interface module adapted to couple to the meter, the interface module adapted to provide a first signal 45 indicative of the product delivery; and  
 a profile module having a transmitter, and a controller adapted to receive the first signal, the profile module adapted to create and store usage profile data as a function of the product delivery, wherein the profile 50 module has a programmable threshold, the controller adapted to responsively create at least one alert when the product delivery exceeds the programmable thresh-old, wherein the programmable threshold is remotely programmable.

**B. Disputed Terms**

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<b>1. “interface module” and “profile module”</b>			
’181 patent, Claims 1, 7;  ’257 patent, Claims 7, 15	“software or hardware component”	No construction possible-subject to indefiniteness motion as to terms  “profile module” and	interface module: “interface hardware”  profile module: “profile hardware or profile hardware combined with software”

Claim Language	Plaintiffs' Proposal	Defendants' Proposal	Court's Construction
		"interface module" (Badger Meter et al.)	

The “module” terms are in part the subject of Defendants’ Motion for Summary Judgment for Indefiniteness (Doc. No. 167) (“MSJ”). Defendants therefore offer no proposed construction of the terms, as they contend no construction is possible. MSJ at 9. In its briefing, ICH proposed the Court construe “module” as “software or hardware component.” ICH. BR. at 4. For the reasons set forth in the Court’s Report and Recommendation on the MSJ, the Court finds that the terms are amenable to construction.

As to ICH’s proposed construction, Defendants appear to raise concern with this proposal because there is no “software” disclosed for the interface module. MSJ at 9. At the Markman hearing, the Court, in agreement with Defendants, proposed the term “interface module” be construed as “interface hardware.” ICH agreed to this construction, and Defendants raised no further objections other than their contention the term is not amenable to construction. Therefore, the Court construes “interface module” as “interface hardware.”

As to profile module, Defendants argue that the only place where software is illustrated in the patents-in-suit is in Figure 18, which relates to the alert function for excess consumption. MSJ at 9. Regarding Figure 18, the specification describes a profile algorithm within the controller. ‘257 patent, at 9:55–60 (“[a]lgorithm 200 is preferably embodied as a software algorithm within microcontroller 20 of the water meter device 16 depicted in FIG. 4, although the algorithm could be embodied in hardware if desired.”). Thus, the disclosure contemplates the

algorithm preferably implemented in software, but also “in hardware if desired.” Id. Accordingly, at the Markman hearing, the Court proposed “profile hardware or profile hardware combined with software” as the construction for “profile module.” ICH agreed to this construction, and Defendants raised no objections other than their contention the term is not amenable to construction. Therefore, the Court construes “profile module” as “profile hardware or profile hardware combined with software.”

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<b>2. “usage profile data”</b>			
’181 Patent, Claim 1	No construction necessary-ordinary meaning	“[A] collection of meter readings at selected intervals.”	“a collection of meter readings at selected intervals”
’257 Patent, Claims 7, 15	Alternatively, “a collection of meter readings”		

At the Markman hearing on June 13, 2013, the Court proposed the following construction to which the parties agreed: “a collection of meter readings at selected intervals.”

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<b>3. “meter measuring a quantity of delivered product;” “a meter measuring product delivery;” “a meter measuring a quantity and time of delivered product”</b>			
’181 Patent, Claim 1	No construction necessary-ordinary meaning	“A flow responsive device plus a register for indicating the measured quantity to a human observer.”	No construction necessary
’257 Patent Claim 7	Alternatively, a “meter” is “a device that measures”	(Does not mean only a flow responsive device.)	
’257 Patent Claim 15			



ICH contends that the term “meter” is commonly understood by one of ordinary skill in the art and therefore requires no construction. ICH BR. at 7. Defendants argue a construction is necessary because most lay persons do not know meter components or how they work, and ICH’s interpretation of “meter” in its infringement contentions does not include well known parts of water meter equipment. DEFS.’ BR. at 14–15. Accordingly, Defendants propose the meter terms to be construed as “a flow responsive device plus a register for indicating the measured quantity to a human observer.” Id. at 13. ICH raises concern with Defendants’ construction because it imports terms such as “meter flow responsive device” and “meter register” that are not used in the patent claims. ICH BR. at 8. Further, ICH contends that “human observer” is an unnecessary limitation. Id.

The basis for Defendants’ construction appears to stem from Defendants’ position that because water meters are the only devices accused in the present case, the Court should construe the claim terms with respect to water meters only. DEFS.’ BR. 13–15. However, the patents-in-suit clearly contemplate the application of the invention as it relates to “electric, gas and water” meters, including preferred embodiments related to all three types. ‘181, ‘257 patents at 1:15–40; ‘257 patent at 8:29 – 30 (“whether it be a water meter, gas meter or electric meter.”). Thus, if the Court were to construe the term “meter” to apply only to water meters as Defendants request, it would unnecessarily and erroneously exclude portions of the patents-in-suit as a matter of law. The Court therefore declines to import Defendants’ water meter limitations into the claims. Ultimately, the term “meter” is easily understandable in the context of the patents-in-suit, and it requires no construction from the Court to resolve a legitimate claim scope dispute.

Claim Language	Plaintiffs' Proposal	Defendants' Proposal	Court's Construction
<b>4. "adapted to couple to the meter"</b>			
'181 Patent, Claim 1  '257 Patent Claim 7, 15	No construction necessary-ordinary meaning  Alternatively, "couple to the meter" means "attach or connect to the meter" (May be "built-in" or "part of" to the meter).	"[T]o fasten, attach, join to a meter register or to connect to terminals on a meter register." (Does not mean "built-in" to a meter register)	No construction necessary

Regarding the phrase "adapted to couple to the meter," the parties primarily dispute whether the interface module can be built into the meter. ICH contends that the term "couple" is common and requires no construction. ICH BR. at 10. ICH argues that "couple" means two things can be "part of" or "built-in" to one another. *Id.* ICH points to Figure 1 in support of this contention, as well as a portion of the specification that states "a household meter unit generally shown at 10 having adapted therewith an electric meter reading unit 12 according to a first preferred embodiment of the present invention coupled to a sense black spot 13 on the rotating meter disk generally shown at 14." *Id.* citing '257 patent at 2:52–57. ICH also cites to a portion of the specification that states "[a]ll AMR technologies employ a device attached to the meter, retrofitted inside the meter or built into/onto the meter." *Id.* citing '257 patent at 1:61–63. Finally, ICH argues that Figure 1 shows the embodiment 12 as "built-in" or "part of" the meter unit 10. *Id.*

In support of their construction, Defendants cite to several portions of the specification that disclose an "add on" component. DEFS.' BR. at 16–17, citing '257 patent at 4:54–56 ("water meter unit 16 has an optical sensor 60 adapted to be positioned proximate to a water meter face

62.”); ‘257 patent at 9:40–52 (“the water meter unit of the present invention can be fitted to virtually any water meter”... “wire attachment points that allow attachments to the manufactures proprietary AMR device...the sensor cable 66 being coupled directly to the terminals on the encoder of this type of device.”). Defendants argue that ICH’s support found in Figure 1 is based on an electric meter that should not be considered for a water meter, distinguishing the two types of meters. *Id.* at 18.

Defendants have not pointed to any clear disavowal of a “built-in” feature in the patents-in-suit. While Defendants have identified portions of the specification that disclose “add on” components, Defendants have not pointed to anywhere in either patent that states the interface modules cannot be “built-in.” Further, ICH has cited to a portion of the specification, Figure 1, that depicts a “built in” embodiment. While Figure 1 illustrates an electric meter, it does support a finding that “an interface that is adapted to couple” may be within the meter. However, as Defendants’ cited portions of the specification demonstrate, the use of the term “couple” is not meaningless. See, e.g., ‘257 patent at 9:40–52 (“wire attachment points that allow attachments to the manufacturers proprietary AMR device...the sensor cable 66 being coupled directly to the terminals on the encoder of this type of device.”). The use of the term “couple” in the patents-in-suit indicates attachment through certain points point of connectivity. Accordingly, the Court finds no construction is necessary, but clarifies that while an interface may be within the meter, it must be attached through certain points of connectivity.

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<p><b>5. “a wireless transmitter modulating and transmitting the first signal as an RF signal;” “a wireless transmitter, responsively coupled to the interface module, modulating and transmitting the first signal as an RF signal”</b></p>			

Claim Language	Plaintiffs' Proposal	Defendants' Proposal	Court's Construction
'181 Patent, Claim 1  '257 Patent Claim 15	No construction necessary-ordinary meaning	“[A] transmitter circuit for superimposing a first electrical signal representing data onto a radio frequency carrier electrical signal.” (Transmitter in this context is independent of the claimed transceiver and does not mean an entire AMR device; modulating does not mean simply adjusting a signal; signal does mean just a number)	“a wireless transmitter that transmits an RF signal, a characteristic of the RF signal being varied in accordance with the first signal.”

While the parties in large part agreed with the Court's proposed construction of “a wireless transmitter that transmits an RF signal, a characteristic of the RF signal being varied in accordance with the first signal,” a claim scope dispute still remains as to whether the transmitter must be independent from the transceiver. Defendants argue the transmitter, as used in the context of the claim limitation, must be separate from the transceiver. DEFS.' BR. at 21. Defendants argue that these are “two different devices with different functions and purposes in both the claims and the specifications.” Id. ICH maintains that there is no requirement in the specification that the devices be independent, and therefore no such requirement should be inserted by the Court. REPLY at 6.

Here, Defendants have failed to point to any disavowal by the patentee that would require the devices be separate. Claim 1 of the '181 patent claims an interface module “including” the

transmitter and a “profile module operatively coupled to the interface module and having a transceiver.” ‘181 patent at 10:66–67-11: 1–8. Similarly, claim 15 of the ‘257 patent recites an interface module including “a wireless transmitter responsively coupled to the interface module,” and “a profile module having a transceiver.” ‘257 patent at 12: 23–31. While the claims identify both devices, the specification contains no clear disavowal regarding independence of the devices. Moreover, a transceiver is a transmitter plus a receiver, which carries out the function of a transmitter (i.e. transmit), plus the ability to receive. See MERRIAM-WEBSTER’S THIRD NEW INTERNATIONAL DICTIONARY 2426 (3d ed. 1981) (“[transmitter + receiver]: a radio transmitter-receiver that uses many of the same components for both transmission and reception.”). Thus, through their ordinary meaning and understood functions, a transmitter and a transceiver could potentially be one in the same. With no clear disavowal as to the structures disclosed in the patents-in-suit, the Court declines to require that the transceiver must be independent of the transmitter. Accordingly, with the remaining disputes agreed upon, the Court construes “a wireless transmitter modulating and transmitting the first signal as an RF signal;” “a wireless transmitter, responsively coupled to the interface module, modulating and transmitting the first signal as an RF signal” as “a wireless transmitter that transmits an RF signal, a characteristic of the RF signal being varied in accordance with the first signal.”

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<b>6. “programmable threshold is remotely programmable”</b>			
’257 Patent Claim 7	No construction necessary-ordinary meaning Alternatively, ICH proposes “programmable threshold is capable of	“Programmed by a field technician, or by any wireless signal via a suitable receiver.” (Programmable in this context excludes firmware	No construction necessary

<b>Claim Language</b>	<b>Plaintiffs' Proposal</b>	<b>Defendants' Proposal</b>	<b>Court's Construction</b>
	being reprogrammed after initially programmed”	upgrades.).	

At the Markman hearing, the Court proposed no construction was necessary for the term “programmable threshold is remotely programmable.” ICH agreed that no construction was necessary and Defendants agreed that if the Court rejected ICH’s alternative proposal no construction was necessary. The Court finds that ICH’s alternative construction does not cover “remotely programmable” as used in the patents-in-suit. Remotely in this context refers to the distance from which a threshold can be programmed, not the time at which it is reprogrammed. Accordingly, the Court rejects ICH’s alternative construction and finds no construction is necessary.

<b>Claim Language</b>	<b>Plaintiffs' Proposal</b>	<b>Defendants' Proposal</b>	<b>Court's Construction</b>
<b>7. “signal indicative of the product delivery”</b>			
’257 Patent Claim 7	No construction necessary-ordinary meaning	“Transmission of the meter reading.”	“signal indicative of the amount of product delivered”

As to the remaining four terms, the parties’ dispute surrounded the term “product delivery” in each of the claim limitations. At the Markman hearing, the Court questioned the parties regarding this dispute, and suggested the Court construe “product delivery” if the remaining portion of the limitations were agreed. The parties agreed to this approach with the modifications set forth in the Court’s constructions below. The Court therefore construes

“product delivery” as “amount of product delivered.” Further, in light of the parties’ agreement with respect to this term, the Court construes “signal indicative of the product delivery” as “signal indicative of the amount of product delivered.”

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<b>8. “create at least one alert when the product delivery exceeds the programmable threshold”</b>			
’257 Patent, Claim 7	No construction necessary-ordinary meaning	“creates an alert when the meter reading indicates consumption greater than the applicable threshold programmed for the time of the reading”	No construction necessary (product delivery as construed herein)

For the reasons discussed above, the Court finds no construction necessary (product delivery as construed herein).

Claim Language	Plaintiffs’ Proposal	Defendants’ Proposal	Court’s Construction
<b>9. “transmitter is adapted to send data representative of a product delivery parameter”</b>			
’257 Patent, Claim 10	No construction necessary-ordinary meaning	“The meter reading is sent as an RF signal.”	No construction necessary (product delivery as construed herein)

For the reasons discussed above, the Court finds no construction necessary (product delivery as construed herein).

Claim Language	Plaintiffs' Proposal	Defendants' Proposal	Court's Construction
<b>10. "transmits the alert at a frequency and data representative of product delivery parameter at a second frequency"</b>			
'257 Patent, Claim 12	No construction necessary-ordinary meaning.  Alternatively, ICH proposes that the phrase means "transmits the alert at a first time frequency and data representative of product delivery parameter at a second time frequency."	"The alert for excess product delivery is sent by the transmitter on one radio frequency and the meter reading is sent on a second radio frequency."	No construction necessary (product delivery as construed herein)  *frequency in this context does not refer to a time interval, but the wavelength characteristic of the signal

For the reasons discussed above, the Court finds no construction necessary (product delivery as construed herein), with the explanation that frequency in this context does not refer to a time interval, but the wavelength characteristic of the signal.

**CONCLUSION**

For the foregoing reasons, the Court adopts the constructions set forth above.

**So ORDERED and SIGNED this 2nd day of July, 2013.**

  
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 JOHN D. LOVE  
 UNITED STATES MAGISTRATE JUDGE