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THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Norfolk Division

I/P ENGINE, INC.,)	
)	
Plaintiff,)	CIVIL ACTION
)	
V.)	2:11CV512
)	
AOL INC., GOOGLE INC.,)	
IAC SEARCH & MEDIA, INC.,)	
GANNETT CO., INC., and)	
TARGET CORPORATION,)	
)	
Defendants.)	

(MORNING SESSION)

TRANSCRIPT OF PROCEEDINGS

Norfolk, Virginia

October 26, 2012

JURY TRIAL - Day 9

(Pages 1378-1503)

Before: THE HONORABLE RAYMOND A. JACKSON
United States District Judge

1 Appearances:

2

CRENSHAW, WARE & MARTIN, P.L.C.

3

By: W. RYAN SNOW, ESQUIRE

DONALD C. SCHULTZ, ESQUIRE

4

and

DICKSTEIN SHAPIRO, LLP

5

By: JEFFREY K. SHERWOOD, ESQUIRE

FRANK C. CIMINO, JR., ESQUIRE

6

KENNETH W. BROTHERS, ESQUIRE

CHARLES J. MONTERIO, JR., ESQUIRE

7

JONATHAN FALKLER, ESQUIRE

and

8

DAWN RUDENKO, ESQUIRE

Counsel for the Plaintiff

9

10

QUINN EMANUEL URQUHART OLIVER & HEDGES LLP

11

By: DAVID A. PERLSON, ESQUIRE

DAVID L. BILSKER, ESQUIRE

12

DAVID NELSON, ESQUIRE

EMILY C. O'BRIEN, ESQUIRE

13

ROBERT A. WILSON, ESQUIRE

and

14

KAUFMAN & CANOLES

15

By: STEPHEN E. NOONA, ESQUIRE

Counsel for the Defendants

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* * *

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* * *

1 (Court convened at 10:00 a.m.)

2 (Jury in.)

3 THE COURT: You may be seated.

4 Good morning, ladies and gentlemen.

5 THE JURY: Good morning, your Honor.

6 THE COURT: Let the record reflect that all
7 jurors are present in the courtroom. Does counsel agree?

8 MR. CIMINO: Yes, your Honor.

9 MR. NELSON: Yes, your Honor.

10 THE COURT: All right. Ladies and gentlemen, we
11 are ready to resume with the cross-examination of
12 Dr. Ungar. We are in a phase for just a few minutes
13 where we will be in a session where we are taking
14 proprietary information, so the public has been excluded
15 from the courtroom.

16

17 (THE COURTROOM WAS CLOSED TO THE PUBLIC AND THE
18 PROPRIETARY EVIDENCE GIVEN BY DR. LYLE UNGAR, PAGES
19 1382-1407, WAS PLACED UNDER SEAL BY ORDER OF THE COURT
20 AND THE TRANSCRIPT WAS FILED WITH THE COURT UNDER
21 SEPARATE COVER.)

22

23

24

25

1 (THE COURTROOM WAS OPENED TO THE PUBLIC.)

2 DR. LYLE UNGAR, re-called as a witness to
3 continue nonconfidential testimony, having been
4 previously sworn, was examined and testified as follows:

5 CROSS-EXAMINATION

6 BY MR. CIMINO:

7 Q. You performed an infringement analysis of all the
8 claims in this case, correct?

9 A. I did.

10 Q. And there are several patents and claims, correct?

11 A. I'm sorry?

12 Q. There are several patents and claims asserted
13 against Google, correct?

14 A. There are two patents with many claims asserted
15 against Google. I don't quite know what you mean by
16 several patents.

17 Q. Two. Several is two, correct?

18 A. I used think of several as being three or four, but
19 it's two patents. Let's not quibble over something
20 unimportant.

21 Q. Okay. And you presented your infringement analysis
22 in 80 some slides, correct?

23 A. Something like that.

24 Q. And you had access in performing your infringement
25 analysis to all of Google's documents relative to

1 AdWords?

2 A. All Google has, I couldn't imagine how many billions
3 of documents, so I'm not quite sure what that means. I
4 had access to a large number of documents which have
5 been released to you. I had access, in particular, to
6 Bartholomew Furrow -- I keep saying his name wrong --
7 and Mr. Alferness. So I had access to their experts. I
8 didn't actually have -- I couldn't go on to Google's
9 computers and look at their documents, if that's the
10 question.

11 Q. You didn't visit Google, did you?

12 A. I have visited Google. I did not visit Google as
13 part of this analysis. I did my speaking with them by
14 telephone.

15 Q. Right. You didn't go analyze the AdWords system in
16 person?

17 A. I have used the AdWords system from the outside. I
18 didn't go actually on to Google's computers on Google's
19 site to analyze it, no.

20 Q. As part of your expert report, you cited a
21 significant amount of Google documents, didn't you, that
22 you considered in part of your report?

23 A. Yes, I looked at a lot of documents.

24 Q. And in your several hours of noninfringement
25 analysis you didn't cite one internal Google document,

1 did you?

2 A. I cited the source code. I based it upon the
3 testimony of or my conversations with Furrow and my
4 analysis. The documents themselves are mostly not
5 helpful to understand how things work. It's much nicer,
6 I think, to say here's the template, look at it. Here
7 are the pieces.

8 Q. So you chose not to use Google's internal documents
9 in favor of talking to the witnesses in this case?

10 A. I didn't read from the specifications of the
11 documents, if that's the question. Yeah, I've spent
12 many years teaching computer science and my experience
13 is that to go through pages of code is the best possible
14 way to make people go to sleep. So even with my Ph.D.
15 computer science students, I don't walk through pages of
16 code with them. It's unbelievably tedious and it's hard
17 to follow.

18 Q. But Google has documents that explain their system
19 in regular lay person terms, don't they?

20 A. You mean the marketing documents?

21 Q. Any documents, Dr. Ungar.

22 A. Many of the simple marketing documents, reading them
23 to see how the system works, it's like reading the
24 ingredients on a candy bar to see how to make the
25 candy. It says what goes in, but it doesn't say how it

1 works.

2 Q. But there was testimony that those documents are
3 accurate?

4 A. The ingredients on the candy bar are accurate, too.
5 It still doesn't tell you how to make a candy bar. It's
6 something different.

7 Q. Those documents were all created before this case
8 was filed, weren't they?

9 A. Which documents?

10 Q. All the Google documents you are referring to?

11 A. Yes.

12 Q. And don't you agree that the best objective evidence
13 are documents that are created before the litigation is
14 filed?

15 A. I think that it's important people understand how
16 the system really works, and I think the best way to
17 explain how something really works is, in fact, to
18 describe it in a clear, accurate way.

19 So if, for example, the picture that was the
20 cube and my colors, I think that's easier to understand
21 than the source code. Of course, I looked at the source
22 code. Of course, I analyzed it, but in terms of trying
23 to explain what's going on, all of these, I won't read
24 the whole piece there in open court now, all of these
25 complicated names, it's important to look at them. I

1 analyzed them. I understand them, but I spent 25 years
2 doing computer science. I don't want to force the jury
3 or you to sit through hours and hours of looking at that
4 detailed source code and detailed technical documents.
5 It's not productive.

6 Q. So Google's higher level documents describing the
7 system, you believe they are untrue; is that right?

8 A. That's completely false. I just said that if you
9 look at the ingredients on a candy bar, the ingredients
10 can be correct, but it still doesn't say how to make the
11 candy bar.

12 Q. So you believe that those documents are useful for
13 explaining how AdWords works; is that right?

14 A. The marketing documents are useful for a marketing
15 person, someone who is advertising. You want to go and
16 take an ad out for volleyball net, they are useful for
17 explaining to someone who is using the system how to use
18 it. They are not useful for understanding the details
19 of how odds multipliers and pCTRs work.

20 Q. The marketing documents you are talking about are
21 the ones that educate the advertiser on how the system
22 works?

23 A. Yes, for the purposes of being a good, effective
24 advertiser.

25 Q. And for the purposes of being a good, effective

1 advertiser Google tries to explain to them how to
2 improve their quality of the ad; isn't that right?

3 A. It does. It doesn't try to explain to them an odds
4 multiplier or a template. It tries to explain to them
5 here's the Quality Score on a 1 to 10 scale that we
6 showed advertisers. Here's what you will see in your
7 feedback. It's trying to let them know what they need
8 to be effective advertisers. They don't need to know
9 whether there's content-based filtering inside the
10 system. That's not something an advertiser cares about
11 or wants to know.

12 Q. But they do want to know how the system works
13 accurately to optimize their quality of the ad; isn't
14 that right?

15 A. I don't think they want to know the details of how
16 the odds multipliers are calculated, how information is
17 stored. They don't care about the distributed database
18 under the hood.

19 There are lots of important technical issues at
20 question, right, whether scanning a network and
21 searching for stuff that you are saying they are going
22 in and directly looking something up that goes there,
23 and advertisers really don't care about that. They
24 don't want to see it.

25 Q. That wasn't my question, Dr. Ungar.

1 THE COURT: I think that we have plowed over
2 this question enough. Let's move on to something else
3 here. He's given you similarly the same answer, I think,
4 probably here. So, let's move on.

5 BY MR. CIMINO:

6 Q. Now, Dr. Frieder also relied upon internal Google
7 documents, didn't he?

8 A. He did.

9 Q. And you didn't cite any of those in your
10 noninfringement analysis, did you?

11 A. In my reports?

12 Q. No, in your testimony.

13 A. My testimony. There are detailed reports that you
14 haven't seen. I did many, many pages of reports which
15 they have that you haven't seen. And so I did cite
16 those in my reports. In my testimony I did not, no.

17 Q. In order to understand the system, it's my
18 understanding you had a hundred meetings with Google to
19 be taught the system to learn AdWords?

20 A. No. I'm not sure where you got your understanding,
21 but that's wrong.

22 Q. Can we pull up 155, 21 to 156, 2?

23 MR. PERLSON: Your Honor, this is not proper
24 impeachment.

25 THE COURT: Well, let's see where he's going to

1 see whether it's responsive to the question he just
2 answered.

3 BY MR. CIMINO:

4 Q. At line 19 it says -- you responded: "I have asked
5 many clarifying questions of both Quinn Emanuel lawyers
6 and of Google."

7 Question: "About how many conversations do you
8 think you had about the AdWords system to form your
9 understanding?"

10 The answer was: "To anyone? Oh, a hundred."

11 MR. PERLSON: Your Honor, may I approach?

12 THE COURT: No, not on this, no, sir.

13 But one other thing, Mr. Cimino. Your question
14 was whether he had a hundred meetings. This talks about
15 a hundred conversations.

16 THE WITNESS: But if I may answer.

17 THE COURT: No, don't answer.

18 THE WITNESS: Sorry.

19 THE COURT: So, have a seat. Let's just move on
20 here.

21 BY MR. CIMINO:

22 Q. Only a handful of those conversations were with
23 Mr. Furrow and Mr. Alferness; isn't that right?

24 A. Yes. I had many conversations, but they were not
25 mostly with Google engineers. They were with many

1 people, and I had -- yes, I do say a handful with
2 Mr. Furrow and Mr. Alferness.

3 Q. You didn't conduct for your invalidity analysis a
4 prior arts search on your own, did you?

5 A. I did conduct a prior arts search on my own. I
6 mean, I did -- there was prior art search both done by
7 Quinn Emanuel lawyers as well as done by me personally.

8 Q. The prior art that you presented in Court yesterday
9 was provided to you by Google, wasn't it?

10 A. I'm sorry. Give me a second. I'm trying to think
11 which ones I have discovered independently and which
12 ones -- I think the ones I presented there had all been
13 found initially by Google's lawyers.

14 Q. Can we please pull up PX-228?

15 Dr. Ungar, you are familiar with PX-228,
16 correct?

17 A. I don't remember the number. You will have to
18 refresh my memory as to what this is.

19 Q. Well, you had a slide with a cut-out from this
20 document.

21 A. I'm sorry. I just don't remember -- these PX
22 numbers, I just can't remember them, so you will have to
23 remind me what this is.

24 Q. Do you have a binder?

25 A. I do have a binder.

1 Q. It should be there under PX-228.

2 A. They are indexed under tab numbers like 4, 5, 228.
3 228, is that it?

4 Q. Yes.

5 A. Ah, I have it. Thank you.

6 Q. You know what this document is, don't you?

7 A. This is an Overview of Ads Quality. I believe this
8 is one of the marketing documents.

9 Q. Do you believe that this is a marketing document?

10 A. Let me look at it. No, this is a Google internal
11 document for Google engineers.

12 Q. Yeah. Yesterday -- can you pull up DDX-2.38.

13 A. Yes.

14 Q. Do you see the call out for 228?

15 A. Yes.

16 Q. That's the same document as you have located in your
17 binder?

18 A. Yes.

19 Q. When you had your testimony about this, you called
20 this a marketing document, didn't you?

21 A. I'm sorry, I must have misspoken. Targeting is a
22 marketing concept. Targeting is something that we teach
23 in the business school as writing ads to different
24 marketing segments. I'm sorry if I called it a
25 marketing document. It's a marketing concept,

1 targeting.

2 Q. This document is not talking about the marketing
3 concept of targeting, is it?

4 A. I believe it is.

5 Q. It's talking about finding ads inside of Google that
6 matched a keyword; isn't that correct?

7 A. That's the goal of targeting, to find documents that
8 are appropriate for different market segments.

9 Q. And you just testified that this document is an
10 internal document for Google engineers; isn't that
11 right?

12 A. Yes.

13 Q. Google engineers would not be using marketing terms;
14 isn't that right?

15 A. That's not correct. There are a lot of internal
16 Google documents, I mean, Life of a Dollar, Life of a
17 Query, that try and explain to the Google inside people
18 also what's going on in the outside world. So it's part
19 of the training of new Google engineers. They are
20 taught not just the technical details of how their
21 version control systems work and the coding standard,
22 but they are also taught something about what the system
23 looks like to outside users, both advertisers and
24 searchers.

25 Q. Can we go back to the real document, PX-228?

1 It says here Targeting. "Targeting means
2 finding and displaying ads that best match the user's
3 query." Isn't that right?

4 A. Yeah, that's the same definition that, I believe,
5 was on the slide that I showed.

6 Q. Yeah. And this definition supports Dr. Frieder's
7 view that the system looks for ads, and does not support
8 your view; isn't that correct?

9 A. No, that's wrong. This is still talking about what
10 it's trying to accomplish. The goal of showing ads is
11 to target them. You want to show ads to relevant
12 demographic or user segments. This is not -- that's a
13 different question from how you find it, whether you
14 take a query and search the web, whether you look up in
15 a database. That's how it's done. So there's a
16 distinction between what's being done, what the goal
17 is -- to target people is the goal -- versus how it's
18 done.

19 And in terms of infringement questions, the
20 question, I think, is not what's being done, but how
21 it's being done.

22 Q. The claim requires looking for items; isn't that
23 right?

24 A. It requires looking for, but again, one needs to be
25 precise about the distinction between whether it's

1 looking for in the sense of scanning a network.
2 Remember, I showed the database query where you don't go
3 and look for the item. Try this one, check that one,
4 check that one. The database query you jump directly to
5 it versus the goal. So in some sloppy sense, sure, it
6 looks for it. It looks it up. It's not the same. So,
7 again, the goal is to find the right ad. That's what's
8 being accomplished, but that doesn't mean this is how
9 it's being done.

10 You are fixating on the words rather than what's
11 happening, I think.

12 Q. You would agree with me that you find things that
13 you look for, isn't that right, in regular English?

14 A. In regular English sometimes I find things I look
15 for, but the question is not about regular English. The
16 question is very specifically about questions like
17 looking for, examining items or scanning a network.
18 Regular English is not the question. In regular English
19 filter means all sorts of things. It's a coffee
20 filter. The question is in the context of the patents
21 how is this being used.

22 Q. So you are ignoring the plain English of Google's
23 internal document for its engineers in order to show
24 noninfringement; is that right?

25 A. No. I'm saying that when you see a word like

1 Quality Score or targeting or looking up or finding,
2 whatever that word is, you need to think what does that
3 word mean here? There are lots of Quality Scores.
4 There's lots of looking for. I want to know how it
5 really works, not whether that word shows up or that
6 color shows up somewhere.

7 Q. Okay. We will come back to this on the scanning the
8 network part, Dr. Ungar, but for now I would like to
9 address your criticism of this document that you gave
10 yesterday. You said there's just a notion of targeting,
11 but it doesn't show where it happens. Is that correct?

12 A. Yes. I said that it says the goal is targeting.
13 You are trying to send the right advertisers, choose the
14 right subsettings, but it doesn't actually identify the
15 functionality of the product.

16 Q. Can you pull up page 2, please, and blow up the
17 figures.

18 You agree that disabling is an actual function,
19 correct?

20 A. Yes.

21 Q. And you agree that prediction is an actual function?

22 A. Computing a pCTR is an actual function, yes.

23 Q. And disabling (round 2) is an actual function of the
24 AdWords system?

25 A. Yes.

1 Q. And promotion and ranking and pricing are actual
2 functions of the AdWords system?

3 A. Again, they are descriptions. So, pricing is
4 describing what's going on. Again, I want to
5 distinguish between -- it's confusing because these are
6 both a function and how it's done. Some of them are the
7 goal. So pricing, I would describe as pricing is more
8 like targeting. Pricing is trying to set a price for
9 something. Again, it's not saying how that pricing is
10 done. And similarly with targeting, sure, the goal of
11 this piece is to send the right ads to the right
12 people. That's what it's trying to accomplish.

13 Q. The goal is to find ads to enter the disabling
14 stage; isn't that right?

15 A. Again, you are using the word "find," and sure, in
16 the general sense, it's finding. Let's come back, if
17 you want to talk about the patent, developing actual
18 claim language.

19 Q. I'm not using the word "find," Dr. Ungar. That's
20 Google's word; isn't that right?

21 A. Let's pull up the actual language of the Court's
22 construction and look at it and see whether it accuses.
23 That's the question.

24 Q. Dr. Ungar, I'm talking about Google's document.
25 They use the word "find," don't they?

1 A. They use lots of words. The question is does it
2 match the -- the Court has a specific construction of
3 scanning.

4 Q. Okay. Dr. Ungar, I will move on in the document.
5 The words in the document the jury will have for
6 themselves.

7 So you can leave that figure up, please.

8 So every one of these functions here listed on
9 the right you agree is a function except for targeting,
10 the one that doesn't support your case; isn't that right?

11 A. No, that's not right. What I said is these are by
12 and large -- these are descriptions of what it's trying
13 to accomplish. It's doing targeting, it's doing
14 pricing, it's doing ranking. They are not saying here's
15 how it's done.

16 Again, if you want to use the word "finding," I
17 want the word "finding" in the context of the Court's
18 construction, not pulled out as, look, I found this
19 word.

20 Q. Dr. Ungar, you would also agree that Google's
21 document, internal document for its software engineers,
22 shows that targeting takes place in what used to be
23 called shards but is now the ads database; isn't that
24 right?

25 A. Yes.

1 Q. And you were here for Mr. Furrow's testimony?

2 A. Yes.

3 Q. He explained that you do a query rewrite and then
4 you go to the ads database to pull keywords?

5 A. That's correct.

6 Q. That's what's being referred to here as targeting,
7 isn't it?

8 A. I'm not sure. We would have to go through the
9 document.

10 Q. You are not familiar with the document. You didn't
11 cite any document in support of your noninfringement
12 position, did you?

13 A. I am familiar with the --

14 MR. PERLSON: Objection, your Honor. That's
15 asked and answered.

16 MR. CIMINO: I will move on, your Honor.

17 THE COURT: All right. Fine.

18 BY MR. CIMINO:

19 Q. Dr. Frieder -- sorry. Dr. Ungar, you started
20 working at the University of Pennsylvania in 1984?

21 A. That's correct.

22 Q. I think you've testified in one of your
23 qualifications that you are a professor; is that
24 correct?

25 A. I am.

1 Q. A full rank of professor?

2 A. My official title is associate professor of computer
3 and information science.

4 Q. There's a difference between professor and associate
5 professor, isn't there?

6 A. We use professor to refer to assistant, associate
7 and full professors. So, those are all professors.

8 Q. Right. And so you are in the middle rank?

9 A. I am in the middle rank, yes.

10 Q. And you have no degree in computer science?

11 A. I have no degrees in computer science. As I said, I
12 studied it for many decades, but I have no degrees in
13 computer science.

14 Q. Nor in computer engineering?

15 A. Nor computer engineering.

16 Q. Your degrees are in chemical engineering?

17 A. They are.

18 Q. You have never taught classes that were dedicated
19 solely to search engine technology, have you?

20 A. I covered search engine technology in my artificial
21 intelligence class and my data mining class, but I
22 haven't taught a whole course entirely only on search
23 engines. I have taught it combined with other related
24 topics.

25 Q. You never taught a course dedicated solely to

1 information retrieval either, have you?

2 A. I have taught short courses, but I haven't taught
3 full semester long courses. Again, I incorporate that
4 into other graduate courses.

5 MR. PERLSON: Your Honor, he was offered as an
6 expert in computer science and information retrieval.
7 There was no objection, and he was admitted as an expert
8 in that.

9 THE COURT: On that issue, the Court would
10 certainly sustain the objection. The Court qualified him
11 in that area and you didn't challenge that qualification
12 as an expert --

13 You may have a seat, Counsel.

14 -- on the question of whether he was an expert
15 in information retrieval. Otherwise, the Court will
16 permit the examination regarding his credentials. But on
17 qualification in the area the Court indicated, I sustain
18 the objection.

19 MR. CIMINO: So I can proceed? I didn't mean to
20 waive my cross-examination on his qualifications.

21 THE COURT: You are not waiving
22 cross-examination, but whether you are going to challenge
23 him as an expert --

24 MR. CIMINO: I understand.

25 THE COURT: -- the Court said he's qualified.

1 The Court sustains the objection on that. You can
2 certainly ask him about his educational credentials.

3 MR. CIMINO: Yes, your Honor. That's all I'm
4 doing.

5 BY MR. CIMINO:

6 Q. You haven't taught any courses directed solely at
7 databases either, have you?

8 A. I have not.

9 Q. One of your noninfringement positions is based on
10 the operation of the database; isn't that correct?

11 A. I am quite familiar with how databases work. I do
12 cover database usage in my courses, so every year I
13 teach hundreds of students how databases work. I don't
14 teach a whole course in it.

15 Q. And you said you have published several times a year
16 and had many publications; is that right?

17 A. Yes. I said I think technically I stopped counting
18 at a hundred.

19 Q. None of your papers describe search engines, do
20 they?

21 A. I'm not sure about that. I'd have to think back
22 through them.

23 Q. Well, I asked you that same question during your
24 deposition, didn't I?

25 A. I don't remember, but -- without looking through, I

1 don't remember any that describe search engines.

2 Q. Can you pull up slide 2.6.

3 On this slide, Dr. Ungar, you went over some of
4 your experience with industry?

5 A. Yes.

6 Q. It's not complete, is it?

7 A. Oh, of course, it's not complete. Again, I don't
8 want to take the time to go through all of the firms I
9 consulted for.

10 Q. You actually reached out to Google to seek a job,
11 didn't you?

12 A. Reached out to Google? Yes.

13 Q. You weren't seeking a job from anyone else, only
14 Google, is that right, at the time?

15 A. So, when I was looking for a sabbatical, every seven
16 years professors are allowed to go spend time at
17 different schools and different institutions, I looked
18 around several years ago to think what was the best
19 place to learn more about what was happening in, well,
20 sort of the topics we have been talking about, and I did
21 approach Google and, in fact, they hired me. I worked
22 there for nine months. It's on my resume.

23 Q. You didn't mention working for Google when you went
24 over your industry experience, did you?

25 A. I didn't mention that, nor did I mention lots of

1 other jobs that I have done.

2 Q. But you are not here working for any other companies
3 but Google; is that right?

4 A. I'm employed here by Google, yes.

5 Q. And how much are you being paid per hour?

6 A. \$600.

7 Q. Dr. Ungar, let's talk a little bit about your
8 opinion on scanning a network.

9 Could we have slide 2.35, please.

10 This was one of the slides that you used to show
11 that the Google AdWords system does not scan a network,
12 correct?

13 A. Yes. This was in response to one of Dr. Frieder's
14 contentions.

15 Q. This is not a Google document, correct?

16 A. No. Again, it describes how the system works and I
17 thought it was the clearest way to explain a system and
18 how it works.

19 Q. And part of your explanation was how a database
20 works, right?

21 A. Yes, the parts that are relevant to the scanning.

22 Q. But you didn't provide any evidence, besides your
23 opinion, about how a database works, correct?

24 A. I didn't think it was necessary to bring in a basic
25 introductory database textbook. Is that the question?

1 No, I didn't.

2 Q. Those exist; is that right?

3 A. Hundreds of them. I have many on my bookshelf.

4 Q. So you could have brought evidence to support your
5 opinion that a database looks something up rather than
6 looks for it, if I understand your position?

7 A. I could have brought a textbook but I didn't want to
8 bring pages and pages of evidence. I think this is, at
9 least among computer scientists, well-known and
10 uncontested about how a database works, but maybe it is
11 contested by your experts.

12 Q. Now, scanning a network has a court-defined
13 definition; isn't that right?

14 A. Yes.

15 Q. It's looking for or examining items; isn't that
16 right?

17 A. Well, scanning a network, I think, is looking for or
18 examining items in a network, right.

19 Q. Right. So scanning means looking for or examining
20 items?

21 A. Yes.

22 Q. Your view, if I understand it correctly, is that to
23 meet that definition you have to go sequentially page by
24 page in the Internet; is that right? Is that how you
25 look for something in your opinion?

1 A. That looking for and examining to me says I don't
2 know where something is; I'm looking for it. I'm
3 looking for someone's house. I go down the street
4 trying to find it. I may check the addresses. Is this
5 right? Is that not right? Yes, to me looking for is
6 different versus going to someone's house. I'm not
7 looking for my friend's house when I go there. I'm
8 going to it. So I think looking for a house is
9 different from looking for, or examining houses as you
10 go is different from going to, and that's, I think, a
11 good characterization of that, how databases, they go
12 to; they don't look for.

13 Q. So for this part, for this word "looking for" you
14 are using regular English to define it, looking for a
15 house?

16 A. No. What I'm doing is using a very technical
17 understanding I have of exactly how databases work, and
18 the same way when I talk about the ingredients on a
19 candy bar, I'm trying to explain in easily
20 understandable terms. That's what I do when I teach,
21 explain it in easily understandable terms how something
22 works, rather than referring to detailed technical
23 specifications for how a database works. They are
24 there, I know them, but I don't think that's a helpful
25 way to explain them.

1 Q. So, Dr. Ungar, in your opinion, then, the patent
2 claims under the Court's definition do not require you
3 to go sequentially page by page on web pages?

4 A. I could imagine there would be other ways. So
5 certainly looking page by page would be one way to
6 scan. I'm not arguing that's the only way to scan. I
7 think that scanning requires looking for and examining,
8 or it's a slightly different definition of the other
9 sense of scanning. Searching for is the other
10 definition, as I recall. There's two different court
11 constructions for scanning. One definition requires
12 looking for and examining or the other definition,
13 searching for. There are many ways to search for, but I
14 don't think that AdWords meets any of those.

15 Q. You are not able to articulate any alternative way
16 to meet the limitation of scanning a network, other than
17 going sequentially web page by web page, are you,
18 sitting here today?

19 A. I'm not sure that's true, but I'm not sure it's
20 relevant.

21 Q. Well, what's another way to meet scanning besides
22 looking one by one?

23 A. How else would I scan a network other than looking
24 one by one?

25 Q. Yeah. Do you have an opinion sitting here today of

1 an alternative way to do it, or would you have to sit
2 here today and think of one?

3 A. I think you probably scan by doing groups, looking
4 at a chunk here, a chunk there. One way of scanning a
5 network is to go from one page following links to other
6 pages, following links to other pages.

7 A different way to search the Internet is to go
8 to a page and have a computer type in queries, like type
9 in Jaguar, type in Mercedes, pull pages out. Each of
10 those involves searching for or looking for and
11 examining, pulling out pages. They don't all
12 necessarily march through a database.

13 So I think, first of all, most of the scanning,
14 as I read the patent, is scanning a network like the
15 Internet. This is scanning a database. That's a little
16 bit different, but apart from that distinction, there
17 are multiple ways to scan, but Google doesn't do it in
18 its AdWords system.

19 Q. You agree that you can look for items in a database,
20 don't you?

21 A. That one can look for items in a database? I think
22 that would be a fine colloquial English thing to say,
23 yes.

24 Q. That's just regular English; is that right?

25 A. Yes, regular English.

1 Q. And the Court's construction is broader than looking
2 for. It also allows for examining items in a network;
3 isn't that right?

4 A. Yes.

5 Q. And examining doesn't require a sequential
6 step-by-step analysis, does it?

7 A. I just said that it didn't require a step-by-step
8 analysis. What I said was that the process of looking
9 up an item doesn't examine the items. If you are
10 looking for something, you try it, you examine it and
11 say, okay, is that the right one or not? That's not how
12 a database works.

13 Q. You can, for example, examine something under a
14 microscope and know what it is; isn't that right?

15 A. You could, but a database doesn't.

16 Q. You could also look for a word in the dictionary,
17 isn't that right, without going page by page? You know
18 where the word is, don't you?

19 A. I think looking for a word in a dictionary is a good
20 example. When I open a dictionary, I don't know exactly
21 where it is. I have to actually look at a few different
22 places. Is it on this page? Is it further? Is it
23 later? So looking for the word in a dictionary is a
24 good example where I don't go page by page when I'm
25 looking for it, duh.

1 If the word is rose, I don't start with the
2 A's. I flip two-thirds of the way back and I look at
3 the page, I examine it. Oh, rose isn't here; this is
4 rubber. It must be earlier. I flip earlier. That's
5 now how the database works. The database doesn't have
6 to look and say, Oops, I'm not on the rose page and go
7 there. The database jumps directly.

8 If I was a computer, I would remember exactly
9 which page of the dictionary every single word occurred
10 on, but I'm not a database. So when I look for a word,
11 I have to look at the page, examine it, and this is a
12 great example. It's not step by step, but it does
13 require looking for it. It does require examining,
14 Oops, that page doesn't have rose on it. That's not how
15 a database works.

16 Q. So, Dr. Ungar, it's your opinion that someone
17 looking at a dictionary would not know where a word was;
18 is that right?

19 A. Most normal people looking at a dictionary will not
20 know the exact page on which every word is stored; that
21 is correct.

22 Q. Dr. Ungar, the ad keyword database shown here,
23 that's a simplification?

24 A. Yes.

25 Q. There's 10 million ads, correct?

1 A. I'm not sure of the exact number, but that's
2 plausible.

3 Q. Were you here for Mr. Alferness's testimony?

4 A. I'm not sure I saw all of it. If he says there are
5 10 million, I'm certainly not disputing it.

6 Q. Okay. There are a lot of ads?

7 A. There are a lot of ads.

8 Q. So the scale of the ad keywords database is very
9 large, isn't it?

10 A. Yes. In fact, it's stored over multiple computers,
11 as I showed on the slide following this one.

12 Q. But much more than what's shown in the
13 simplification?

14 A. Yes. I don't know the exact number, but I would
15 guess a hundred to a thousand different -- computer is a
16 funny word, but they are different boards on a big rack.

17 Q. And the ads after a search query is entered has to
18 be returned very quickly, less than a second, right?

19 A. Yes. That's why it's a distributed database.

20 Again, I showed this picture that showed multiple
21 computers. I showed four or five. I couldn't put 500
22 on a picture. But, in fact, it has to be returned very
23 quickly, and that's why, in fact, it doesn't search for
24 and try all the different ones. It needs to know
25 exactly, ah, this is stored right here. It needs to

1 know where to go rather than doing like you did in the
2 dictionary, trying, Oops, is that the ad? No, that's
3 the wrong page for ad in a computer. Go to a different
4 one.

5 Q. Dr. Ungar, the system has to find the correct
6 candidate ads, process them for rerounds of disabling
7 and run two auctions in less than a second; isn't that
8 right?

9 A. It needs to retrieve them and process them in less
10 than a second, yes.

11 Q. And it does that by locating them based on keywords;
12 isn't that right?

13 A. Part of the process is this database query that's,
14 in fact, on the slide in front of you that uses a
15 keyword to then retrieve -- actually, technically, I
16 guess it retrieves an ad ID and the creative is stored
17 on a different machine, but that's probably more
18 detailed than you want.

19 Q. You have up here AdWords does a database look up.
20 It does not scan a network.

21 A. Yes.

22 Q. I want to substitute in the claim language to make
23 sure I know exactly what you are referring to here, so
24 we know what the issue is in your opinion. This is
25 actually the correct way to --

1 A. Whoa! There are three dots in there. You have
2 dropped out the detail. Please put up the whole claim
3 so we can see what's going on.

4 Q. Well, you should have the Markman in there.

5 A. I'd like the jury to see the whole claim, too.

6 THE COURT: Don't go backwards and forwards.

7 THE WITNESS: I'm sorry.

8 THE COURT: Just answer his questions.

9 THE WITNESS: I'm sorry. It's just hard when
10 there's a missing chunk from it.

11 MR. PERLSON: Your Honor, he's missing three
12 words from the Court's construction and he has ellipses.
13 I think that's what Dr. Unger is referring to. It's
14 misleading.

15 THE COURT: You can ask him the question, but if
16 you put up the definition, put up the whole definition.

17 MR. CIMINO: Your Honor, I just dropped off the
18 word "examining."

19 THE COURT: All right. We all understand the
20 word includes examining, not just look. You asked it in
21 part. Looking for or examining. We understand that.
22 Objection overruled. Move on.

23 You can respond to that, Dr. Ungar.

24 THE WITNESS: Again, sorry. Please repeat the
25 question again.

1 BY MR. CIMINO:

2 Q. So in your opinion the reason Google does not
3 infringe is because it does a database look up. It does
4 not look in a network; isn't that right?

5 A. The claim construction doesn't say look in a
6 network. I believe it says look for. That's not the
7 same. I wish you wouldn't change the words on me.

8 Q. Okay. So your position, then, is there's a
9 difference between look up and look for?

10 A. I do believe that looking for or examining or
11 searching requires looking for. That's different from
12 looking stuff up, which is a retrieval. Retrieving
13 something from the database is not the same as looking
14 for it. Looking for it implies you don't know exactly
15 where to find it.

16 Q. Okay. You agree that the AdWords ad database are
17 part of a network, don't you?

18 A. All computers are part of a network. I'm not quite
19 sure what you are getting at.

20 Q. I'm asking for confirmation of my question?

21 A. All right. Try and ask it again.

22 Q. The AdWords ads databases are part of the network,
23 aren't they?

24 A. Part of the network, you mean the Internet?

25 Q. No, part of the AdWords network.

1 A. I'm not even sure what you mean by the AdWords
2 network. Try and be a little more precise. I'm trying
3 to be helpful, but I'm having trouble understanding your
4 question.

5 Q. In your view the scanning a network claim term is
6 not limited to the Internet; isn't that right?

7 A. Correct. I think the obvious interpretation is
8 scanning the Internet, but I don't think it's limited to
9 that. That's a preferred way of doing it.

10 Q. It can be any network, correct?

11 A. Yes.

12 Q. And the ads databases and the Smart Ads server and
13 the creative server and the AdWords product are all on a
14 network; isn't that right?

15 A. They are on a network; however, that network is not
16 scanned.

17 Q. But they are on a network; isn't that right, sir?

18 A. They are on or are part of a network, yes.

19 Q. Can we pull up slide 2.51?

20 Dr. Ungar, this is one of the slides you used to
21 explain your opinion --

22 A. It is.

23 Q. -- for collaborative feedback data?

24 A. Yes.

25 Q. Collaborative feedback data has a court-defined

1 meaning.

2 A. It does.

3 Q. And you will agree with me that collaborative
4 feedback data shows up in Claim 10 of the '420 patent?

5 A. Yes, but not in Claim 1 of the '664, that's correct.

6 Q. Collaborative feedback data does not show up in
7 Claim 1 of the '664 patent?

8 A. That's correct.

9 Q. Do you agree that the '664, Claim 1, does not
10 require feedback to come from users with similar
11 interests or needs?

12 A. I think that the most sensible reading of the '664
13 patent is that it does require that the feedback system
14 take data from users of similar interests and needs. As
15 I explained yesterday, you look at the title of the
16 patent, you look at the abstract, you look at the
17 description. All of the descriptions of the information
18 feedback system is collaborative feedback data.

19 Q. That's not one of the Court's rulings on feedback in
20 Claim 1 of the '664 patent, though, right?

21 A. That's correct. The Court has not ruled on what
22 that means; therefore, it's up to the Court or jury to
23 decide what, in fact, is referred to.

24 Q. That's your interpretation?

25 A. That's my interpretation based on what the patent

1 says.

2 Q. And you are aware that it was proposed that Claim 1
3 of the '664 patent --

4 THE COURT: Objection sustained. We are limited
5 to what the Court has defined and not what anybody
6 proposed. As a matter of fact, we said a few minutes ago
7 that Dr. Ungar is not qualified to express any legal
8 opinions about what these claims and elements, per se,
9 mean. So there's no need to go there and to go to what
10 even counsel thinks.

11 MR. CIMINO: But he has interpreted them
12 different than the Court, your Honor.

13 THE COURT: Well, then, you can say he's
14 interpreted it different from what the Court has said,
15 but I have said that that's not his responsibility.

16 BY MR. CIMINO:

17 Q. Dr. Ungar, the only requirement in Claim 1 in the
18 literal language of the claim is that the feedback be
19 relevant to the query; isn't that right?

20 A. That is the case, but when I read the patent I try
21 to understand what in the context of the patent is meant
22 there. By the way, even if we take your
23 interpretations, the AdWords doesn't infringe on this
24 claim. But that's a different question, I guess.

25 Q. That's not the question you analyzed though, is it?

1 A. I analyzed many questions, many aspects. I mean,
2 yes, that was the main question I analyzed, in fact.

3 Q. Yes, but your opinion is that AdWords doesn't
4 infringe Claim 1 of the '664 patent because it doesn't
5 group users by interests or needs, correct?

6 A. My answer was, in part. That was one of the many
7 reasons.

8 Q. Yeah.

9 A. Any if any of the elements are not met, it doesn't
10 infringe. That was one of the arguments.

11 Q. Yes, Dr. Ungar, and you found that every element is
12 not done by Google; isn't that right?

13 A. That's correct. Although if any one of them is not
14 done, that's sufficient, just so it's clear, for it not
15 to infringe.

16 Q. Your analysis for the highlighted element "a
17 feedback system for receiving information found to be
18 relevant to the query by other users" was based on the
19 fact that you believe Google does not group users by
20 similar interests or needs, correct?

21 A. No. That was the question of the feedback system,
22 not the relevant for the query part.

23 Q. That's the element I just read, Dr. Ungar.

24 A. There's two different pieces in that. The element
25 has different pieces. There's a feedback system for

1 receiving information, there's a requirement that that
2 information that's received be relevant to the query.

3 Q. Okay. Let me rephrase. Your analysis and
4 conclusion of noninfringement of the feedback system is
5 based on the fact that AdWords, in your view, does not
6 group users by similar interests or needs, correct?

7 A. That's correct.

8 Q. Can we have slide 2.53.

9 This did not render very well.

10 A. The colors are weird, but it has the basic content,
11 right?

12 Q. Can you see it?

13 A. Yeah. Some of the parts are blacked out for some
14 funny reason, but that's okay.

15 Q. This is one of the slides that you discussed
16 yesterday to explain collaborative feedback.

17 MR. PERLSON: Do you want to pull up the version
18 from ours that doesn't have any of the blackout?

19 MR. CIMINO: I won't be on it very long. The
20 doctor says he can see it.

21 THE COURT: As long as it doesn't impact his
22 answers.

23 BY MR. CIMINO:

24 Q. Well, will talking about this slide, since it's
25 blacked out a little bit, impact your answer?

1 A. I think it's going to be fine.

2 Q. Okay. This is the mind pool example that you
3 discussed yesterday; isn't that right?

4 A. Yes. This was one example of how one might find
5 users with similar interests and needs taken from the
6 patents in question, the '420.

7 Q. In your opinion, mind pools are not required by
8 either of the claims of the '420 patent or the '664
9 patent, are they?

10 A. Mind pools are not required. They are used just the
11 way the patent says. So let me be clear about
12 collaborative filtering. The standard way to
13 collaborative filter is to find groups of users, like we
14 are proceeding now, find sets of people that bought the
15 same things you did, group them together. That's the
16 standard way of doing collaborative filtering that was,
17 again, well-known back in the mid '90s. The patent
18 describes a funny thing called mind pools that captures
19 some of that same spirit. It does roughly the same
20 thing.

21 Q. And using your -- well, let me ask a different
22 question. You agree that the concept of mind pools is
23 not required by Claim 1 of the '420 patent -- I'm sorry,
24 Claim 10 of the '420 patent and Claim 1 of the '664
25 patent, correct?

1 MR. PERLSON: Your Honor, I think this is now
2 asking him to construe the claims again.

3 MR. CIMINO: I'm simply trying to understand his
4 analysis, your Honor.

5 THE COURT: Objection overruled on that one.

6 THE WITNESS: Okay. So the claim requires that
7 collaborative filtering use users with similar interests
8 or needs, and I think that the standard way that that was
9 done back in the '90s, and actually it's still done today
10 and is described here in mind pools, that the standard
11 way of doing that is, in fact, to group them together by
12 one scheme or another usually based on what they have
13 purchased, sometimes based on they indicate I'm a car
14 lover or something. So I think this is the standard way
15 to do it. I'm not saying it's the only way to do it, if
16 that's your question.

17 BY MR. CIMINO:

18 Q. So the concept of mind pools are not required by the
19 claims in your opinion?

20 A. Grouping by using similar interests or needs is
21 required. The mind pool is, I would say, the best way
22 to do it. I'm not arguing it's the only way to do it.

23 Q. You show three examples here, Sports, Cars and
24 Nature, as examples of mind pools for grouping people,
25 correct?

1 A. Yes.

2 Q. It could be, for example, sports, all people who
3 search for sports, couldn't it?

4 A. Well, there's a difference. It's all people who
5 have ever searched for sports. I think that would make
6 sense. If it's all people who have used the word
7 "sports" in the current query, then in the context of
8 the patent that doesn't make sense for reasons I
9 explained yesterday.

10 Q. How about for cars? All people who searched for
11 cars could be a mind pool, correct?

12 A. Again, all people who have ever had your history of
13 everything you clicked on, I could group you together in
14 a set of people, here's all the people who have ever
15 searched for cars, and that would be at least a
16 reasonable way of forming mind pools.

17 Again, this is not the same as Dr. Frieder's
18 contention. Dr. Frieder's contention is that you group
19 people based on the query that they are typing, and
20 that, in fact, for reasons I explained yesterday,
21 doesn't work.

22 Q. Well, let's turn to that, Dr. Ungar.

23 You have testified that two users who type the
24 same search queries don't necessarily have similar
25 interests, right?

1 A. Again, there's similar interests in the sense of the
2 common language. If you and I both search for a Jaguar,
3 do we have similar interests? And there's the question
4 of looking at Claim 10 of the '420 and saying, okay, we
5 are trying to find what it means to find users with
6 similar interests or needs. In the context of the '420
7 patent, I disagree with Dr. Frieder. I think that
8 taking people who type in Jaguar, as I showed as my
9 example before, that's already covered by the content
10 filtering. To make any sense, the collaborative
11 filtering has to do something different than the content
12 filtering. It's got to be a second stream of
13 information that adds something new.

14 Q. The collaborative filtering would add something new
15 if one searching for Jaguar, there was a very popular
16 web site, for example; isn't that right?

17 A. That would not be collaborative filtering. If you
18 could take -- one thing companies often do, any web site
19 that's really popular, Microsoft, Amazon, gets a high
20 rank, that's not collaborative filtering. That's just
21 giving more weight to popular ones. The collaborative
22 filtering the Court requires uses users with similar
23 interests or needs. So picking a site that's popular, a
24 Microsoft site, a lot of people go to a Microsoft site,
25 or Bing, the fact that it's popular doesn't make it

1 collaborative filtering. That's feedback data, but not
2 collaborative filtering.

3 Q. It is feedback data, you agree with that?

4 A. It is feedback data, but it is not collaborative
5 filtering. Collaborative filtering requires users with
6 similar interests or needs and say, oh, this Jaguar page
7 got hit a lot by a lot of people, it was visited
8 frequently. That doesn't make it collaborative
9 filtering.

10 Q. And Dr. Ungar, that is based on your understanding of
11 what collaborative filtering was before this patent was
12 filed; is that right? Is that why you feel so strongly?

13 A. Before and after. The Court has told me that
14 collaborative filtering requires users with similar
15 interests or needs. I'm looking at the claims, and
16 popularity across all people, the fact that lots of
17 people go to Amazon, it's popular, that doesn't say
18 users with similar interests or needs. That says
19 everybody likes Amazon. I like Amazon, you like Amazon,
20 everyone likes it. That's not collaborative filtering,
21 by the Court's definition.

22 Q. Dr. Ungar, the Court did not define any terms in the
23 '664 patent relative to the collaborative aspect for
24 feedback data, did he?

25 A. That's correct. It's up to the jury to decide what,

1 in fact -- how that's to be interpreted.

2 Q. So when you say the patents have been construed by
3 the Court to require similar interests or needs, your
4 testimony is limited to the '420 patent only, correct?

5 A. What I said was -- you have misquoted me slightly, I
6 believe. I said that collaborative filtering has been
7 defined by the Court to require users with similar
8 interests or needs.

9 Q. And collaborative filtering is not required in the
10 '664 patent, right?

11 A. That seems to be a matter of some dispute.

12 Q. The Court has not required collaborative filtering
13 in the '664 patent, correct?

14 A. The Court certainly has not made a decision. It's
15 merely, I believe, the jury's decision. So, again, I'm
16 not a lawyer, but certainly the Court has not decided
17 that.

18 Q. You agree that there's a difference between interest
19 and needs; isn't that right?

20 A. Yes.

21 Q. And both of them count under the Court's definition?

22 A. Yes.

23 Q. A need could be something you are looking for, like
24 a muffler, I think you used before as an example?

25 A. Yes.

1 Q. So two people searching for a muffler would have
2 similar needs, correct?

3 A. Again, I think if you are going to go back to --
4 this ties back to the patent. Look at the '420 where we
5 know we have collaborative filtering required, that
6 typing in the query muffler doesn't provide any
7 additional information over the content filtering that's
8 already been done. And so using that for collaborative
9 filtering doesn't provide any further benefit. We
10 already know, we have done a content filtering. There's
11 got to be separate information on the content filtering
12 versus the collaborative filtering.

13 Collaborative filtering needs to provide
14 something different. They are different claim elements
15 having two different pieces that are combined, and you
16 can't count searching for a muffler both as content and
17 as collaborative. You have got to have two different
18 things in the '420 and in the '664, for that matter.

19 Q. Well, let me ask you about that. If two ads for a
20 muffler have the same content score and one of them is
21 clicked on more than the other, one would benefit from
22 that feedback; isn't that right?

23 A. There would be benefits from that feedback. Note,
24 there's no collaborative filtering there because that's
25 a universal statement. This muffler ad got clicked on

1 more than that one, there's no users with similar
2 interests or needs here. That's a question of
3 everybody.

4 Q. In a system where you would combine content score
5 with collaborative score, the muffler ad that was
6 clicked on more would score higher, wouldn't it?

7 A. I'm sorry. Would you repeat that again?

8 Q. Two ads.

9 A. Yep.

10 Q. They both have the same content score with respect
11 to muffler?

12 A. Yep.

13 Q. One of them is clicked on more than the other in the
14 past. When you combine content and collaborative score,
15 the one that was clicked on more would have a higher
16 ranking, wouldn't it?

17 A. I didn't see the collaborative part there. There's
18 a content score. There's a feedback based on being
19 clicked on more, but I'm afraid I missed the users with
20 similar interests or needs. Where is the collaborative
21 part? You said there was collaborative. I don't see
22 any collaborative part there. What I see is content and
23 feedback in a matter of clicking.

24 Q. Let me use words you are more comfortable with. Two
25 ads with mufflers, Dr. Ungar. They have the same

1 content score, correct?

2 A. Yep.

3 Q. One of them gets clicked on more than the other?

4 A. Yep.

5 Q. That feedback in the system that uses feedback from
6 clicks, from click data, and content scores would rank
7 higher than the one without the clicks; isn't that
8 right?

9 A. Yes. The system could be used in that way to
10 combine content with feedback now that you have removed
11 the collaborative part that was missing. That wasn't
12 there.

13 Q. I believe part of your support that queries can't
14 group people of similar interests or needs together is
15 that there would be ambiguities in the query; is that
16 right?

17 A. I don't think that's key to the argument.

18 Q. That's one of your positions, though, isn't it?
19 Jaguar would pull up cats? I thought I heard a long
20 explanation that searching for Jaguar, you get cats, you
21 get Jacksonville football teams, you get a vehicle.

22 A. The important part of that is once you know that
23 someone has typed in Jaguar, that's the content-based
24 filtering, they are calling that collaborative. Saying
25 well, people who typed in Jaguar have similar interests

1 or needs. You have already content filtered based on
2 that. There's no additional information. Remember that
3 these claims require separate content-based and a
4 collaborative one and you are trying, I think, to use
5 the same Jaguar query for content and that exact same
6 information to say, ah, that's used with similar
7 interests or needs, but once you have done the content
8 filtering, you have already used that up. There's no
9 more information to be gained from the fact they used
10 Jaguar.

11 Q. So under your view of the patents, Dr. Ungar,
12 feedback data would not resolve an ambiguity in a word
13 like Jaguar?

14 A. So, general feedback data of how often things are
15 clicked does not resolve the ambiguity. It tells you
16 what's the most popular Jaguar page, but it doesn't tell
17 you whether you are talking about a car Jaguar or
18 football Jaguar.

19 Q. Do you agree that the query entered in the search
20 box represents a user's information need?

21 A. I haven't thought about that. That's, perhaps,
22 overstated, but I think it's certainly correlated with
23 what they need. Again, need here is, you are playing on
24 the question of what does someone need or what's similar
25 as opposed to coming back and asking the language of the

1 claims. So I'm not quite sure where you are going with
2 the generic phrasing of needs. We are similar because
3 we are both sitting in the courthouse. That's not the
4 same as what's required in the claims.

5 Q. Dr. Ungar, I was just trying to get your
6 understanding of a query.

7 A. A query? A query is developed -- well, there's two
8 kind of queries. A demand search query is a word like
9 Jaguar that someone types into a search engine.

10 Q. So do you agree that the query expresses an
11 information need of the user?

12 A. Query is certainly relevant to the information need
13 of the user. Unfortunately, people often type in
14 queries that aren't exactly what they are looking for,
15 but it's indicative of it.

16 Q. Now, you said that before you did your analysis you
17 studied the Markman decision of the Court; isn't that
18 right?

19 A. Yes. The Markman decision is where the terms are
20 constructed, where it says this is what is meant by a
21 demand search, for example, which is a query of a search
22 engine.

23 Q. And do you have a jury binder in front of you?

24 A. Let me look. Yes.

25 Q. Would you take a look at Tab 1. There's a claim

1 construction chart.

2 A. Yes.

3 Q. Can you read the definition of relevance to the
4 query?

5 A. "How well an informon satisfies a individual user's
6 information need in the query."

7 Q. So here in the Markman decision the information
8 needed for the user is in the query; isn't it?

9 A. I'm not sure I followed the wording, but, yes, the
10 spirit is right. It's certainly what I said, right,
11 it's how well the informon satisfied the individual
12 user's information needs in the query. Yes, as
13 expressed in the query.

14 Q. So if I was searching for drapes, for example, that
15 would be to the AdWords system an indication of my need,
16 my information need; isn't that right?

17 A. Yes. Well, at least for the -- the query, remember,
18 usually does the search, so query is mostly my need is
19 going to the search engine. The ad system is something
20 that I'm often not looking for, so I think we are being
21 a little bit sloppy here. The demand search defined
22 here, it says search engine query. And so if someone
23 types in drapes in Google, they are looking for
24 information about drapes. Typically in the search
25 results, there are also ads that are shown in response

1 to that, and people aren't necessarily looking for ads.

2 Q. Well, while you have that open, Dr. Ungar, you agree
3 that an ad is an informon under the Court's definition,
4 don't you?

5 A. Yes, yes. Informons could be web pages, they could
6 be ads.

7 Q. They could be ads?

8 A. Yes.

9 Q. So for relevance to the query this could be how well
10 an ad satisfies the individual user's information being
11 in the query, correct?

12 A. The ad could be as well as the web page could be,
13 yes.

14 Q. The my need could be muffler and the question, as
15 defined by the Court, is how relevant is the ad to my
16 need expressed in the query, correct?

17 A. Yes.

18 Q. Same thing with something like iPad. If I search
19 for an iPad, that would be my information need?

20 A. It would be indicative of your information need,
21 yes.

22 Q. And you agree that indications of similar interests
23 or needs is all that's required under the patents; isn't
24 that right?

25 A. Yes.

1 Q. Can you pull up PX-1, please.

2 Dr. Ungar, you didn't discuss Fig. 6 of the '420
3 patent in your testimony on direct, did you?

4 A. I did not.

5 Q. You did talk about collaborative feedback and
6 collaborative information as it's discussed in the
7 patent, correct?

8 A. I did.

9 Q. Can you pull up Fig. 6, please?

10 Do you box 415?

11 A. Yes, I have got it, collaborative input. I will
12 highlight it for others.

13 Q. Collaborative input is 415, correct?

14 A. Yes.

15 Q. And there's no indication here that that
16 collaborative input has to come from users with similar
17 interests or needs, is that right, in this embodiment?

18 A. Well, the question is what does the word
19 "collaborative input" mean?

20 Q. That's a good question. Can you turn to Column 15,
21 lines 11 through 12.

22 Dr. Ungar, before we turn off of this,
23 collaborative input is box 415?

24 A. Yes.

25 Q. Okay. So what we have here is a portion of the

1 patent discussing box 415 from Fig. 6; is that right,
2 Dr. Ungar?

3 A. Yes.

4 Q. Do you agree with me that CI stands for
5 collaborative input that was in the box?

6 A. It seems sensible.

7 Q. You agree with me that 415 was that collaborative
8 input box, right?

9 A. Yes.

10 Q. "Collaborative input, CI, 415 is received from other
11 users who have already have seen an ad and have rated
12 it." Do you see that?

13 A. Yes.

14 Q. There's nothing in this sentence that talks about
15 grouping the user's view into groups of similar
16 interests or needs; is that right?

17 A. When someone is writing something, a patent
18 specification, they are not going to go through every
19 time and insert the word "when I say collaborative
20 feedback, I mean users with similar interests or
21 needs." As I pointed out in my direct, that language is
22 not just the one the Court said, it's actually in the
23 specification. So there's no reason for them once they
24 have defined it, which they did in the patent, to go
25 through and repeat everything.

1 Q. Could we pull up slide 66, please.

2 Let's talk about your opinion on content-based
3 filtering for relevance to the query. In your opinion,
4 the AdWords system does not filter for relevance to the
5 query; is that right?

6 A. That's correct.

7 Q. And your point of this slide is your query for Vegas
8 in a search system would obtain ads that are relevant to
9 Vegas; isn't that right?

10 A. Well, might or might not, but it will try to find --
11 a search system takes the query and tries to find
12 words -- it's talking specifically about content-based
13 filtering. It tries to find words that have the same
14 content like the word "Vegas."

15 Q. And I believe the point of your second slide was to
16 show a contrast between the search and the auction; is
17 that right?

18 A. Correct.

19 Q. And, in your view, in the auction system someone
20 could bid their way into the ads area by paying a lot of
21 money, even if they don't have a relevant ad from a
22 content standpoint?

23 A. So, remember how ads, and we should be more precise,
24 the running time auction server can be what's called a
25 LTV, long term value, that includes the predicted

1 click-through rate which we have talked about a lot, but
2 also includes the bid, and the landing page quality, and
3 other information. So in terms of serving the ad, if
4 you have a crappy ad or a very good ad, let's put it the
5 other way. One that has a high landing quality and a
6 high bid, that would compensate for having a low
7 predicted click-through rate. So, in fact, the auction
8 system is not based purely on the -- it's not filtering
9 based on the pCTR, it's filtering based on a best of
10 your knowledge of factors, including, most importantly,
11 how much one bids, how much the advertiser bids to be
12 precise.

13 Q. And the slide up now is an example of what you
14 believe is possible in the auction system. Someone
15 could bid \$9 to show their ad compared to a nickel, they
16 might make it out of the auction; is that correct?

17 A. Right.

18 Q. This isn't a realistic example; is that right?

19 A. I haven't actually tried this one, so I apologize.
20 I should have run it. It was late at night. It
21 certainly is the case that people who bid more money
22 increase their chance of getting in and ads that are
23 less relevant but higher bid get in. That's how the
24 system works. Does this specific one -- I haven't tried
25 it. I didn't pony up the 9 bucks and try the query.

1 Q. I tried the query.

2 Can we pull up PX-441?

3 See the search box for Vegas?

4 A. Yep.

5 Q. The only ads are for Vegas; isn't that right?

6 A. Yes. As I said, I didn't actually try this one. It
7 was illustrative.

8 Q. You also didn't confirm with Google whether they had
9 any examples -- let me ask it differently. You didn't
10 show any real examples of this theoretical problem
11 occurring in the AdWords system where someone bids
12 enough to show an irrelevant ad?

13 A. I didn't show that. I did, however, talk to
14 Bartholomew Furrow, and he assured me that that does, in
15 fact, happen.

16 Q. And I believe you were here for Mr. Furrow's
17 testimony?

18 A. I was.

19 Q. And did you hear him testify that the goal of the
20 Ads Quality Group is to serve the most relevant and good
21 ads? Did you hear that testimony?

22 A. I did hear that. So he wanted them to be good, but
23 Google also wants to sell ones that have a high bid.
24 That's how it works.

25 Q. You also want it to be relevant. You just said

1 good.

2 A. They should be relevant and they should -- but
3 that's one of the many factors. They should be
4 relevant, high quality creative, high quality landing
5 page and high bids. It's a factor. Sure, Google wants
6 relevant ones, but that doesn't mean it filters on the
7 basis of relevance. It filters based on the combination
8 of relevance, landing page quality, creative quality and
9 the amount the advertiser bids.

10 Q. Were you here for Mr. Alferness's testimony?

11 A. At least part of it, yes.

12 Q. Did you hear his example about a useful ad that
13 would say, Click here and get \$20 for free?

14 A. I don't remember that.

15 Q. That's another theoretical ad. You have seen no
16 evidence that that ad has had any traction in the
17 AdWords system?

18 A. Which ad are you talking about, that example?

19 Q. Yes?

20 A. As I said, I haven't actually verified this except
21 by talking to Bartholomew Farrow, who tells me that he
22 seems to understand the system well and tells me that it
23 does happen.

24 Q. Can you pull up PX-438?

25 I did a couple other ones just to check. This

1 one is for Atlantic City. There are a lot of Atlantic
2 City ads listed there; is that right, Dr. Ungar?

3 A. Yes.

4 Q. PX-439, please.

5 This one I called about shopping to see if
6 someone puts me in cookware. There's promoted ads. All
7 of these ad are related to cookware, aren't they?

8 A. The fact that ads are often related to the query,
9 that's good. It doesn't mean it's always the case. So
10 you are not going to tell me you tried all possible ads
11 and that Bartholomew Furrow was wrong, but it does
12 happen. You have selected a few examples, and that's
13 great.

14 MR. CIMINO: Excuse me, Dr. Ungar.

15 Your Honor, the jury has indicated their screens
16 are off.

17 THE COURT: These are demonstrative exhibits.
18 They were not admitted.

19 They were not admitted exhibits. I think they
20 were used as demonstrative exhibits?

21 MR. CIMINO: That's correct.

22 THE COURT: Okay. As long as he used them as
23 demonstrative, they can go back and see them because they
24 showed them as demonstrative exhibits.

25 BY MR. CIMINO:

1 Q. Okay. So why don't we briefly put up PX-441.

2 THE COURT: Is this an exhibit that he used
3 previously?

4 THE WITNESS: No.

5 MR. CIMINO: No. This is a demonstrative. It's
6 part of cross-examination.

7 MR. PERLSON: Your Honor, I don't think we have
8 a copy in our binder of any of these exhibits. I'm not
9 familiar with them.

10 THE COURT: Well, then, we certainly cannot -- I
11 tell you what we are going to do here. We are going to
12 clear this up. It's time for a break here. We are going
13 to clear up this matter of the exhibits.

14 Ladies and gentlemen, we are going to take a
15 15-minute break. It might be a little longer because we
16 need to clear up the matter of these exhibits.

17 All rise.

18 (Jury out.)

19 THE COURT: You may be seated.

20 The Court had assumed that you were putting up
21 demonstrative exhibits that were used by counsel during
22 the direct examination, unless you have some
23 demonstrative exhibits you have not shown them. They
24 need to make sure they have the exhibits.

25 MR. CIMINO: Yes, your Honor. I thought they

1 were in the binder.

2 MR. PERLSON: Well, if they are here, I can't
3 find them. Do you have an index? I don't know.

4 THE DEPUTY CLERK: They are not in the Court's
5 binder, either.

6 THE COURT: They are not in the Court's binder,
7 either. We are just not going to use those. You will
8 have to use something else. It's too late to come up
9 with some new exhibits.

10 MR. CIMINO: Yes, your Honor.

11 THE COURT: All right. Approximately how much
12 longer do you think you have with Dr. Ungar? I'm just
13 trying to check the time to see where we are. I'm not
14 saying -- you can take another two hours, if that's what
15 you need, but I'm just trying to figure out approximately
16 how much time you think you have.

17 MR. CIMINO: Maybe an hour, your Honor.

18 THE COURT: That's fine.

19 MR. CIMINO: It depends on some of the answers.

20 THE COURT: All right. We will be in recess for
21 15 minutes.

22 (A recess was taken at 11:42 a.m., after which
23 court reconvened at 12:07 p.m.)

24 THE COURT: Okay. Are we straight on the
25 slides?

1 MR. CIMINO: Yes, your Honor. We are not going
2 to use them anymore.

3 THE COURT: Thank you.

4 (Jury in.)

5 THE COURT: You may be seated.

6 You may continue.

7 MR. CIMINO: Thank you, your Honor.

8 BY MR. CIMINO:

9 Q. Dr. Ungar, you provided opinions in your direct
10 testimony that Google could change its system to be
11 noninfringing; is that right?

12 A. Yes.

13 Q. Would you pull up DDX? 2.73.

14 This is one of your demonstratives that explain
15 part of that opinion?

16 A. This explains the three accused systems, yes.

17 Q. Yes. And in order to redesign Google systems to be
18 noninfringing in your view, you would have to make
19 changes to all three of the accused disabling steps,
20 right?

21 A. So, assuming that they are contested -- assuming
22 that all three were, in fact, found to infringe, then we
23 would have to offer alternatives for all three.

24 Q. Yes, just changing QBB, for example, wouldn't be
25 sufficient. You would have to change QBB, AdMixer and

1 promotion disabling; isn't that right?

2 A. Well, again, assuming that there would be separate
3 decisions about each of the pieces infringing, but
4 assuming that they were all found to infringe, then
5 obviously they would all have to be changed to not
6 infringe.

7 Q. And you didn't come up with your opinions regarding
8 noninfringing alternatives yourself, did you?

9 A. I did them in conjunction with discussions.

10 Q. Discussions with Mr. Alferness; isn't that right?

11 A. That's correct.

12 Q. And your proposed alternatives were developed in two
13 telephone conversations; is that right?

14 A. Well, there were two telephone conversations.
15 Obviously, I spent other time outside the telephone
16 conversations thinking about them, working on them.

17 Q. Well, you filed an expert report in this case,
18 right?

19 A. I did.

20 Q. And the purpose of the expert report was to disclose
21 your opinion to I/P Engine, correct?

22 A. Yes.

23 Q. Your two telephone conversations with Mr. Alferness
24 happened the day before your report was due, right?

25 A. That's correct.

1 Q. So the additional time you spent, then, would have
2 been between the telephone conversations and the next
3 day when your report was due?

4 A. I don't think that follows. I thought about them.
5 I talked to Mr. Alferness, but --

6 Q. Okay. Let put it this way: You had your
7 conversations with Mr. Alferness about noninfringing
8 alternatives, correct?

9 A. I believe two conversations, yes

10 Q. And then the following day you submitted your
11 opinions in your expert report about the nonfringing
12 alternatives, correct?

13 A. Yes.

14 Q. And both of those conversations lasted a total of
15 about 30 minutes; is that right?

16 A. Something like that. Again, that was the time I
17 spent talking with him to make sure I understood how the
18 Google system worked, to make sure these were
19 consistent. It's not the case that I spent only 30
20 minutes thinking about this question, which I think you
21 are implying.

22 Q. Well, you disclosed your opinion about it the
23 following day; isn't that right?

24 A. After the conversation, yes. I had the
25 conversations, and after the conversations I disclosed

1 my opinion.

2 Q. And Google's lawyers were involved in the call, too?

3 A. Google's lawyers were on the call, yes.

4 Q. And in your opinion --

5 MR. PERLSON: Your Honor, can we approach?

6 THE COURT: Well, no, sir, as long as he stops
7 right there.

8 BY MR. CIMINO:

9 Q. In your opinion, these alternatives would be easy to
10 implement?

11 A. Yes, based on both my technical understanding and
12 based on my conversation confirmed with Mr. Alferness,
13 who is a Google engineer who has worked on building
14 these systems.

15 Q. And in your opinion there would be minimal effect on
16 revenue with these changes to Google?

17 A. Yes. It's hard to assess the exact changes, but as
18 best I can tell, these would have minimal effect on
19 revenue.

20 Q. So in your opinion Google could avoid the patents
21 very easily with minimal effect on revenue; isn't that
22 right?

23 A. Yes, I think so.

24 Q. But Google hasn't done so, have they?

25 A. I believe they have not.

1 Q. Let's take a look at your alternatives.

2 Could you turn to the next slide.

3 This is discussing different thresholds you
4 could use rather than predicted click-through rate or
5 QBB; is that right?

6 A. Yes. QBB, you remember, is the quality based
7 bidding before a query is received. What QBB says is
8 for every ad there's a minimum price, and these are
9 precisely other ways to set that minimum price that
10 don't use, for example, the pCTRs.

11 Q. The min CPC is what would be replaced -- excuse me.
12 You would find another way to set the min CPC other than
13 using a predicted click-through rate with Smart Ads. Is
14 that, basically, your theory?

15 A. Yes. The minimum cost per click says this ad, if
16 you want to show it, has to have at least this amount
17 and precisely this min cost per click, or the amount
18 could be set by many ways that do not use the predicted
19 click-through rate.

20 Q. So the first one you have here, "Make same for all
21 ads, 5 cents, for example." That would not take into
22 account the quality of the ad; isn't that right?

23 A. That one does not. That one just says, Look, I'm
24 going to get rid of ones that are too cheap, and so
25 presumably the quality of ads, if someone's ad are

1 important, they are willing to pay more for it. If they
2 are not willing to pay for it, it's not as good an ad.
3 But it does not look at the creative itself to measure.
4 So it's an indirect measure, assumes that people are
5 willing to pay more for higher quality, whatever higher
6 quality is.

7 Q. Your Honor, I understand the Court's instructions
8 having the witness answer yes or no and explain, if
9 necessary, but I believe the explanations are running a
10 little long today, keeping my cross from moving forward.

11 THE COURT: You may answer yes or no and
12 explain.

13 And you can follow up.

14 THE WITNESS: Thank you.

15 BY MR. CIMINO:

16 Q. Set by country. That one doesn't take into account
17 ad quality either, does it?

18 A. Not any more than the cost, unless there's a
19 correlation between ad quality and country, which
20 actually happens to be the case.

21 Q. For the set by country alternative, there would be
22 no analysis of the relevance of the ad to the query;
23 isn't that right?

24 A. QBB doesn't look at the relevance of the ad to the
25 query. It's impossible. I mean, it doesn't make any

1 sense as a question. QBB doesn't know the query.

2 Q. There would be no analysis of the query, relevant to
3 the query to the keyword; isn't that right?

4 A. QBB doesn't have a query. None of the QBB, none of
5 the alternatives look at the query. There's no query
6 there.

7 Q. So there's no relevance to the query there?

8 A. There's no relevance to the query anywhere in QBB.

9 Q. The popularity of keyword with users, that one
10 doesn't take into account ad quality, does it?

11 A. I think the popularity of the keyword is potentially
12 actually a -- again, it's correlated with the users.
13 The terms are correlated with ad quality.

14 Q. You could have a popular keyword that is completely
15 irrelevant to the ad, couldn't you?

16 A. It's conceivable, but, again, there's a
17 correlation. The two would be correlated.

18 Q. I could select a keyword that does not have any
19 words in my ad, isn't that right, such that it's not
20 content relevant to my ad?

21 A. One could -- you could pick such a piece, but your
22 question was is it indicative of quality, and the answer
23 is, yes, I think it is correlated with ad quality.

24 Q. Popularity of the keyword alone does not look at the
25 content of the ad; isn't that right?

1 A. It does not look at the content of the ad; that's
2 correct.

3 Q. And landing page quality does not look at the
4 quality of the ad, either, does it?

5 A. It doesn't look at the ad. It is certainly highly
6 indicative of the quality of the ad. So better ads take
7 you to better landing pages. So it's not looking at the
8 creative, but it is correlated with its quality. It's a
9 measure, and it's a way to get at what the quality is.

10 Q. And Google goes out and inspects those landing
11 pages, don't they?

12 A. I'm not sure what you mean by Google goes out and
13 inspects. Google takes the URL given by the advertiser,
14 retrieves the landing page, and runs some calculation on
15 it to compute a landing page Quality Score.

16 Q. It scans the landing page, doesn't it?

17 A. Scans the landing page? There's no network. You
18 are asking about what the process is by which Google
19 takes the landing page and computes the Quality Score?
20 It doesn't scan for the landing page, if that was your
21 question. You are saying that once it has the landing
22 page, does it scan within the landing page?

23 Q. Yes. Doesn't it scan the landing page to perform
24 the calculation you just said for quality?

25 A. I haven't actually looked at, I'm afraid, the

1 process. I know Google takes the landing page, and it
2 computes a score based on quality. I have not studied
3 the process of how Google goes from the landing page to
4 a Quality Score.

5 Q. So the advertiser provides the URL to Google,
6 correct?

7 A. Correct.

8 Q. And then Google goes out and gets the landing page?

9 A. Google goes out and retrieves the landing page, yes.

10 Q. It looks for the landing page, doesn't it?

11 A. It doesn't need to look for it. It knows where it
12 is. It retrieves it. There's no search involved.

13 Q. Does it follow other links on that landing page to
14 assess quality?

15 A. I don't know. Again, I have not looked -- as I just
16 said, I haven't looked at the process of how the quality
17 measurement was made. I didn't think that was an issue
18 in here, so I have not studied how quality was assessed.

19 Q. You didn't think that landing page quality,
20 retrieving the landing page was an issue in this case;
21 is that right?

22 A. I didn't think that how landing page quality is
23 computed -- Dr. Frieder has never, or no one on your
24 side has said, Oh, we are worried about how landing page
25 quality is computed. So I think that the question of

1 whether landing page quality is used or not, that's
2 relevant. I looked at that. Landing page quality is
3 used. How landing page quality is computed, I don't
4 believe we have talked about.

5 Q. Okay. Can we go to the next slide?

6 These three alternatives are very similar to the
7 ones we saw in the QBB alternative slide; is that right?

8 A. They are similar, yes.

9 Q. And do you agree that neither of the alternatives
10 here would take into account here the quality of the ad,
11 as with QBB?

12 A. Well, just as I said before, these ones, in fact,
13 use surrogate measures. Someone to estimate how good is
14 this ad is to look at the landing page it points to, and
15 that's how good is the page it goes to. So that's a
16 measure of ad quality, if you will. It's not the one,
17 the way it's described in the infringed elements, but
18 it's a different way to get at the question is it a good
19 ad, is it a spammy ad.

20 THE COURT: Is that a yes or no, or what?

21 THE WITNESS: I'm sorry. The answer is that the
22 proposed alternatives here do provide estimates of ad
23 quality, measures of ad quality.

24 BY MR. CIMINO:

25 Q. Dr. Ungar, the one in the middle is The prior min

1 CPC alternative helps on the QBB page, right?

2 A. Yes.

3 Q. You just testified that one does not take into
4 account ad quality. This is pure payment; isn't that
5 right?

6 A. I'm sorry, the language there, prior min CPC
7 alternatives, the ones that we saw on the last page,
8 previous page.

9 Q. That does not take into account the quality, does
10 it?

11 A. It does not take into account the quality of the
12 creative. It takes into account other ways to measure.

13 Q. Money?

14 A. Money, or landing page quality, or popular
15 keywords. I have listed a bunch of other measures of
16 quality that don't look at the actual word in the
17 creative.

18 Q. So maybe I'm misunderstanding, Dr. Ungar. I thought
19 these were three alternatives that could be implemented
20 to avoid infringement to AdMixer disabling. Are these
21 three alternatives?

22 A. Yes.

23 Q. So we are looking at each one by itself; is that
24 correct?

25 A. Yes.

1 Q. So just using prior min CPC alternative. That does
2 not take into account quality. It only takes into
3 account how much the advertiser is willing to pay; isn't
4 that right?

5 A. If one sets it only using a constant number, that's
6 correct. If one uses a different minimum CPC
7 alternative, it might take into account some measure
8 that's correlated with quality.

9 Q. You don't disclose any manner of correlative
10 quality, though, do you, and CPC is just an amount of
11 money?

12 A. Well, a min CPC could be computed by one of these --
13 the min CPC is minimum cost per click, minimum bid. I
14 said there are several ways that one could compute
15 that. Some are correlated with quality, some are not.

16 Q. You didn't disclose in your expert report any CPC
17 alternatives other than setting a fixed price, did you?

18 A. I think I did, actually.

19 Q. None of them dealt with quality, did they?

20 A. I think they didn't measure the quality of the
21 creative. They used indirect measures of the quality.

22 Q. And we did the popularity of the keyword with
23 users. I think we established that the keyword, that
24 this would not take into account the content analysis
25 between the keyword and the actual ad creative, correct?

1 A. That's correct.

2 Q. And landing page quality does not take into account
3 the actual quality of the ad itself, only the
4 availability once you click; isn't that right?

5 A. It does not look at the actual creative quality.
6 It's an indirect measure.

7 Q. And indirect measure of the --

8 A. Indirect measure of the quality of the ad. It
9 doesn't measure the creative of the ad, but that
10 indirect measure that correlates the quality of an ad.

11 Q. You don't have any evidence to offer the jury on
12 indirect connection between landing page quality and
13 past quality, do you?

14 A. I think Bartholomew Furrow mentioned that one of the
15 key aspects when he was discussing the LTD, the long
16 term value, one of the key determinations to whether an
17 ad is good to show or not is the landing page quality.

18 Q. You don't have any documents to support your
19 opinion, do you?

20 A. I think only the word of Bartholomew Furrow.

21 Q. And for the CPC alternative where you set the bid at
22 a payment amount, that's like the old system, isn't it,
23 the so-called DumbAds system?

24 A. Well, DumbAds has other features, but there was a
25 system before that Google did use to set a minimum price

1 for ads, so --

2 Q. So, yes?

3 A. Well, I'm dropping sort of the DumbAds question
4 which had lots of other pieces in it. It is the case
5 that Google used to set a fixed minimum.

6 Q. So your alternative to setting a fixed minimum would
7 be going back to the way they did it before Smart Ads?

8 A. Yes. That one would be.

9 Q. That one would be.

10 A. Yes, the others are different, but that one would be
11 doing it the way they did it before.

12 Q. Okay. Can we have the next slide?

13 This is your alternatives to promotion
14 disabling; is that right?

15 A. Yes.

16 Q. Your one alternative is to promote through direct
17 sales; is that right?

18 A. Yes.

19 Q. And I think you have explained that what would
20 happen is Google would go out to its big customers and,
21 perhaps, sell their promotion slots, the top slots on
22 the page to their best customers; is that right?

23 A. That's a good idea, but that's not what I proposed,
24 actually.

25 Q. That's not how you explained it?

1 A. No.

2 Q. Well, in any event, promotion through direct sales
3 would not take into account a content analysis between
4 the query and the creative, would it?

5 A. That's correct.

6 Q. You are aware that Google has capability of testing
7 alternatives to its system, aren't you?

8 A. They do. Nothing in life is free, but they can
9 certainly -- they do lots of testing, as Mr. Furrow
10 said.

11 Q. Would you pull up PX-228?

12 None of the alternatives you have do you support
13 with evidence by actual testing that there would be
14 minimal impact on revenue; is that right?

15 A. That's correct.

16 Q. And that could have been done, correct?

17 A. Yes. I think it would have been expensive to try
18 it, but it could have been done, and I did not do it;
19 they did not do it.

20 Q. Are you familiar with the ROSTA system at Google.

21 A. The what?

22 Q. The ROSTA system at Google?

23 A. No, I'm afraid not.

24 Q. So, Dr. Ungar, for your noninfringement analysis,
25 it's your opinion that AdWords doesn't have any of the

1 elements of any of the asserted claims; is that right?

2 A. That's my belief. Of course, that's not required
3 for noninfringement, but my belief is that none of them
4 are present.

5 Q. You only need one missing, right, for
6 noninfringement?

7 A. Right.

8 Q. But you believe every single element is missing.

9 A. That's correct.

10 Q. You do agree with me, though, that if all of the
11 elements are present, the addition of other features by
12 Google AdWords does not avoid infringement?

13 MR. PERLSON: Objection, your Honor. It's a
14 legal conclusion here.

15 THE COURT: Objection sustained.

16 BY MR. CIMINO:

17 Q. And not only is it your opinion that Google is
18 missing every element of the claim, but you also believe
19 every claim is invalid; is that correct?

20 A. That's correct.

21 Q. You testified you were given the rules of the road
22 for invalidity on your direct examination; is that
23 right?

24 A. For invalidity. We are changing it now?

25 Q. For invalidity, yes.

1 A. Yes, that's correct.

2 Q. When you formed your opinions, no one informed you
3 about the burden of proof for invalidity; is that right?

4 A. I believe the burden of proof for invalidity is that
5 there be clear and convincing evidence, and I believe
6 that's present in what I showed.

7 Q. You didn't mention that during your testimony,
8 though, did you?

9 A. I said in my testimony that -- you asked whether the
10 rules of the road I applied, if they were slightly
11 different, if there were a different burden of proof,
12 would I have different conclusions? My answer is that
13 regardless of what burden of proof was there, if it were
14 slightly different, I would have given the same answer.

15 THE COURT: Yes, sir.

16 MR. PERLSON: I will see if he asks another
17 question.

18 BY MR. CIMINO:

19 Q. You are familiar with the Patent & Trademark Office?

20 A. Familiar to the extent I know it exists. I have
21 never been there.

22 Q. You have patents, right?

23 A. I do. I don't own any patents. I am co-inventor on
24 a number of patents.

25 Q. Are your patents owned by the university?

1 A. They are --

2 MR. PERLSON: Objection, relevance, your Honor.

3 THE COURT: What's the relevance of this line of
4 inquiry?

5 MR. CIMINO: I'm just trying to establish his
6 familiarity with the patent office, your Honor.

7 THE COURT: Well, whether they are owned by the
8 university is irrelevant. He said he owns patents and
9 he's familiar with the patent office. We know that
10 much. So let's see where you are going now.

11 BY MR. CIMINO:

12 Q. The patent office has examiners, correct?

13 A. Yes.

14 Q. And examiners are specialists in their field; is
15 that right?

16 MR. PERLSON: Objection, your Honor. We are not
17 putting him up as an expert on the patent office.

18 THE COURT: I sustain the objection. I think if
19 you have another question in mind, you might just go on
20 and ask it, Mr. Cimino.

21 BY MR. CIMINO:

22 Q. The examiners who reviewed the '420 patent and the
23 '664 patent, they are specialists in computer science;
24 isn't that right?

25 MR. PERLSON: Same objection, your Honor.

1 THE COURT: Once again, the objection is
2 sustained.

3 BY MR. CIMINO:

4 Q. Based on your experience in obtaining patents, are
5 patents typically examined by people who have skill in
6 the area they had mentioned?

7 MR. PERLSON: Your Honor, this is all in the
8 same line.

9 THE COURT: Well, I will permit that question,
10 but I think you are about at the end of the road on this
11 line, Mr. Cimino.

12 MR. CIMINO: Yes, your Honor.

13 THE COURT: You answer that question, Dr. Ungar.

14 THE WITNESS: I don't deal directly -- if he
15 asks the question, I will try and answer it. Please
16 repeat it. It's gotten interrupted too many times. I
17 lost the question.

18 MR. CIMINO: I might have myself.

19 THE COURT: That's a good sign.

20 BY MR. CIMINO:

21 Q. Based on your experience, would you expect the
22 examiners for the '420 and the '664 patent to have
23 experience in computer science for reviewing these
24 inventions?

25 A. I'm afraid I really don't know what experience the

1 examiners have or what their expertise, their
2 background. I have never dealt directly with examiners.

3 Q. Can you pull up PX-1? Can you highlight the box
4 with the examiners.

5 These are the two examiners that reviewed and
6 allowed the '420 patent.

7 A. Was there a question?

8 Q. Yes. These are the two examiners who reviewed --

9 A. Is that a question?

10 Q. That's a question.

11 A. Oh, yes. It looks like those are the examiners,
12 yes.

13 Q. And in your opinion do you believe that these
14 examiners made a mistake in allowing the '420 patent?

15 A. It sounds like a legal question, but I think that
16 the '420 patent is not valid in light of the prior art.

17 Q. So Thomas Black and Frantz Coby made a mistake in
18 issuing it, in your opinion?

19 MR. PERLSON: Objection.

20 THE COURT: Objection overruled. That's an
21 appropriate follow-up question.

22 THE WITNESS: Again, I'm not a lawyer of
23 questions or mistakes here. All I'm claiming is that I
24 looked at the prior art, I looked to see whether it
25 anticipated and made obvious the patents, and my belief

1 is the patents are obvious and anticipated in light of
2 the prior art.

3 BY MR. CIMINO:

4 Q. You cited the Notice of Allowance for the '420
5 patent yesterday, right?

6 A. Yes.

7 Q. You didn't show the jury the Notice of allowance for
8 the '664 patent, correct?

9 A. That's correct.

10 Q. Can we pull up PX-5, please?

11 You are familiar with Plaintiff's Exhibit 5,
12 aren't you, the file history for the '664 patent?

13 A. I can't recognize the picture, but I am familiar
14 with the file history, yes.

15 MR. CIMINO: Your Honor, we would like to move
16 into evidence, PX-5, the file history for the '664
17 patent.

18 THE COURT: On what basis? It all depends on
19 how you are using this document. If you are using the
20 document merely as an impeaching document, it's not
21 admissible.

22 MR. CIMINO: It's not for impeachment, your
23 Honor.

24 THE COURT: What are you using it for?

25 MR. CIMINO: I'm going to have him comment on

1 Notice of Allowance of the '664 patent.

2 THE COURT: Well, then just go on and question
3 on the document. But as I have said many times, just
4 because you put a document up during the course of
5 cross-examination, it doesn't mean the document is
6 automatically admissible. Just go on and question him on
7 the document.

8 BY MR. CIMINO:

9 Q. Okay. Can we turn to page 308?

10 Dr. Unger, you considered PX-5, the file
11 history, in forming your opinions about the '664 patent,
12 correct?

13 A. I did.

14 Q. You read it to develop an understanding about the
15 claims in the case?

16 A. Yes.

17 Q. The page that's in front of you is part of the
18 Notice of Allowance for the '664 patent?

19 A. Okay.

20 Q. I believe yesterday you showed the jury the Notice
21 of Allowance for the '420 patent, right?

22 A. Correct.

23 Q. In your opinion, the patent office had allowed the
24 '420 patent because the '420 patent is the claims
25 covering the wire embodiment; is that right?

1 A. That's right.

2 Q. So the Notice of Allowance here, the highlighted
3 part says, "The application extends the functionality of
4 two patents by teaching a content-based filter system
5 for combining information from the scanning system for a
6 first user and information from feedback by other users,
7 and filtering --"

8 A. I just lost the feed.

9 THE COURT: Okay. We are good.

10 MR. CIMINO: Thank you, your Honor.

11 BY MR. CIMINO:

12 Q. Okay. So this is the '664 Notice of Allowance, a
13 similar document to what you showed of the '420 patent
14 yesterday, right, Dr. Ungar?

15 A. Yes.

16 Q. Now that it's up on the screen, let me read it.
17 When it says the application, it's referring to the '664
18 patent application, would you agree with me?

19 A. Yes.

20 Q. "The application extends the functionality of the
21 two patents by teaching a content-based filter system
22 for combining information from the scanning system for a
23 first user and information from feedback by other users,
24 and filtering the combined information for relevance to
25 the queries and the a first user." Do you agree with me

1 that paragraph does not refer to wires?

2 A. It does not.

3 Q. It then goes on and says "the prior arts searched
4 and investigated from different domains do not fairly
5 teach or suggest the teaching of information filtering
6 through a combination of data from a first user and data
7 from feedback by other users as recited in each of the
8 independent Claims 2 and 27." That also does not
9 discuss wires, does it?

10 A. It does not.

11 Q. Those claims are consistent with the claims at issue
12 in this case for the '664 patent, don't you agree?

13 A. There's a minor detail. It says, "as recited in the
14 Claims 2 and 27." We are talking about Claim 1 here.

15 Q. Yes. You reviewed the prosecution history?

16 A. Yes. I'm just trying to remember. It's been a
17 while since I looked at it.

18 Q. Would you expect, based on your experience in having
19 patents and being an expert in this case, the allowed
20 claims of the application would be renumbered to the
21 actual claims at issue in the patent?

22 A. It's certainly possible.

23 Q. So it wouldn't surprise you that Claims 2 and 27 are
24 independent claims of the '664 patent in issued form?

25 A. It wouldn't. So note that this is allowing

1 combination in --

2 MR. CIMINO: Your Honor, there's no question
3 pending.

4 THE COURT: Fine.

5 THE WITNESS: Sorry.

6 MR. CIMINO: Your Honor, we would like to have
7 PX-5 moved into evidence.

8 THE COURT: Was the previous exhibit that he
9 alluded to Notice of Allowance that he alluded to in his
10 testimony moved into evidence. Was it in evidence?

11 MR. CIMINO: Yes, your Honor.

12 THE COURT: All right. Then the Court will
13 permit this one to be admitted into evidence.

14 (Plaintiff's Exhibit 5 was admitted.)

15 BY MR. CIMINO:

16 Q. Okay. Let's start by discussing the three
17 references you said render the patents obvious.

18 You understand that there's differences between
19 invalidity based on anticipation and obviousness?

20 A. Yes, I described them.

21 Q. Do you agree that anticipation is one of the single
22 references that has every element?

23 A. Yes.

24 Q. And you agree that obviousness occurs when a single
25 reference doesn't have every element?

1 A. Obviousness does not require a single reference to
2 have every element.

3 Q. You can have a reference with missing elements be
4 supplemented by other references; is that your
5 understanding?

6 A. Yeah.

7 Q. So for the three references that you identified as
8 obvious, you agree that they don't show all of the
9 elements of the claim by themselves; isn't that right?

10 A. I didn't argue it either way, I think.

11 Q. You argued that they are obvious, right?

12 A. I did.

13 Q. And you did not argue that they are anticipated,
14 correct?

15 A. There are lots of arguments I could have made but
16 didn't. There are lots of other references I considered
17 that are obvious and anticipated. The fact that I
18 didn't advance an argument doesn't mean that I don't
19 think it's true. I tried to advance a clean set of
20 convincing arguments rather than every possible
21 argument.

22 THE COURT: Was that a yes or no?

23 THE WITNESS: That's a no, sorry.

24 THE COURT: You can say yes or no and explain
25 something. But when you go a long answer, it's hard to

1 detect whether your answer is responsive to the question.

2 THE WITNESS: Okay. I believe the answer is no.

3 BY MR. CIMINO:

4 Q. Let me ask you a different way. In your direct
5 examination you did not provide an opinion that the
6 Lashkari reference anticipates any of the claims,
7 correct?

8 A. That's correct. Lashkari is the WebHound.

9 Q. And are you familiar with the Fab reference?

10 A. Yes.

11 Q. I'm not sure how to say the authors' names. Are
12 you?

13 A. The first author I don't know. The second author --

14 Q. How about we call it the Fab reference?

15 A. That's fine.

16 Q. Do you agree that you did not present any opinions
17 about the Fab reference anticipating any of the asserted
18 claims?

19 A. That's correct.

20 Q. And do you agree that you did not present any
21 opinions that the Rose patent anticipates any
22 independent claims?

23 A. That's correct.

24 Q. Sorry, any of the asserted claims?

25 A. Yes. Taking it the way you meant to say it,

1 correct.

2 Q. Okay. Let's start with the Fab reference.

3 Will you pull up PX-50.

4 This is the abstract for the Fab reference we
5 showed yesterday.

6 A. This is the title in the abstract used as part of
7 the case yes.

8 Q. I will move it down so you can see the title. For
9 this reference you didn't identify any colors, right;
10 you just put up the title?

11 A. I don't remember, but I think that's correct.

12 Q. Can we go to page 2, halfway down the first column.

13 You see the reference down at the bottom
14 NewsWeeder?

15 A. Yes.

16 Q. Is it your understanding that is a reference to one
17 of Ken Lang's works?

18 A. I don't remember.

19 Q. Well, let's take a look at Footnote 6.

20 A. If you say it is, I will believe you.

21 Q. Well, we can take a look.

22 You see Footnote 6, Dr. Ungar?

23 A. Yes.

24 Q. Does that confirm for you that this work is one of
25 Mr. Lang's?

1 A. It does.

2 Q. If we can go back to the abstract, please.

3 The abstract here doesn't mention search, does
4 it?

5 A. The abstract does not.

6 Q. This is a so-called profile system; is that right?

7 A. Yes. I didn't claim it anticipated. I claimed it
8 would render it obvious.

9 Q. And profile systems are different than search
10 systems; isn't that right?

11 A. They are different from demand search systems.

12 Q. Yes.

13 A. Yes.

14 Q. A profile system is a so-called persistent query.
15 Does that make sense?

16 A. Like lawyers.

17 Q. Can you answer my question, please?

18 A. Yes, yes.

19 Q. And search systems are ad hoc queries; is that
20 right?

21 A. I'm not sure. Yes. I'm not sure.

22 Q. Simply put, Dr. Ungar, one is an information need
23 that lasts for a long time and documents come to you
24 over the year, where the search system is something you
25 want immediately. Is that a fair distinction between

1 the two?

2 A. Yes, that's correct, but it would have been obvious
3 to one of skill in the art at the time that the one
4 could be applied to the other.

5 Q. Can we pull up DX-317?

6 The next one we are going to pull up, Dr. Ungar,
7 is Lashkari, a little bit easier to say. Do we have the
8 wrong cite? 317. There you go. I will use the real
9 document. Can you click to the abstract.

10 You are familiar with this abstract, Dr. Ungar?

11 A. Yes. I went through it in my direct testimony.

12 Q. Lashkari doesn't disclose a search system, does he?

13 A. Lashkari does, actually, disclose a search system.
14 I also show when I give a presentation of a search,
15 system it talks about Lycos. I believe Lashkari gave
16 the example of typing Indian cooking into the query of
17 the search system of Lycos.

18 Q. It's a separate search system, though, correct? The
19 search engine is separate from the filtering system.

20 A. Lashkari suggests that one can use this together
21 with, or can build a system, combined system that has
22 the search system such as Lycos with this as an
23 integrated system.

24 Q. Well, your opinions had suggested it, but it
25 actually discloses two separate systems, doesn't it?

1 MR. PERLSON: Your Honor, can we approach?

2 THE COURT: Well, can you change the questions
3 for ten minutes?

4 I tell you what. Skip this line of inquiry.
5 Flip it around, go to Rose, save this one, and we will
6 make it until 1:00 and we will take it up over the break.

7 MR. PERLSON: Thank you, your Honor.

8 THE COURT: You were going down the three of
9 them. Go to Rose.

10 BY MR. CIMINO:

11 Q. Okay. Let's talk about Rose. Rose isn't a search
12 system, is it?

13 A. Rose.

14 MR. PERLSON: Your Honor, I think maybe we
15 should move from this line, too.

16 THE COURT: I don't know what's improper about
17 this question if he's simply trying to contrast the
18 system.

19 MR. PERLSON: Well, I think that's the issue,
20 your Honor.

21 THE COURT: Ladies and gentlemen, he wants this
22 side bar at all costs, so I tell you what we are going to
23 do here. We are just going to take the lunch break and
24 come back at 2:20 and start while we deal with these
25 systems here.

1 So, all rise.

2 (Jury out.)

3 THE COURT: You may be seated.

4 We missed by about six minutes in here,

5 Mr. Perlson. What is the objection?

6 MR. PERLSON: Well, your Honor, what is now
7 happening is exactly what we indicated was going to
8 happen. They have used the search -- they are using the
9 search engine, the fact that the patents require a search
10 engine to contrast it with the prior art systems, yet
11 yesterday or, I don't know, maybe the day before, they
12 had you do a curative instruction to suggest that we
13 were -- you know, like striking or taking off the
14 suggestion that our system is not a search engine, yet
15 here we go and they are trying to distinguish the prior
16 art because it's not a search engine.

17 They can't have their cake and eat it too, your
18 Honor. This is exactly what we said was going to happen,
19 and they have done it. And now we have been prevented
20 from arguing our case based on this very same
21 interpretation that they are trying to avoid the prior
22 art.

23 THE COURT: Well, it hasn't been done yet,

24 Mr. Perlson.

25 MR. PERLSON: Well, that's certainly the

1 suggestion that they have done it.

2 THE COURT: You are arguing about it. They
3 haven't done it.

4 MR. PERLSON: Well, they are trying to, your
5 Honor.

6 THE COURT: Okay. Thank you.

7 MR. CIMINO: Your Honor, I'm not trying to have
8 my cake and eat it too.

9 THE COURT: Well, you certainly aren't going to
10 eat it in here.

11 MR. CIMINO: The difference between profile
12 systems and search systems is also in the body of the
13 claims, and our expert on invalidity has maintained since
14 this report through his deposition and in his testimony
15 that the patent requires search. You have heard that the
16 patent requires search. There's parts of the body of the
17 claim that require search. There's demand search in the
18 body of the claim. There's relevance to the query.

19 Relevance to the query, are those the elements the expert
20 relies on?

21 I may have misspoken, but I was trying to be
22 careful and say search systems and not search engines, to
23 avoid the entire dispute. I thought that's what I
24 asked. If I misspoke, I apologize to the Court.

25 THE COURT: All right. Mr. Perlson you can come

1 back, but I think the Court has it.

2 MR. PERLSON: First, search system doesn't solve
3 the problem. That's in the preamble of the '664. And
4 it's the search system, so there really is no distinction
5 between the two, and plaintiff hasn't made any
6 distinction between the two. They have talked about
7 before a search engine environment setting up this exact
8 argument they are trying to make.

9 I can read for you from Dr. Carbonell's report
10 in which he's trying to rebut Dr. Ungar's obviousness
11 argument, and he says, "The combination of query, content
12 and collaborative feedback to filter in a single search
13 engine can yield results superior to applying less than
14 all of them or applying them in a sequence, single search
15 engine." That is exactly the same thing that they said
16 we can't argue and that they are trying to rebut our
17 obviousness case.

18 THE COURT: Well, you know, I don't know whether
19 we are missing some concepts here. The Court simply
20 suggested that you hadn't shown that the preamble to the
21 '420 patent was necessary in order to understand or
22 further explain the invention. So the Court was simply
23 suggesting, based on case law, generally, that the
24 preamble is not used to limit the claim, okay? I think
25 that's different from what's being suggested here.

1 MR. PERLSON: Well, if the preamble doesn't
2 limit the claim, then there is no relevance as to whether
3 it discloses a search engine or whether it is a single
4 search engine.

5 They are going to argue that their patent covers
6 the tight integration in a single search engine. The
7 only way you get there is through a limitation in the
8 opening -- a limitation in the preamble. In fact, I
9 think if you look at the claims, like Claim 1 or Claim 10
10 of the '420, claims four different systems. It claims a
11 content-based filtering system, it claims a feedback
12 system, a filter system. The only way you could ever get
13 to the fact where it ever had to be a single search
14 engine is through the preamble, and I think that -- I
15 don't know if the '664 then talks about a feedback system
16 and a scanning system, you know, so these claims have
17 multiple substances to them, and the only way that they
18 can get to this single search engine argument is through
19 the preamble being a limitation. That is absolutely
20 having their cake and eating it too, your Honor.

21 MR. CIMINO: Can I make a quick response, your
22 Honor?

23 THE COURT: Sure.

24 MR. CIMINO: So out of the four asserted claims
25 search engine system is only in the preamble in one of

1 the claims, so it wouldn't even help us in the other
2 three claims. We do not think the preamble was limiting
3 for the reasons your Honor said. But we were discussing
4 prior arts. Some are search engine systems and some are
5 profile engines. That's just the way to talk about it,
6 but we are not relying on the preamble to say that the
7 claims are different from the prior art.

8 There is sentence after sentence in the claim
9 that discusses search, and Claim 10 of the '420 patent,
10 the first element is a system for scanning a network to
11 make a demand search for informons relevant to a query.

12 THE COURT: You know, I think you gentlemen are
13 trying to put the Court in a position where you can't
14 even mention the word "search" here; otherwise, we have
15 violated something, and that is just absolutely not the
16 case. In fact, if you look at one of the definitions
17 here that the Court has here, the term "demand search," a
18 single search engine query performed upon a user
19 request. So it's there, single search engine. That's
20 what a demand search is. This patent involves a demand
21 search.

22 I think the fact that the Court ruled that you
23 cannot use the preamble as a limitation upon the claim,
24 you are using that to suggest you can't even bring up the
25 word "search engine" here; otherwise, it will create a

1 problem. I guess what it boils down to, you-all will
2 have a complete record for appeal here because the Court
3 is simply going to overrule the objection. All right?

4 MR. PERLSON: Thank you, your Honor.

5 THE COURT: That's the Court's ruling.

6 MR. CIMINO: Thank you, your Honor.

7 THE COURT: We will be in recess until 2:20.

8 (A recess was taken at 12:54 p.m.)

9

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* * *

11

CERTIFICATION

12

13

I certify that the foregoing is a correct
transcript from the record of proceedings in the
above-entitled matter.

15

X /s/ Sharon B. Borden X

16

Sharon B. Borden, RMR, FCRR

17

X october 26, 2012 X

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Date

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