

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4
5 ROOFR INC.,

6 Petitioner

7 v.

8 PICTOMETRY INTERNATIONAL CORP.,

9 PATENT OWNER

10
11 IPR2023-00435

12 U.S. Patent No. 10,648,800

13
14
15 Deposition of TONY L. CUMMINGS

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17 Certified Realtime Reporter, and Notary Public in
18 and for the District of Columbia.
19
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22

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C O N T E N T S

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E X H I B I T S
(Retained.)

Previously Marked:

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1 P R O C E E D I N G S

2 TONY L. CUMMINGS,

3 Being first duly sworn, was examined
4 and testified as follows:

5 EXAMINATION BY COUNSEL FOR THE PATENT OWNER

6 BY MR. BEMBEN:

7 Q Great. Can you please state your full
8 name for the record?

9 A Tony Leon Cummings.

10 Q Let's introduce ourselves for the
11 record as well.

12 MR. BEMBEN: My name is Richard Bemben,
13 I'm an attorney at Sterne, Kessler, Goldstein &
14 Fox, and I'm here today on behalf of the patent
15 owner, Pictometry International Corporation.

16 MR. HAGIZ: This is Ron Hagiz, from the
17 firm Quinn Emanuel, on behalf of the petitioner,
18 Roofr. And also with me today is Scott Baker,
19 from Emanuel, also here on behalf of the witness,
20 Mr. Cummings.

21 Q Mr. Cummings, do you understand that
22 you're under oath today?

1 A I do.

2 Q Is there any reason that you cannot
3 give truthful testimony?

4 A No.

5 Q Have you been deposed before?

6 A I have.

7 Q Okay. So you understand kind of the
8 groundwork, but I'll just give you some, I guess,
9 guidance on today so we can make sure we
10 understand each other.

11 So I ask that you provide verbal
12 answers so that Judith can transcribe them for us,
13 okay?

14 A Right.

15 Q Let's try not to speak over each other.
16 I'm here today to ask the questions and you're
17 here to answer them. If I don't understand a
18 question that I've asked, please let me know and
19 I'll try to clarify the question.

20 Is that okay?

21 A Yes.

22 Q But if you do answer a question, I will

1 assume that you've understood it.

2 Do you understand that?

3 A Yes.

4 Q We can try to take a break every hour
5 or so, but if you need a break at any other time,
6 please, let me know, we'll take a break. Just try
7 to answer the question that's pending.

8 A That's fine.

9 Q Do you understand that you're here
10 today to be deposed in an inter partes review
11 proceeding that's before the PTAB, the Patent
12 Trial and Appeal Board?

13 A Yes, I do.

14 Q The patent at issue today is U.S.
15 patent number 10,648,800.

16 A Yes.

17 Q Okay. I'm going to refer to that as
18 the '800 patent.

19 Do you understand that when I'm
20 referring to the --

21 A Yes.

22 Q So, prior to this proceeding, had you

1 ever heard of the patent owner, Pictometry
2 International Corporation?

3 A I may have seen something on it on the
4 Internet, but I didn't know of them or have any
5 interaction with them.

6 Q So you hadn't used any Pictometry
7 products before?

8 A I have not.

9 Q Had you ever heard of Eagle View
10 Technologies before?

11 A Not specifically that I can recall.

12 Q Okay. So you haven't used any of Eagle
13 View's products either?

14 A I have not.

15 Q Prior to this proceeding, had you ever
16 heard of Roofr, Incorporated?

17 A No, I had not.

18 Q So same question. I'm assuming that
19 you hadn't used any of their products, then,
20 either?

21 A That's correct.

22 Q Did you prepare for today's deposition?

1 A I did.

2 Q What did you do?

3 A Reviewed my declaration, reviewed the
4 applicable exhibits. Everything that we've
5 prepared -- that went into the declaration.

6 Q Are you aware that the board issued
7 what's called a decision on institution?

8 A Yes, I am.

9 Q Did you review that in preparation for
10 today?

11 A Yes, I did, sir.

12 Q Did you meet with anyone to prepare for
13 the deposition?

14 A I met with the attorneys.

15 Q Which attorneys?

16 A I'm sorry. The attorneys that are here
17 today.

18 Q How long did you meet with the
19 attorneys?

20 A We were here three or four hours
21 yesterday, but we've been talking over the phone
22 for several weeks, here and there.

1 Q And you mentioned that you reviewed the
2 decision on institution.

3 Did you review any other materials
4 outside of your declaration and the exhibits in
5 your declaration?

6 A None come to mind.

7 Q Okay. I'm going to introduce your
8 declaration. This is the Declaration of Tony
9 Cummings in Support of Petition for Inter Partes
10 Review. It has been previously marked as
11 Exhibit 1003 in IPR 2023-00435.

12 (Roofr Exhibit 1003 previously marked
13 for identification and retained by counsel.)

14 MR. HAGIZ: Rich, I'll just note that
15 Mr. Cummings brought a clean copy of his
16 declaration with him in a binder. Whether you
17 want to mark that one or the one you brought,
18 either way. It's the same thing.

19 MR. BEMBEN: We don't need to mark the
20 exhibits since it's been previously marked.

21 MR. HAGIZ: That's correct.

22

1 BY MR. BEMBEN:

2 Q Can you just confirm that that's a
3 clean copy, Mr. Cummings?

4 A Yes, it is.

5 Q It's a corrected version of the -- of
6 your declaration?

7 A It's the one that the attorneys
8 presented to me. So I'm assuming it is.

9 MR. HAGIZ: It should be 1003,
10 corrected on the docket.

11 MR. BEMBEN: Thank you.

12 Q Okay. Can you please turn to page 82
13 of your declaration.

14 A Yes.

15 Q And is that your signature on page 82,
16 Mr. Cummings?

17 A It is.

18 Q Did you prepare your declaration in
19 this proceeding?

20 MR. HAGIZ: Objection to form.

21 A I prepared it in coordination with the
22 attorneys.

1 Q What was your process for preparing the
2 declaration?

3 A The -- I gave the attorneys information
4 on estimating procedures, processes that have been
5 used within the industry. We had back-and-forth
6 discussions about that throughout the entire
7 process, so I was bringing some practical
8 experience and my education in using -- in
9 estimating and other things to the table.

10 Q Did you write the declaration?

11 A Not by myself, no.

12 Q Did you write portions of the
13 declaration?

14 A This was a collaborative effort. As we
15 would talk, things would be put down. We would
16 discuss them. They would be modified. So there's
17 nothing in here that I've written specifically,
18 but it's been a collaboration of my input and the
19 attorney.

20 Q And all of the opinions in your
21 declaration are your own, though, correct?

22 A That is correct.

1 Q And you stand by them?

2 A I do.

3 Q Are there any errors in your
4 declaration that you want to correct today before
5 we begin?

6 A I did not notice any.

7 Q So, no?

8 A No. That's correct.

9 Q Thank you.

10 Can you turn to, I believe it's VI,
11 yeah, VI.

12 Are you there?

13 A Yes, I'm there.

14 Q Okay. And so, on VI is a list of
15 exhibits.

16 Do you see that?

17 A Yes, I do.

18 Q Does this list of exhibits include all
19 the materials that you considered when you
20 rendered the opinions that you provided in the
21 declaration?

22 A Yes, it does.

1 Q And so, you're here today to testify as
2 a technical expert, correct?

3 A That's correct.

4 Q And what subject matter do you consider
5 yourself to be a technical expert in?

6 MR. HAGIZ: Objection to form.

7 A I have experience in estimating, close
8 to 40 years of estimating various projects,
9 including roofing systems. I have some experience
10 in developing software, and just my general
11 knowledge and what I've gained as an architect for
12 the last 40-something years.

13 Q You said you have experience in
14 estimating. Can you elaborate on that? What's
15 estimating?

16 A Estimating is being able to take either
17 a set of plans for the last 40 -- 30 years prior
18 to 2000, most of them were based off of drawings.
19 So you would do manual calculations and takeoffs
20 of the components of the building, and then
21 prepare estimates to be associated with cost to
22 prepare a report of cost of estimate for the

1 client.

2 Q I guess just backing up at more of a
3 high level, when you say "estimating," you're
4 referring to construction estimates?

5 A Yes, sir, I'm sorry.

6 Q Okay. You mentioned that you have
7 experience with estimating roofing systems,
8 correct?

9 A Correct.

10 Q Are those -- is that experience manual
11 estimation, on-site estimations?

12 A Most of it is related to drawings.
13 There have been some that would have been in the
14 field, but most of them have been based off of
15 architectural drawings or engineering drawings.

16 Q So you do have experience, though,
17 going on site and taking field estimations?

18 A I do.

19 Q Of a roof?

20 A Yes, sir.

21 Q Do you have experience using computer
22 software to perform roof estimations?

1 A I use a program, now, that is an
2 estimating program that I used for doing some
3 takeoffs, yes.

4 Q And how long have you -- you said that
5 you use that now, correct?

6 A That's correct.

7 Q How long have you used that software?

8 A I think I got that software in the
9 2009, 2010 period, someplace in there.

10 Q What is the name of the software?

11 A It is -- I knew you were going to ask
12 me that. PlanSwift.

13 Q And you are a user of the PlanSwift
14 software, right?

15 A That's correct.

16 Q You are not a developer of the
17 PlanSwift software?

18 A That's correct.

19 Q You also mentioned, in one of your
20 previous answers, that you have some experience in
21 developing software, correct?

22 A That's correct.

1 Q Can you explain that experience?

2 A Approximately 2009 or 2010, I had a
3 request from a client to come up with a system
4 that would allow us to catalog real-time
5 photographic documentation we were doing on
6 projects. And so, I met with a program --
7 programmer and gave them my parameters, and I
8 worked with them for probably three or four years,
9 we still work together, but developing -- I would
10 give him the concept of what we needed to do, how
11 it was supposed to work, what we wanted the
12 outcome to be, and then he would provide the
13 computer programming aspect of it.

14 Q And is this software commercially
15 available?

16 A No. It's not. It's the one that we
17 developed. We've looked at it, but we decided not
18 to go that route.

19 Q When you say "we," who are you
20 referring to?

21 A The programmer and I. He and I are now
22 partners in this.

1 Q So is this software that you use
2 yourself, personally?

3 A It is.

4 Q Does anybody else use this software?

5 A We'll allow the clients to use it. If
6 they want to use it, they can have -- they'll need
7 access to it.

8 Q When you say "clients," who are you
9 referring to?

10 A Most of this was developed when we do
11 project management or owner representation on
12 site. So if we're out or we're called out to do
13 an evaluation, or even a forensics evaluation,
14 we'll put all the documents into our system and
15 then make that available to our clients to call up
16 that information and see the photographs and what
17 we're doing on the project.

18 Q Just to clarify, when you say "we,"
19 you're referring to your company Construction
20 Forensics, Incorporated?

21 A Yes, that's correct.

22 Q Okay. Just wanted to make sure.

1 Who is the programmer that developed
2 the program for you?

3 A His name is Chris Kuhn, it's spelled
4 K-U-H-N.

5 Q And how did you come to engage Chris
6 Kuhn to develop the software?

7 A Actually, Chris happens to be my
8 nephew, but he's been programming for about
9 30-something years.

10 Q And is Chris a computer -- a
11 professional computer programmer?

12 A Yes, he is.

13 Q Who or -- does Chris work for a
14 company?

15 A Chris has his own company.

16 Q And what is the name of the company?

17 A I think it's Tech 7 (phonetic) is his
18 company.

19 Q Is Tech 7 a software development
20 company?

21 A I think it does a lot of different
22 things, but I think that's one of the things he

1 does.

2 Q This computer program, did you give it
3 a name?

4 A Yeah. We called it Keystone Integrated
5 Project Documentation.

6 Q Is it okay if I refer to it as
7 "Keystone"?

8 A You can.

9 Q Thank you.

10 And so, you mentioned that Keystone
11 would allow you to catalog real-time photographic
12 documentation; is that correct?

13 A That's correct.

14 Q Can you elaborate on that?

15 A Certainly. The way the program was set
16 up is that we could be on site with either a
17 35-millimeter, an iPad, whatever device we want
18 to, to take photographs. As long as there was
19 satellite connection at the site, or Internet
20 connection at the site, we could link that into
21 our program which would, then, load real time up
22 to the cloud that the client could, then, watch

1 us, actually, as we go around the site taking
2 photographs, if we need to.

3 We, then, expanded that to include
4 being able to put in documents such as we, then,
5 tracked all the RFIs on the job and all the change
6 orders, submittals, so we morphed it into one that
7 would actually give the client access to all of
8 the documentation that was being used between the
9 architects, the contractor, subcontractors on the
10 project.

11 Q You mentioned the term, or the acronym
12 "RFI."

13 What is that?

14 A Request for information. It's an
15 acronym used in the construction industry.

16 Q I see.

17 So in Keystone, the client could view
18 the photographs that were uploaded; is that
19 correct?

20 A That's correct.

21 Q In Keystone, can the client manipulate
22 the photographs in any way?

1 A No.

2 Q Can the client perform any measurement
3 using the photographs in Keystone?

4 A No.

5 Q What was the reason that you decided to
6 create Keystone?

7 A As I said, I had a client in -- that
8 was looking for some way on his house, it was a
9 rather large home down in Miami, and he was
10 looking for something that would give him some
11 access, in case of maintenance or future
12 renovations, to know exactly what was going on
13 with the building.

14 Q I see. And I believe you mentioned
15 this was in the -- you began work on Keystone in
16 the 2009 time frame?

17 A 2009, 2010, right in that area.

18 Q And when was the -- a version of
19 Keystone that you could use completed?

20 A 2011, maybe.

21 Q And have you continued to use Keystone
22 since 2011?

1 A Yes.

2 Q I'm going to ask you to turn to
3 pages 84 and 85 of your CV -- I'm sorry, of your
4 declaration. This is your CV, I believe.

5 A Yes, sir.

6 Q And correct me if I'm wrong, but is
7 this your current CV?

8 A It is.

9 Q Okay. And you -- it lists, under
10 education, that you hold a bachelor of
11 architecture from Kansas State University; is that
12 correct?

13 A That's correct.

14 Q Do you hold any other degrees?

15 A No.

16 Q Do you have any formal education in a
17 computer-related field?

18 MR. HAGIZ: Objection to form.

19 A No, I do not.

20 Q Do you have any formal education in
21 computerized image analysis?

22 MR. HAGIZ: Objection to form.

1 A Could you ask that again, please?

2 Q Are you familiar with computerized
3 image analysis?

4 A As it relates to 3D imaging? I'm not
5 sure I understand what you're asking. The term
6 you're using, I'm not familiar with.

7 Q Sure.

8 Are you familiar with analyzing images
9 on a computer, using computer software?

10 A Yes.

11 Q Do you have any formal education in
12 analyzing images using computer software?

13 A No.

14 MR. HAGIZ: Objection to form.

15 THE WITNESS: Oh, I'm sorry.

16 MR. HAGIZ: Go ahead.

17 A No.

18 Q Do you have any formal education in
19 three-dimensional modeling?

20 A Yes.

21 MR. HAGIZ: Objection to form.

22 Q Can you explain what your formal

1 education in three-dimensional modeling is?

2 A Yes. That's used to do the
3 computer-aided design packages that I use.

4 Those have all been, what's called
5 building information modeling. Those all produce
6 3D models.

7 Q And you said you have formal education
8 in computer-aided design?

9 A Not formal education, no, sir.

10 Q Not formal education?

11 A Yes.

12 Q So you have experience using
13 computed-aided design?

14 A That's correct.

15 Q I see.

16 Can we take a look at your professional
17 history on your CV. Here, I'm just trying to get
18 a sense for the time frame.

19 A Sure.

20 Q It appears that you founded
21 Construction Forensics, Incorporated in 1990, and
22 have been working there ever since; is that

1 correct?

2 A That's correct.

3 Q Okay. And then if we go to High Point?

4 A Schaer.

5 Q Schaer.

6 What was the time frame that you were
7 working there?

8 A That would be '88 to '90.

9 Q How about Bill Strong Enterprises?

10 A That would be '77, '78 -- excuse me.
11 '87, '88.

12 Q TL Cummings & Associates.

13 A '84 through, what did I say?

14 Q '87?

15 A '87? Yeah.

16 Q DANAC.

17 A DANAC was from '81 through '84.

18 Q Can you turn to paragraph 6 of your
19 declaration, that's paragraph 6 on page 3 and 4.

20 A All right.

21 Q Take a minute to review and let me know
22 when you're ready.

1 A Yes, sir.

2 Q Okay. So in paragraph 6, you mentioned
3 that you have spent decades working with software
4 related to construction modeling and estimate.

5 Do you see that?

6 A Yes.

7 Q Okay. And you provide some examples,
8 correct?

9 A Yes.

10 Q And the first example is computer-aided
11 design packages, or CAD, which you discussed
12 before?

13 A Yes.

14 Q And so, what computer-aided design
15 packages do you have experience with?

16 A Well, very early on, I think it was
17 1984 I was AutoCAD 1 user. Over the years there's
18 been another -- a series of other smaller,
19 off-brand programs I tried using. I finally
20 settled, in 1990s, on a plan called SoftPlan,
21 which does -- it does CAD and 3D modeling.

22 Q Have you ever developed a

1 computer-aided design package?

2 MR. HAGIZ: Objection to form.

3 A No, sir.

4 Q Have you ever used a computer-aided
5 design package to perform computerized image
6 analysis?

7 MR. HAGIZ: Objection to form.

8 A I'm not sure what you're asking. I'm
9 not sure what you're asking.

10 Q Let me rephrase that.

11 So before we talked about using
12 computer software to analyze images.

13 A Yes.

14 Q Okay. So have you ever used a CAD
15 package or CAD program to analyze images?

16 MR. HAGIZ: Objection to form.

17 A Yes.

18 Q Can you explain?

19 A Well, just in the basics, if you have a
20 CAD package and you're looking at an image, then
21 we're trying to find out, in my case, if the
22 construction's proper, things of that nature. So

1 we are analyzing the product of the 3D image.

2 Q Okay. I see.

3 So when I -- okay. How about
4 photographs? Have you ever used a CAD program to
5 analyze photographs?

6 MR. HAGIZ: Objection to form.

7 A Not to -- I've used photographs in CAD
8 packages, but not to analyze the program.

9 Q Can you elaborate on that? Can you
10 explain how that works?

11 A Well, there are times that we'll use
12 aerial imaging within the CAD package and do
13 whatever measurements, basic layout of the
14 project. That's it.

15 Q Okay. Going back to that paragraph 6,
16 your next example that you provided there are that
17 you have experience with programs that have
18 automated the building code review process.

19 Do you see that?

20 A Yes.

21 Q Can you describe those programs for me?

22 A Those programs, the one in particular,

1 and the name escapes me at the moment, but it
2 basically has all of the building codes by areas
3 of the country. They've expanded to most of the
4 master building codes that are produced by the
5 International Code Council, as well as regional,
6 and some even local amendments, that you can call
7 up and they will, then, have all those codes
8 available to you on their system.

9 Q So how do you use one of these programs
10 that you can review the building code?

11 A Well, first thing you would do is
12 subscribe to the service. And then you would
13 determine which building code was applicable. And
14 then you would insert that code that you want to
15 look for, and then you would just use that to do
16 your code analysis.

17 That code would take you through a
18 couple of steps. It would take you through a
19 process whereby you could put in the criteria for
20 the building and it would tell you, then, based on
21 this criteria, which sections of the code would be
22 most applicable. And then you could pull those

1 sections of the code up to verify and to do your
2 code research in that manner.

3 Q I see. And so, these programs, they
4 don't allow you to -- let me strike that question.

5 These programs are not like the
6 computer-aided design packages; is that correct?

7 A That's correct.

8 MR. HAGIZ: Objection to form.

9 Q And these programs, for reviewing the
10 building code, don't allow you to perform
11 modeling, 3D modeling, correct?

12 MR. HAGIZ: Objection to form.

13 A Correct.

14 Q In your next example, in paragraph 6,
15 of the type of software that you have experience
16 with, you mentioned construction estimating
17 software.

18 Do you see that?

19 A Yes.

20 Q Can you explain what you mean by
21 "construction estimating software"?

22 A Well, basically, we talked a moment ago

1 about the package that I'm using now, PlanSwift.

2 Q Any other software packages that fall
3 into this category of construction estimating
4 software?

5 A There was one in the '70s -- excuse me,
6 in the mid-'80s, when I was at Bill Strong, that
7 was brought in. They were just starting it up as
8 I was getting ready to leave, so I have some
9 rudimentary understanding of what they were trying
10 to do, but I did not work with that package.

11 Q In paragraph 6, you also mentioned --
12 you have a sentence where you mentioned that "I
13 have been using this software for decades."

14 Do you see that sentence? It's on
15 page 4.

16 A It's on page which there?

17 Q Page 4, third line page 4.

18 A Yes, sir, I do.

19 Q I was just wondering which software
20 you're referring to?

21 A I think that's just referring in
22 general. This type of software, I think is what I

1 meant to say.

2 Q Okay. So, software related to
3 construction modeling and estimation?

4 A Yes.

5 Q I see, okay.

6 And then, in the next sentence, you
7 also mentioned that you have experience
8 collaborating with software developers to create
9 new software in your field.

10 Do you see that?

11 A Yes.

12 Q In that sentence, are you referring to
13 Keystone?

14 A I am.

15 Q Your Keystone project? Were there any
16 other times that you collaborated with software
17 developers to create new software?

18 A No.

19 Q Let's stay on page 4. And in
20 Section 2, which is labeled "Level of Skill in the
21 Art."

22 A Yeah.

1 Q Do you see that you provide an opinion
2 regarding the level of skill in the art in
3 paragraph 7?

4 A I do.

5 Q Okay. And did you apply the level of
6 skill in the art that you proposed in paragraph 7
7 when you formed the opinions in your declaration?

8 A Yes.

9 Q How did you arrive at the level of
10 skill in the art that you provided in paragraph 7?

11 A I looked at my experience as an
12 architect and doing estimates for -- since the
13 early '80s, if not the late '70s, as the
14 experience needed to look at and analyze the
15 system.

16 Q Did you consider anything other than
17 your experience as an architect?

18 MR. HAGIZ: Objection to form.

19 A Well, my experience as an architect
20 and, then, as an estimator.

21 Q I'm sorry.

22 Did you consider anything -- in forming

1 the opinion that you provided in paragraph 7, did
2 you consider anything other than your experience
3 as an architect and as an estimator?

4 MR. HAGIZ: Objection to form.

5 A No.

6 Q Is the opinion as to the level of skill
7 in the art that you provided in paragraph 7 still
8 your opinion today?

9 MR. HAGIZ: Objection to form.

10 A It's still my opinion today, yes.

11 Q Are you aware that the board, in its
12 institution decision, adopted a level of skill
13 that is different than the one that you proposed
14 in paragraph 7?

15 A I am.

16 Q And do you agree with the board that
17 one of ordinary skill in the art would have had
18 computer-related experience?

19 A I don't know that I agree with that in
20 this instance, but...

21 Q Can you elaborate on that? Why don't
22 you agree with it?

1 A I don't see, in what I'm talking about,
2 in the way I've approached this, as a degree in
3 computer science or computer would have been of
4 any more benefit.

5 Q When you say "of any more benefit," any
6 more benefit in addition to what?

7 A I can't think of what, since I don't
8 have a degree in that, I can't imagine what the
9 benefit would be. I think that someone
10 experienced in estimating in architecture and
11 construction would be qualified to opine on this.

12 Q Can you turn to page 6 of your
13 declaration and the section "Claim Construction,"
14 Section 4?

15 A Yes.

16 Q Go ahead and review that for me.

17 A Yes, sir.

18 Q What is your understanding of patent
19 claim construction?

20 MR. HAGIZ: Objection to form.

21 A The construction would be how you're
22 going to interpret the document. And that

1 interpretation would be based off of whatever --
2 for a person, that we claim the standard of care
3 was for, would read it as customary, ordinary
4 language, normal meanings.

5 Q Okay. So it sounds like you understand
6 that in forming -- or I'm sorry, in performing
7 claim construction, interpreting patent claim
8 terms, they should be construed from the
9 perspective of a person of ordinary skill in the
10 art, correct?

11 A Correct.

12 Q In forming opinions in your
13 declaration -- I'm sorry, strike that.

14 Did you provide any express
15 constructions to any claim terms in your
16 declaration?

17 A There was no -- repeat that again.

18 Q Did you provide any express claim
19 constructions in your declaration?

20 A The -- there were no -- if what you're
21 asking is there's no individual prior art that
22 would satisfy a claim.

1 Q Let me ask that question a different
2 way.

3 Do you see the first sentence in
4 paragraph 15, you mention that it is your opinion
5 that express interpretations are not necessary?

6 A Oh. I didn't see anything in there
7 that claimed that there was a specific definition
8 within the specifications.

9 Q Okay. Thank you. I just wanted to
10 confirm.

11 A Yes.

12 Q And then, just to follow up on that,
13 just to make sure I understand.

14 So, in forming the opinions that you
15 provided in your declaration, you didn't apply any
16 specific definitions from this specification of
17 the '800 patent?

18 A That's correct.

19 Q Okay. Mr. Cummings, I'm going to
20 provide you with a copy of the '800 patent.

21 Do you have that or...

22 A I do not.

1 Q Okay. I'll give you a copy.

2 (Roofr Exhibit 1001 previously marked
3 for identification and retained by counsel.)

4 Q Okay. Mr. Cummings, I'm going to
5 introduce into the record U.S. Patent Number
6 10,648,800, which has been previously marked as
7 Exhibit 1001 in this proceeding.

8 Go ahead and take a minute to review
9 it.

10 A Yes, sir.

11 Q Can you confirm that the document I
12 just handed you is the '800 patent?

13 A Yes, sir.

14 Q Okay. And have you read the entire
15 '800 patent?

16 A I have.

17 Q Do you understand the '800 patent?

18 A Yes.

19 Q Have you read all of the claims of the
20 '800 patent?

21 A Yes.

22 Q And did you understand all of the

1 claims of the '800 patent?

2 A I believe so, yes.

3 Q And as we just discussed, I just want
4 to confirm again, you understand that the claims
5 of the patent are interpreted from the perspective
6 of person of ordinary skill in the art?

7 A Correct.

8 Q So when I ask you questions today about
9 your understanding of the claims, I'm asking you
10 to provide your opinion on how a person of
11 ordinary skill in the art would have understood
12 the claims; do you understand that?

13 A Yes.

14 Q Please turn to claim 1 in column 14,
15 take a minute to refresh.

16 A Yes, sir.

17 Q In column 14, starting around line 12,
18 do you see the claim element that begins
19 "providing a first computer input capable of
20 signaling a designation from a user," and so on?

21 A Yes, sir.

22 Q Okay. What is your understanding of

1 the term "first computer input"?

2 MR. HAGIZ: Objection to form.

3 A Well, the first computer input would be
4 the user inserting a location for the project.

5 Q And in line 20 in column 14, do you see
6 the limitation or claim element that begins
7 "responsive to"?

8 A Yes.

9 Q Okay. And you see that it mentions a
10 second computer input?

11 A Yes.

12 Q Do you see that?

13 What is your understanding of the term
14 "second computer input"?

15 MR. HAGIZ: Objection to form.

16 A That would be a confirmation from the
17 user accepting the relocation.

18 Q And the confirmation would be in
19 response to receiving the designation of the
20 building roof structure location, correct?

21 A Correct.

22 Q Take a look at claim 2, and let me know

1 when you're ready to discuss.

2 A Okay.

3 Q Before we do, let me just back up to
4 the "responsive to" element that we were talking
5 about.

6 In your opinion, what is providing the
7 second computer input?

8 MR. HAGIZ: Objection to form.

9 A Would be the user accepting it.

10 Q Claim 1 is for a process, correct?

11 A Yes.

12 Q Okay. And the process is implemented
13 on a computer; is that your understanding?

14 A Yes.

15 Q Okay. And so, is it fair to say that
16 the computer is providing the second computer
17 input?

18 MR. HAGIZ: Objection to form.

19 A You still have to have a user
20 acceptance for it to signal it.

21 Q Fair.

22 So the computer provides the second

1 input that is accepted by the user?

2 A Yes.

3 Q Okay. Let's go to claim 2.

4 A All right.

5 Q Do you see claim 2 mentions the term
6 "outline drawing"?

7 A Yes.

8 Q Do you understand what the term -- do
9 you understand the term outline drawing?

10 A I do.

11 Q What is your understanding of the term
12 outline drawing?

13 MR. HAGIZ: Objection to form.

14 A An outline drawing would be one that
15 defines the boundaries of a roof.

16 Q What do you mean by "the boundaries of
17 a roof"?

18 A It would be the -- I'll expand on that
19 a little bit. An outline drawing -- if you say
20 outline drawing, it's just the outer edges of the
21 building, or the roof.

22 Q Would it be all of the outer edges of

1 the roof?

2 A If it's an outline drawing, it would
3 have to include all of the outer edges.

4 Q Can you go to claim 8, which is around
5 line 49 in column 14.

6 A Uh-huh. Yes, sir.

7 Q Do you see that claim 8 recites the
8 term, or uses the term "nondimensional attribute"?

9 A Yes.

10 Q Do you understand what that term means?

11 A Yes.

12 Q What is your understanding?

13 MR. HAGIZ: Objection to form.

14 A It is a numeric value without any
15 reference to measurement.

16 Q Take a look at claim 9, please.

17 A Yes, sir.

18 Q Do you see that claim 9 uses the term
19 "nadir image"?

20 A I did.

21 Q Did I pronounce that correctly, it is
22 nadir?

1 A Yes, sir, that's the American -- it's
2 slightly different, but, yes, you're correct.

3 Q Do you understand what nadir image
4 means?

5 A I do.

6 Q What does it mean?

7 A It's an image taken from directly
8 above.

9 Q Are you familiar with the term
10 "perspective view"?

11 A I am.

12 Q Is that different than a nadir image?

13 A It is.

14 Q Can you explain how?

15 A Well, as I just mentioned, the nadir
16 image is taken from directly above. A perspective
17 view is one taken from an angle, and it can be at
18 varying angles from the ground. You can have a
19 perspective at ground level, you can have a
20 perspective in the air.

21 Q Okay. You can put the patent to the
22 side, and reference it, certainly, whenever you

1 feel like you need to.

2 But I would like to turn back to your
3 declaration. I would like to turn to page 23 of
4 your declaration. And take a look at paragraph
5 51.

6 And let me know when you're ready to
7 discuss.

8 And in fact, just, you can review
9 claim 1C. Let me know when you're ready to
10 discuss.

11 A All right.

12 Q So, in paragraph 51 of your
13 declaration, you state that a first image
14 corresponding to the first location is shown in
15 Figure 3.

16 Do you see that?

17 A Yes.

18 Q When you -- I'm assuming you mean
19 Figure 3 of Perishing '789, which is produced on
20 the next page, correct?

21 A Correct.

22 Q And in Figure 3 of Perishing '789, what

1 is the first image corresponding to the location
2 data?

3 MR. HAGIZ: Objection to form.

4 A The first location photograph that you
5 would receive from anyone would be a nadir image,
6 or the one on the left.

7 Q When you say "the one on the left," you
8 mean the one that's identified by 65?

9 A Excuse me. Yeah, 65.

10 Q Okay. And so, the image that's
11 represented by 65 -- item 65, is what you're
12 referring to as the first image?

13 A That would be the first one that came
14 up after you did the search.

15 Q And just to clarify. When you say "a
16 first image" in paragraph 51, you're referring to
17 item 65 and Figure 3 of Perishing '789?

18 A Correct.

19 Q Okay. Take a look at paragraph 52 of
20 your declaration.

21 A Yes.

22 Q Okay. And so, going back to -- in

1 paragraph 52, you reproduced some of the text from
2 Perishing '789 that describes Figure 3, correct?

3 A Yes.

4 Q Okay. So just looking at Figure 3
5 again, I just want to confirm what we're looking
6 at there. Item 54 in Figure 3 of Perishing '789
7 is an aerial image file; is that correct?

8 A Correct.

9 Q Okay. And the aerial image file 54
10 that's shown in Figure 3 includes the photographs
11 or the items 65 and 66, correct?

12 A That is correct.

13 Q Okay. And Perishing '789 explains that
14 item 65 is a top plan view?

15 A Correct.

16 Q I'm sorry. Let me rephrase that
17 question.

18 Item 65 is a top plan view of building
19 92, correct?

20 A Correct.

21 Q And item 66 is a perspective view of
22 the same building, 92, correct?

1 A That is correct.

2 Q Okay. And so, this aerial image file,
3 54, in Perishing '789, includes different views of
4 the same building, correct?

5 A That is correct.

6 Q Can you turn to paragraph 58, please.
7 And this paragraph is in your discussion of
8 claim 1D.

9 And, so, take a minute and refresh your
10 recollection, if you'd like. Just let me know
11 when you're ready.

12 A All right.

13 Q Before I ask you any questions about
14 that, can you just go back to your exhibit list on
15 page 6.

16 A VI?

17 Q Right.

18 I just want to confirm. I was talking
19 about Pershing '789, correct? We've been talking
20 about Pershing?

21 A Yes.

22 (Roofr Exhibit 1004 previously marked

1 for identification and retained by counsel.)

2 Q I just want to confirm that when I said
3 Pershing '789, you understood that I was referring
4 to Exhibit 1004, U.S. Patent Publication Number
5 2008/0262789?

6 A That's correct.

7 Q Okay. Can you go back to, flip back to
8 paragraph 58 of your declaration.

9 A Yes.

10 Q And here, I'm just looking for some
11 clarification.

12 Paragraph 58 spans pages 26 and 27, and
13 on page 27, you have a parentheses.

14 Do you see that?

15 A Yes.

16 Q And inside the parentheses states "The
17 first location data being the original location of
18 Pershing '789's marker before it was dragged and
19 dropped by the user."

20 Do you see that?

21 A Yes.

22 Q And here, I would just like some

1 clarification. What do you mean by "Pershing
2 789's marker"?

3 A That would be a myth because we're
4 talking about Abhyanker.

5 Q I just wanted to confirm.

6 Here is -- we're referring to -- it
7 should be Abhyanker's marker, correct?

8 A Yes, sir, you're correct.

9 Q Because Pershing '789 doesn't teach a
10 marker, correct?

11 A No, it does not.

12 Q Okay. Just wanted to clarify. That's
13 what I thought you meant.

14 Please turn to paragraph 64 of your
15 declaration, and let me know when you're finished.

16 A Which page?

17 Q 64, please.

18 And, again, this is related to -- which
19 is labeled claim 1F. So you can review that.

20 MR. HAGIZ: You said page 64. Do you
21 mean paragraph 64?

22 MR. BEMBEN: I'm sorry, yeah. I meant

1 paragraph 64. My apologies.

2 A Claim 1? Oh, you said --

3 Q I'm sorry.

4 A You said paragraph 64?

5 Q Yeah, paragraph 64.

6 I just mentioned that that's included
7 in the portion where you talk about -- which you
8 labeled claim 1F.

9 So if you want to review that section,
10 feel free to do that, and just let me know when
11 you're ready to discuss it.

12 A Okay.

13 (Roofr Exhibit 1005 previously marked
14 for identification and retained by counsel.)

15 Q And here, I would introduce Abhyanker.
16 So I'm going to hand you a copy of U.S. Patent
17 Publication Number 2007/0220174. This is what
18 we've been referring to as Abhyanker,
19 A-B-H-Y-A-N-K-E-R, and it has been previously
20 marked in this proceeding as Exhibit 1005.

21 A Excuse me.

22 Q Please take a minute and review the

1 document that I just handed you.

2 A Yes.

3 Q Okay. And can you confirm that that is
4 a copy of Abhyanker?

5 A Yes.

6 Q And in forming your opinions that you
7 provide in your declaration, did you read the
8 Abhyanker reference?

9 A I did.

10 Q And do you understand Abhyanker?

11 A I believe so, yes.

12 Q Okay. In paragraph 64 of your
13 declaration, the first sentence, you refer to the
14 additional verifications that are described in
15 Abhyanker's paragraph 53.

16 Do you see that?

17 A Yes.

18 Q Okay. Can you turn to paragraph 53 of
19 Abhyanker.

20 A All right.

21 Q And so, paragraph 53 includes two
22 sentences, correct?

1 A Are you referring to two specific
2 sentences?

3 Q I'm just saying paragraph 53 of
4 Abhyanker has two sentences.

5 Do you see that?

6 A Paragraph 53?

7 Q Paragraph 53, yes.

8 A Is this paragraph 53?

9 Q Yeah. The second sentence begins
10 "further additional verifications."

11 Do you see that?

12 A I see where you're going. I thought
13 you said the whole thing only had two sentences.

14 Q Yeah, I do mean that. I mean, can you
15 take a look at paragraph 53.

16 We're looking at the same paragraph,
17 correct, it has two sentences, one beginning
18 "moreover" and one beginning "further"?

19 A I understand. Yes, sir, you're
20 correct.

21 Q I'm just trying to get to the second
22 sentence discusses the additional verifications,

1 correct?

2 A That's correct.

3 Q Can you read that entire sentence into
4 the record for me?

5 A "Further, additional verifications may
6 be iteratively performed when previous movements
7 was made after the generation" of -- "generation
8 and/or placement of the marker using the algorithm
9 and when the previous marker movement is
10 associated with the polygon that is determined to
11 approximately center of the" roof -- "rooftop
12 rather than a street (e.g., based on polygonal
13 identification of the size of the rooftop being
14 substantially more square than that of the
15 street)."

16 Q So that's a very long sentence. Let's
17 try to unpack that a little bit.

18 Based on what you just read, that
19 sentence, would you agree with me that Abhyanker
20 explains that the additional verifications may be
21 iteratively performed when three conditions are
22 satisfied?

1 MR. HAGIZ: Objection to form.

2 A Yes, it talks about -- has been
3 previously -- yes, okay.

4 Q Okay. So the three conditions, the way
5 I'm reading this is that there are three "whens"
6 and the first one is "when any particular marker
7 has been previously moved."

8 Do you see that?

9 A Yes.

10 Q And the next condition is "when the
11 previous movement was made after the generation
12 and/or placement of the marker using the
13 algorithm"?

14 A Yes.

15 Q And the third condition is "when the
16 previous marker movement is associated with the
17 polygon that is determined to approximately center
18 on the rooftop rather than the street (e.g., based
19 on a polygonal identification of sides of the
20 rooftop being substantially more square than
21 of the street)"?

22 A Yes.

1 Q So turning back to your declaration in
2 paragraph 64, you quoted paragraph 53 of
3 Abhyanker, but you only included the first
4 condition, correct?

5 MR. HAGIZ: Objection to form.

6 A Yes.

7 Q Okay. Is there any reason why you
8 omitted the last two conditions?

9 A There's nothing that I see in here that
10 says that you have to satisfy all three.

11 Q Okay. So, well, let's go through that,
12 then. If we look at the sentence beginning
13 "further" in paragraph 53 of Abhyanker, as we
14 agreed, there are three conditions, correct?

15 A Yes.

16 Q Three whens.

17 And before the final when is the term
18 "and," correct?

19 A Yes.

20 Q And so, is it your understanding that
21 all three conditions need to be satisfied in order
22 for the additional verifications to be performed?

1 MR. HAGIZ: Objection to form.

2 A Reading the "and" would include the --
3 the other markers -- or the other whens.

4 Q So you would agree that all three
5 conditions that are recited in paragraph 53 of
6 Abhyanker would need to be performed in order for
7 the additional verification to be performed?

8 MR. HAGIZ: Objection to form.

9 A I would agree with that.

10 Q Okay. So let's take a look at the
11 first condition, which is when any particular
12 marker has been previously moved.

13 Do you see that one?

14 A Yes.

15 Q And so, if a particular marker had not
16 been previously moved, Abhyanker's additional
17 verifications would not be performed, correct?

18 A I disagree.

19 When the marker's placed in the
20 drawing, if it's placed in the wrong location,
21 it's never been moved before. So, yes, they can
22 change it if it's been moved. But if the original

1 marker that comes from the download, when you get
2 the image, and it shows an image of a marker, if
3 that's not in the right location, there is no
4 previous one to move.

5 Q Right. So the first -- that's right.

6 In that scenario, where the marker has
7 been placed by the computer, essentially, that's
8 what you said, right?

9 A Correct.

10 Q Correct.

11 And it has never been moved before,
12 correct?

13 A That's correct.

14 Q And in Abhyanker, it provides the
15 ability of a user to move the markers, correct.

16 A That's correct.

17 Q And so, my question is, with respect to
18 that first limitation, "when any particular marker
19 has been previously moved," we talked about that
20 condition, correct?

21 A Correct.

22 Q So that condition has to be satisfied

1 in order for the additional verifications to be
2 performed, correct?

3 A Again, I don't see the logic in that
4 because if the marker had never been moved,
5 originally, if the original marker was there, but
6 Abhyanker has to move it, there was no previous
7 marker -- there's no previously moved marker
8 unless that marker had been moved to the wrong
9 location anyway.

10 So, I don't understand the logic of it
11 has to be moved once before Abhyanker can take
12 over.

13 If the original marker, that comes from
14 the download by the computer, is in the wrong
15 location, it still needs to be moved, but it
16 doesn't have to be moved simply because the
17 marker -- that somebody moved a marker. It's in
18 the wrong location so that has been rectified.
19 And Abhyanker does that without satisfying --
20 without the previous marker being moved because
21 there was no marker moved in the original.

22 Q Okay. So just to kind of unpack that a

1 little bit.

2 So in the second sentence of paragraph
3 53, what we're talking about is the additional
4 verifications in Abhyanker, correct?

5 A Correct.

6 Q Not the drag-and-drop movement from the
7 user?

8 A Right.

9 Q And so, we're talking about the
10 additional verifications have three conditions
11 that need to be satisfied in order for them to be
12 performed, correct?

13 A I still think that's correct because
14 the initial -- the initial confirmation could be,
15 yes, we're in the right location.

16 Q I'm sorry. So what is --

17 A So, I -- my reading of this is that it
18 should look at the program that's downloaded. You
19 have an image with the marker on it that's
20 produced from the computer. You're going to
21 verify -- your first verification is, am I in the
22 right area, right? I mean, you want to modify

1 that. So the next modification for a marker
2 that's never been moved.

3 I don't see the --

4 Q Okay. So let me try to understand your
5 answer there. So you mentioned, in your answer,
6 initial confirmation. What are you referring to
7 as the "initial confirmation"?

8 A The initial confirmation is, when the
9 software's loaded down, it's going to pull up an
10 overall aerial image.

11 Q Uh-huh.

12 A And you're going to confirm that.

13 Q Confirm what?

14 A The image.

15 You've got the image up. You confirm
16 the address, the location, that it's right. But
17 the marker's wrong. So the marker's never been
18 moved, but you have to move it.

19 So, the second confirmation is to move
20 the marker to the right location. But if that
21 initial marker, that's put on by the computer when
22 the software starts it up, has never been moved,

1 it still has to be moved to the right location.

2 Q Okay. So let me back up just a little
3 bit.

4 So, when you're talking about the
5 marker being initially placed by the computer
6 software --

7 A Yes.

8 Q -- needs to be moved.

9 In Abhyanker, who is moving the marker
10 to the correct location?

11 A The Abhyanker program would move the
12 marker to the right location. The user would move
13 it.

14 Q The user would move it?

15 A Yes.

16 Q And how would the user move it?

17 A There's a drag-and-drop procedure in
18 the software that allows them to do that.

19 Q Okay. And that's discussed in the
20 first sentence of paragraph 53, right?

21 A Yes.

22 Q And then, the second sentence of

1 paragraph 53 of Abhyanker talks about additional
2 verifications, correct?

3 A Yes.

4 Q And those additional verifications, do
5 they occur after the drag and drop has been
6 performed?

7 MR. HAGIZ: Objection to form.

8 A The addition would be after the drag
9 and drop.

10 Q Okay. And as we had discussed before,
11 the additional verifications that Abhyanker
12 describes in paragraph 53 are performed when three
13 conditions are satisfied, correct?

14 MR. HAGIZ: Objection to form.

15 A It says that, but as we just talked
16 about, if there's no movement, if nothing was
17 moved prior to from the first -- where the
18 marker's placed in the street, and the additional
19 verification that he's got to drag and drop that
20 to the right location, then that's your additional
21 verification, it's the right location. That's how
22 I read it.

1 Q So the additional verification is the
2 drag and drop, is what you're saying?

3 MR. HAGIZ: Objection to form.

4 A Yes. That's what I'm saying.

5 MR. BEMBEN: We've been going for a
6 little over an hour. Would you like to take a
7 break?

8 THE WITNESS: Wow, time went fast.

9 MR. BEMBEN: Time did go fast. Why
10 don't we take a ten-minute break. Would that be
11 okay?

12 THE WITNESS: Certainly.

13 (Recess taken from 10:03 a.m. to
14 10:14 a.m.)

15 MR. BEMBEN: Back on the record.

16 BY MR. BEMBEN:

17 Q I'd like to understand your testimony
18 that we were talking about before the break. So
19 just to refresh your memory, we were talking about
20 paragraph 53 of Abhyanker and the additional
21 verifications, correct?

22 A That is correct.

1 Q And we were talking about the scenario
2 in which the -- Abhyanker's mapping software
3 initially places a marker that hasn't been used by
4 a user yet, correct?

5 A Correct.

6 Q Okay. And what you told me is that
7 Abhyanker provides the ability of the user to drag
8 and drop the marker to a new location?

9 A Yes.

10 Q And when that is performed for the
11 first time, in your opinion, that is what
12 Abhyanker's referring to as the additional
13 verifications in paragraph 53?

14 MR. HAGIZ: Objection to form.

15 Q Is that correct?

16 A That, and if it doesn't move again
17 would be the second verification. You've got
18 to -- as I read it and I understand it, is that
19 the first verification is what comes up on the
20 screen.

21 Q Let me just ask you about that.

22 So, you say "the first verification."

1 What are you referring to?

2 A When an image comes up on the screen,
3 you're verifying the location, address, and all of
4 the information on that. That, to me, is the
5 first variation.

6 Q Does Abhyanker discuss the first
7 verification in that context?

8 MR. HAGIZ: Objection to form.

9 Q And if it does, can you point me to
10 where?

11 A I'm not aware that he does it in that
12 form.

13 Q Okay. But to continue with your
14 hypothetical.

15 Now, the first verification is when the
16 marker is initially placed by the computer?

17 A Correct.

18 Q And then, when that marker, that hasn't
19 been moved before, is moved by a user --

20 A To the right location.

21 Q -- to the right location --

22 A He verifies it.

1 Q That's what you're --

2 A That's what --

3 Q That's what's referred to as the
4 additional verification?

5 A I'm sorry, I didn't mean to talk over
6 you.

7 That's what I'm referring to as the
8 second verification.

9 Q And when you say "second verification,"
10 you're referring to the additional verifications
11 in paragraph 53?

12 A Correct.

13 Q Okay. So that was for the -- the
14 hypothetical we just discussed was for the first
15 time a marker was moved in Abhyanker, correct?

16 A Correct.

17 Q Okay. Now, what about for -- I'd like
18 to discuss subsequent moves, subsequent times when
19 users move the markers. That's permissible in
20 Abhyanker, correct?

21 A Correct.

22 Q Okay. And so, in that scenario, where

1 a marker has already previously been moved by one
2 user, a second user can come in and move the
3 marker again, correct?

4 A The marker can be moved a second time,
5 yes.

6 Q Okay. And in that scenario, what are
7 the additional verifications that are described in
8 paragraph 53?

9 MR. HAGIZ: Objection to form.

10 A In that regard, I would suggest that
11 those are the three whens that we talked about
12 before.

13 Q But I guess my question is, what is the
14 actual additional verification, itself, in that
15 scenario? Is it the user dragging and dropping
16 it?

17 MR. HAGIZ: Objection to form.

18 A It would be the --

19 MR. HAGIZ: Sorry.

20 A It would be the user moving that to
21 another location.

22 Q Okay. So in your opinion, in paragraph

1 53 of Abhyanker, when Abhyanker refers to
2 "additional verifications," that's referring to
3 the user moving the marker again?

4 A That's my understanding of it.

5 Q Okay. But just to clarify, in
6 paragraph 53, Abhyanker doesn't explain that by
7 "additional verifications," he means moving the
8 marker, correct?

9 MR. HAGIZ: Objection to form.

10 A It doesn't say that.

11 Q And in paragraph 53 of Abhyanker,
12 Abhyanker doesn't provide any examples of what he
13 means by additional verifications, correct?

14 A There's none in there, no.

15 Q Okay. Can you turn to paragraph 11 of
16 Abhyanker. And this is where Abhyanker -- another
17 place in Abhyanker where he discusses additional
18 verifications. This is at the beginning. Take a
19 look at and let me know when you're ready to
20 discuss.

21 A All right.

22 Q Okay. So paragraph 11 of Abhyanker

1 provides a very similar description of additional
2 verifications as in paragraph 53 of Abhyanker,
3 which we just discussed, correct?

4 A Yes.

5 Q Okay. And same question. I just want
6 to clarify.

7 So, Abhyanker doesn't describe --
8 strike that question.

9 In paragraph 11 of Abhyanker, Abhyanker
10 doesn't provide any examples of additional
11 verifications, correct?

12 A It does not provide any examples.

13 Q Okay. Same thing. Can we go to
14 paragraph 104 of Abhyanker. Abhyanker, here, also
15 discusses the additional verifications.

16 A Which one again, sir?

17 Q 104 of Abhyanker, paragraph 104.

18 A Yes, sir.

19 Q Okay. And same question, in paragraph
20 104 of Abhyanker, he doesn't provide any examples
21 of what he means by "additional verifications,"
22 correct?

1 A There are no examples there.

2 Q In paragraph 10 of Abhyanker, Abhyanker
3 doesn't explain what he means by additional
4 verifications, correct?

5 A He explains that additional
6 verification may be performed when a particular
7 marker has been previously moved and when the
8 previous movement was made after the generation of
9 the placement of the marker using the algorithm.
10 That's the extent of it.

11 Q So he explains when the additional
12 verifications may be performed, correct?

13 A Correct.

14 Q But he doesn't explain what he means by
15 "additional verifications," correct?

16 A It does not. Just says "additional
17 verification may be."

18 Q Take a look at Figure 11C of Abhyanker.
19 And operation 1134.

20 A All right.

21 Q And just for housekeeping, I believe
22 Abhyanker refers to the steps in the figures as

1 operations. So I said "operation 1134."

2 Do you know what I was referring to?

3 A Yes, I did.

4 Q Do you want to refer to them as steps
5 or operations?

6 A It doesn't matter.

7 Q I'll just use Abhyanker's terms,
8 operations.

9 So operation 1134 refers to the
10 additional verifications, correct?

11 A It does.

12 Q It provides a very similar description
13 as to the previous paragraphs in Abhyanker that we
14 discussed, correct?

15 A Correct.

16 Q And in operation 1134, Abhyanker
17 doesn't provide any examples of additional
18 verifications, correct?

19 A It does not give examples, no.

20 Q And in operation 1134 of Abhyanker, he
21 doesn't explain what he means by additional
22 verifications either, correct?

1 A He does not.

2 Q Okay. Last time, last place.

3 Please turn to claim 10 in Abhyanker.
4 And I'll direct you to the second limitation that
5 begins "iteratively performing."

6 A All right.

7 Q And so, would you agree with me that
8 claim 10 of Abhyanker provides a description of
9 additional verifications?

10 A Yes. When a particular marker has been
11 previously moved.

12 Q Okay. And the description in claim 10
13 of the additional verifications is very similar to
14 the paragraphs and figure that we just discussed,
15 correct?

16 A That is correct.

17 Q And so same questions. In claim 10,
18 Abhyanker doesn't provide any examples of
19 additional verifications, correct?

20 A That is correct.

21 Q And in claim 10, Abhyanker doesn't
22 explain what he means by additional verifications,

1 correct?

2 A It does not say what he means by it.

3 Q Okay. A lot of screens going on.

4 A That's all right.

5 Q Sorry.

6 Can you go to paragraph 65 of your
7 declaration and, please, review that for me.

8 A All right.

9 Q Okay. And you might want to review
10 paragraph 64 as well, which refers to the marker
11 locking request of Abhyanker.

12 A All right.

13 Q Okay. And so, in paragraph 64 of your
14 declaration, you refer to the marker locking
15 request that Abhyanker discloses in paragraph 64,
16 right?

17 A Correct.

18 Q Do you see that?

19 And in paragraph 65 of your
20 declaration, correct me if I'm wrong, but I
21 believe it's your opinion that locking the
22 marker's position is an example of the claimed

1 second computer input capable of signaling user
2 acceptance of the building roof structure
3 location?

4 A Correct.

5 Q Okay.

6 Can you turn to paragraph 98 of
7 Abhyanker.

8 A All right.

9 Q Okay. So you see, in paragraph 98 of
10 Abhyanker, he provides a description of Figure
11 11A?

12 A Yes.

13 Q And can you turn to paragraph 100 of
14 Abhyanker. And you see, in the first sentence, he
15 states that Figure 11B is a continuation of the
16 process flow of 11 -- Figure 11A?

17 A Yes.

18 Q Okay. And then, in paragraph 102 of
19 Abhyanker, he mentions that, in the first
20 sentence, Figure 11C is a continuation of the
21 process flow of Figure 11B.

22 Do you see that?

1 A Yes.

2 Q So I'm just trying to get a sentence
3 for these figures.

4 So take a look at Figure 11A in
5 Abhyanker, which is on page 12.

6 A All right.

7 Q Okay. And so, Figure 11A, in
8 Abhyanker, begins with a start bubble, includes
9 one, two, three, four, five, six operations, and
10 then has an "A" with a circle on it.

11 Do you see that?

12 A Correct.

13 Q And then, if we look at Figure 11B, it
14 begins with an A, with a circle around it.

15 Do you see that?

16 A Yes, I do.

17 Q And is it your understanding that the A
18 with a circle is a continuation from Figure 11A?

19 A It is.

20 Q Okay. And so, then, in Figure 11B,
21 there's one, two, three, four, five, six
22 operations, and then a B with a circle around it,

1 correct?

2 A That's correct.

3 Q And if we move to Figure 11C, it begins
4 with a B with a circle around it, correct?

5 A Yes.

6 Q Okay. And is it your understanding
7 that the B with a circle around it, in Figure 11C,
8 is a continuation from Figure 11B?

9 A Yes, it is.

10 Q Okay. And then, Figure 11C has seven
11 operations, correct?

12 A Yes, it does.

13 Q So with that understanding of the
14 figures, let me direct you to operation 1110,
15 which is the operation in Figure 11A.

16 A All right.

17 Q Okay. And so, operation 1110 is
18 describing processing a marker locking request.

19 Do you see that?

20 A Yes.

21 Q Okay. And in the marker locking
22 request, that's referred to in operation 1110 of

1 Figure 11A, is the request that you referred to in
2 paragraph 64 and 65 of your declaration, correct?

3 MR. HAGIZ: Objection to form.

4 A Yes.

5 Q Okay. And if we could flip to Figure
6 11C of Abhyanker and go to operation 1134.

7 A Yes.

8 Q Operation 1134 of Abhyanker refers to
9 the additional verifications that we have
10 discussed at some length today, right?

11 MR. HAGIZ: Objection to form.

12 A That is correct.

13 Q Referring to operation 1134, does
14 operation 1134 refer to the marker locking request
15 in Abhyanker?

16 MR. HAGIZ: Objection to form.

17 A Well, by it being a continuation, it
18 would be in the process -- the steps, process
19 leading up to it.

20 Q Okay. But it doesn't -- operation
21 1134, in the text, doesn't refer to the marker
22 locking request, correct?

1 MR. HAGIZ: Objection to form.

2 A It does not.

3 Q Okay. Can you, please, turn to
4 paragraph -- strike that.

5 Can you, please, turn to page 28 of
6 your declaration.

7 A All right.

8 Q Okay. You see, in the middle of the
9 page there, Section 6, which is in bold, you
10 reproduce the language of claim element 1F?

11 A Yes.

12 Q So, in claim element 1F, the first part
13 of the language recites "responsive to receiving
14 the designation of the building roof structure
15 location."

16 Do you see that?

17 A Yes.

18 Q Okay. Right above what I just read to
19 you, that sentence above it, is, I believe, where
20 you address the designation of the building roof
21 structure.

22 Do you see that sentence?

1 A Yes.

2 Q The selection of a roof location using
3 the drag-and-drop feature is the claimed
4 designation of the building roof structure within
5 the first image.

6 Do you see that?

7 A Yes.

8 Q And by the drag-and-drop feature,
9 you're referring to Abhyanker's drag-and-drop
10 feature, correct?

11 A That's correct.

12 Q Okay. And then, looking back, again,
13 at the claim language 1F, that you have in your
14 declaration, the bolded language.

15 A Yes.

16 Q Do you see that claim limitation 1F
17 also recites providing a second computer input
18 capable of signaling user acceptance of the
19 building roof structure location within the first
20 image, correct?

21 A Yes.

22 Q Okay. And if you turn to paragraph 65

1 again, which we've already discussed in your
2 declaration, it's your opinion that locking the
3 marker position is the equivalent of the second
4 computer input capable of signaling user
5 acceptance of the building roof structure
6 location?

7 MR. HAGIZ: Objection to form.

8 A Correct.

9 Q Okay. And in -- and, so, we talked
10 about this a little bit before, but going back to
11 the language of element 1F.

12 "The second computer input is provided
13 in response to receiving the designations of the
14 building roof structure location."

15 A Yes.

16 Q Correct? You see that? Okay.

17 So can you point to me where Abhyanker
18 teaches that the ability to lock the marker
19 position is provided in response to using
20 Abhyanker's drag-and-drop feature?

21 MR. HAGIZ: Objection to form.

22 A Repeat your question for me again.

1 Q Sure. So, I think -- let me back up a
2 little bit. So I think we agreed that you're
3 interpreting Abhyanker's drag and drop as the
4 designation of the building roof structure
5 location, correct?

6 A Yes.

7 Q And you're interpreting Abhyanker's
8 locking request as the second computer input,
9 correct?

10 A Yes.

11 Q Okay. And I think we also agreed that
12 claim element 1F requires the second computer
13 input to be provided in response to receiving the
14 designation of the roof structure, correct?

15 A Correct.

16 Q And so, just applying your mapping of
17 Abhyanker to the claim language, the marker
18 locking request, which you've interpreted to be a
19 second input --

20 A Yes.

21 Q -- would need to be provided in
22 response to the drag-and-drop feature, correct?

1 A Correct.

2 Q Okay. Can you point me to where
3 Abhyanker provides that teaching?

4 MR. HAGIZ: Objection to form.

5 A I would say it's in the paragraph at
6 the bottom of page 28.

7 Q By paragraph at the bottom of page 28,
8 are you referring to the block quote --

9 A I'm sorry, yes, sir.

10 Q -- paragraph 11 of Abhyanker?

11 A It's the block quote at the end of
12 paragraph 62.

13 Q And that block quote at the end of
14 paragraph 62 is a portion of paragraph 11 of
15 Abhyanker, correct?

16 A Yes.

17 Q Okay. Take a look at Figure 9 of
18 Abhyanker.

19 So Figure 9 of Abhyanker provides -- or
20 it shows a graphical user interface of the
21 computer screen, right?

22 A Correct.

1 Q Do you see the lock pushpin option,
2 908, at the bottom right corner?

3 A I do.

4 Q Would you agree with me that the lock
5 pushpin option is a button that's on a graphical
6 user interface?

7 A In this diagram it is, yes.

8 Q Okay. And just to make sure I'm
9 understanding your opinion, is it your opinion
10 that this lock pushpin option 908 is equivalent to
11 the second computer input that's recited in
12 claim 1 of the '908 patent [sic]?

13 MR. HAGIZ: Objection to form.

14 MR. BEMBEN: I'm sorry; strike that.

15 Q Is it your opinion that the lock
16 pushpin option 908 shown in Figure 9 of Abhyanker
17 is the equivalent to the claimed second computer
18 input of the claim 1 of the '800 patent?

19 A Yes.

20 MR. HAGIZ: Objection to form.

21 A Yes.

22 MR. BEMBEN: Let's take a break because

1 I may be wrapping up. I would like to take a look
2 and see if I have any other questions.

3 THE WITNESS: All right.

4 MR. HAGIZ: Okay.

5 (Recess taken from 10:42 a.m. to
6 10:52 a.m.)

7 MR. BEMBEN: Back on the record.

8 BY MR. BEMBEN:

9 Q Welcome back.

10 A Thank you.

11 Q Just a few questions to wrap up.

12 Can you turn to page 23 of your
13 declaration, and the section referring to
14 claim 1C.

15 A All right, sir.

16 Q I just want to clarify. You relied on
17 the Pershing '789 reference when you addressed
18 element 1C, correct?

19 A Yes, I did.

20 Q And you did not rely on Abhyanker for
21 element 1C, correct?

22 A And this is in relationship to first

1 image?

2 Q Yeah, just claim element 1C. It's not
3 a trick question or anything. I want to make sure
4 that I'm --

5 A Well, they, first, talk about first
6 image. I think you have to use them in
7 combination. I mean, that's why they're combined.
8 They first talk about first images, they both
9 talk, you know, about locations. I think you
10 could logically -- I mean, Abhyanker -- or, excuse
11 me, Pershing is the primary, so, yes, I would say
12 that we used that one.

13 MR. BEMBEN: With that, I'm going to
14 close my cross-examination. I'll pass the witness
15 to you, Ron.

16 MR. HAGIZ: Let's take a short break.
17 I have some very light follow-up. So, like, a
18 two- or three-minute break.

19 MR. BEMBEN: Sure. I'll be here.

20 (Recess taken from 10:56 a.m. to
21 10:59 a.m.)

22

1 EXAMINATION BY COUNSEL FOR THE PETITIONER

2 BY MR. HAGIZ:

3 Q Good, it's still morning. Good
4 morning, Mr. Cummings. I did have a few follow-up
5 questions.

6 Do you remember, earlier today, you
7 were asked about the level of skill in the art
8 that the board adopted in its institution
9 decision?

10 A Yes.

11 Q Under the board's definition of the
12 level of skill in the art, does that change any of
13 the opinions that you offered on obviousness in
14 your declaration?

15 A No.

16 Q Is there anything in the '800 patent
17 that you believe you couldn't understand because
18 you don't have a computer science or computer
19 engineering, or similar degree?

20 A I don't believe so.

21 Q Is there anything in any of the prior
22 art that you discussed in your declaration that

1 you believe you couldn't understand because you
2 don't have a computer science, computer
3 engineering, or similar degree?

4 A I don't believe so.

5 Q At the beginning of the day today, do
6 you remember you were asked if there were any
7 errors or corrections in your declaration that
8 you're aware of?

9 A Yes.

10 Q And at the time, you said no; do you
11 remember that?

12 A I do.

13 Q Is that still the case right now?

14 A No, it's not.

15 Q So why didn't you mention any --
16 whatever correction or error you have in mind, why
17 didn't you answer it this morning?

18 A When I answered it this morning, I
19 mistakenly thought that the error there was in the
20 '538 patent.

21 Q And the '538 patent, that's a different
22 declaration?

1 A Yes, it is.

2 Q So what's the error or the correction
3 in your declaration, Exhibit 1003, in this
4 proceeding?

5 A If you turn to page -- of my
6 declaration, page 77, paragraph 159. And
7 Exhibit 109, the abstract, it says it's an example
8 of the nadir image. That's clearly incorrect.
9 That is a perspective or an ortho image, not a
10 nadir.

11 Q Do you mean Figure 36?

12 A I'm sorry, Figure 36 is not a nadir
13 image.

14 Q Was there a different figure that you
15 intended to refer to in this section?

16 A Yes, it was Figure 35, which is the
17 nadir image out of the patent.

18 MR. HAGIZ: That's all.

19 MR. BEMBEN: Just give me --

20 MR. HAGIZ: I know, I gave you some
21 extra work to do.

22 Do you want to take a five-minute

1 break, or go off the record for a couple minutes?

2 MR. BEMBEN: It shouldn't take that
3 long.

4 EXAMINATION BY COUNSEL FOR THE PATENT OWNER
5 BY MR. BEMBEN:

6 Q So just a few follow-up questions,
7 Mr. Cummings.

8 You just mentioned the '538 patent,
9 correct?

10 A Correct.

11 Q And you mentioned that that's in a
12 different declaration; is that correct?

13 A That's correct.

14 Q That's another inter partes review
15 proceeding related to a different patent, correct?

16 A That is correct.

17 Q Okay. And when you were asked by
18 counsel here about the mistake this morning and
19 you mentioned the '538 patent, why did you mention
20 the '538 patent?

21 A Because when I answered that there were
22 no corrections, I didn't see anything in my

1 declaration, I thought that this reference was in
2 the other declaration. That's why I didn't bring
3 it up as a correction.

4 Q I see.

5 So you believed that we were talking
6 about the '538 declaration at first?

7 A No, no, no. I knew we were talking
8 about the '800. When I said no, I thought this
9 correction was in that, that's why I answered no.

10 Q Understood.

11 And just to clarify, it's your opinion,
12 though, that Figure 35 of the Kennedy reference is
13 a nadir image?

14 A Would you show me that, please?

15 Q Yes.

16 MR. BEMBEN: I'm going to introduce
17 what was previously marked as Exhibit 1009 in this
18 proceeding. It is the Kennedy pre-grant
19 publication, U.S. 2009/0304227.

20 (Roofr Exhibit 1009 previously marked
21 for identification and retained by counsel.)

22 A Thank you.

1 That is correct.

2 Q Okay. Let me just re-ask my question.

3 A Okay.

4 Q It's your opinion that Figure 35 of
5 Kennedy is a nadir image, correct?

6 A That is correct.

7 MR. BEMBEN: No further questions.

8 Thank you.

9 THE WITNESS: Thank you.

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1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2
3 I, Judith E. Bellinger, Certified
4 Reporter and Notary Public within and for the
5 District of Columbia do hereby certify:
6 That Tony L. Cummings, the witness whose
7 deposition is hereinbefore set forth,
8 was duly sworn by me before the commencement of
9 such deposition and that such deposition was taken
10 before me and is a true record of the testimony
11 given by such witness.

12 I further certify that the adverse
13 party, Pictometry International Corp., was
14 represented by counsel at the deposition.

15 I further certify that the deposition
16 of Tony L. Cummings, occurred at the offices
17 of QUINN EMANUEL URQUHART & SULLIVAN, LLP, 1300 I
18 Street NW, Suite 900, Washington, DC 20005,
19 on Friday, November 17, 2023, commencing at
20 8:56 a.m. to 11:05 a.m..

21 I further certify the inspection,
22 reading and signing of said deposition was not

1 discussed on the record.

2 I further certify that I am not related
3 to any of the parties to this action by blood or
4 marriage, I am not employed by or an attorney to
5 any of the parties to this action, and that I am
6 in no way interested, financially or otherwise, in
7 the outcome of this matter.

8 IN WITNESS WHEREOF, I have hereunto set
9 my hand this 18th day of November, 2023.

10
11 My commission expires:
12 January 1, 2027

13
14 
15 _____

16 NOTARY PUBLIC IN AND FOR THE
17 DISTRICT OF COLUMBIA

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