

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 IPR2023-00436

12 U.S. Patent No. 9,183,538

13
14
15 Deposition of TONY L. CUMMINGS

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22 Reported by: Judith E. Bellinger, RPR, CRR

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2 offices of:

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

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E X H I B I T S

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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. SPECHT:

7 Q Good afternoon, Mr. Cummings.

8 A Good afternoon.

9 Q I had to think for a moment here.

10 Usually we start these in the morning.

11 My name is Mike Specht, here on behalf
12 of Pictometry.

13 Before we get started, a couple ground
14 rules. You're probably familiar with this, but
15 hopefully this helps us, through the day, go more
16 smoothly.

17 First one is, don't speak over each
18 other. Let me ask the question, I'll let you
19 answer it, try not to speak over one another.

20 Make sense?

21 A Yes.

22 Q It's important that you give verbal

1 answers, not hand gestures, not head nods, that
2 sort of a thing.

3 Make sense?

4 A Yes.

5 Q I will do my best to ask clear
6 questions. If they're not clear to you, please,
7 ask for clarification. Otherwise, I'll assume you
8 understood the question.

9 A Okay.

10 Q Fair enough?

11 Is there any reason today that you
12 cannot testify truthfully?

13 A No.

14 Q And are you under any medications that
15 may impair your ability to testify in any way?

16 A No.

17 Q We will attempt to take periodic
18 breaks. Let me know if you need one. The only
19 thing I would ask is that you don't break in the
20 middle of a question or middle of an answer.

21 And start off with first question.

22 Do you know why you're here?

1 A Yes.

2 Q Why is that?

3 A I'm here to testify on a declaration
4 that was produced about a year ago.

5 (Roofr Exhibit 1003 previously marked
6 for identification and retained by counsel.)

7 Q I'm going to hand you what is
8 Exhibit 1003 in the proceeding. It's entitled the
9 "Declaration of Tony Cummings in Support of
10 Petition for Inter Partes Review."

11 I assume this is the declaration you
12 just referred to?

13 A Yes -- yes, it is.

14 Q And you're familiar with this
15 declaration?

16 A Yes.

17 Q If you could turn to page 85.

18 A All right.

19 Q And there's an electronic signature
20 there, Tony Cummings.

21 Did you place your signature on the
22 document? Is that your signature?

1 A Yes.

2 Q When was the last time you reviewed
3 your declaration?

4 A Within the last couple of days.

5 Q And are there any corrections,
6 deletions, adjustments to the declaration you'd
7 like to make?

8 A Not that I recall, any corrections at
9 this time.

10 Q Did you write your declaration?

11 A Yep.

12 MR. HAGIZ: Objection to form.

13 A It was a collaboration between the
14 attorneys and myself.

15 Q Roughly, how much time did you spend
16 collaborating with the attorneys to prepare your
17 declaration?

18 A It was probably in the order of
19 three weeks, maybe.

20 Q So --

21 A Sometime around the first of December
22 of last year. And I think it was due by the first

1 of the year. So, like, the first week of
2 December. So about three weeks.

3 Q And, roughly, how many hours would you
4 say you spent on it, in that time window?

5 A I don't have any idea. I don't know
6 whether it was 60, 80 hours. All those days, but
7 they weren't all full.

8 Q Fair enough.

9 In your declaration, you referred to a
10 number of references, correct?

11 A Yes.

12 Q Did you identify those references?

13 A I did not.

14 Q How did you learn of those references?

15 A During the collaboration, part of the
16 process was, as I read what was here, was nothing
17 that I saw looked like it was new. There should
18 be something out there and, the attorneys, then,
19 went out and found things for me to review.

20 Q Okay. Prior to working on this matter,
21 had you heard of Roofr?

22 A I had not.

1 Q Had you heard of Pictometry?

2 A I had heard the name, but I'm not
3 familiar with them.

4 Q And what about, had you heard of Eagle
5 View?

6 A No.

7 Q And you mentioned you heard of
8 Pictometry.

9 Do you have any prior relationship with
10 Pictometry?

11 A No.

12 Q And I'm going to assume the answer to
13 that for Roofr is no?

14 A Correct.

15 Q And Eagle View?

16 A Correct.

17 Q And you currently don't have a
18 relationship with any of those parties, except
19 Roofr in this matter, right?

20 A That's correct.

21 Q All right. I had a couple questions
22 about the dec.

1 If you could turn to page -- or
2 paragraph 32 in your dec.

3 A All right.

4 Q And there, in that paragraph, you state
5 "Bailey explains that 'slope' and 'pitch' are
6 equivalents, both describing the 'degree of
7 incline' of a roof."

8 Do you see that sentence, the first
9 sentence?

10 A Yes, sir.

11 Q And then you cite to an Exhibit 1006.
12 Do you see that?

13 A Yes.

14 Q What is Exhibit 1006?

15 A In this case, it was omitted, according
16 to the exhibit list.

17 Q Yeah. That's my confusion as well.
18 I'm curious what you using to support that
19 statement. If you could clarify.

20 A If we're talking about Bailey and the
21 exhibit was to Bailey, then it should be, I think
22 it's 110.

1 I don't remember what 106 is. I don't
2 think it was -- I think it was just a reference to
3 terminology.

4 If we're referencing Bailey, it's got
5 to be the Bailey exhibit.

6 Q All right. That would be 1010. Okay.
7 We can look later.

8 Similar question. If you turn to, on
9 your dec, paragraph 76.

10 A Paragraph 76. I'm sorry.

11 Q Paragraph 76.

12 A Yes.

13 Q Again, there is a statement there, the
14 second sentence of that paragraph, "A POSITA would
15 understand the plain meaning of an 'oblique image'
16 is one captured at an angle."

17 You cite to Exhibit 1007.

18 What did you intend to use for support
19 there? Let me restate that.

20 What is Exhibit 1007?

21 A Again, 1007 is omitted on the index.

22 Q Do you have a recollection what you

1 intended to support that statement?

2 A Looks like the reference should have
3 been to 1008, Pictometry.

4 Q Okay.

5 So what did you do to prepare for
6 today's deposition?

7 A I read through the depositions, the
8 exhibits. I had conversations with attorneys.

9 Q When you say you "read through the
10 depositions," what --

11 A Excuse me, the declarations. I
12 apologize.

13 Q All right. And about how many hours
14 would you say you spent preparing for today's
15 deposition? This is excluding the time you spent
16 preparing your declaration.

17 A Right. I'm going to guess it's
18 probably, maybe a hundred hours. And all that --
19 that would be -- if you're talking about including
20 the time I discussed things with the attorney
21 throughout the process?

22 Q I'm just talking about preparing for

1 the deposition, not the time you spent preparing
2 your declaration.

3 A Oh, okay. Probably in the neighborhood
4 of a hundred hours, maybe.

5 Q Okay. And you mentioned you met with
6 the attorneys.

7 Did you meet with anyone other than
8 attorneys?

9 A No, I did not.

10 Q Did you discuss your preparation for
11 the deposition with anyone other than the
12 attorneys?

13 A No, I did not.

14 Q And you mentioned you reviewed the
15 declaration, correct?

16 A That is correct.

17 Q And what other documents did you
18 review?

19 A The exhibits and the institution's
20 opinions.

21 Q So when you're referring to "exhibits,"
22 this is the exhibit list on page VI of your

1 declaration?

2 A That is correct.

3 Q And then when you say "the institution"
4 you're talking about the institution decision; is
5 that correct?

6 A That's correct.

7 Q Okay. Did you review our patent owner
8 preliminary response?

9 A I was just going to say that. Yes, I
10 did. There was a packet that had the responses of
11 both sides in that packet.

12 Q I'd like to turn back to your
13 declaration, and now turning to paragraph 5.

14 A Paragraph 5. Yes, sir.

15 Q In paragraph 5, you state "The vast
16 majority of these projects were new construction
17 which required costs related to new roofing on
18 both commercial and residential."

19 Can you give some examples of the work
20 you're referring to?

21 A Well, both in my own practice and as an
22 estimator working for contractors, most of my

1 experience with the architectural firm was on new
2 construction. With the contractors, that was all
3 renovations. That was through the Department of
4 Defense work. We were doing housing, primarily,
5 on military bases.

6 Q And, so, in terms of the housing on the
7 existing structures, how did that work relate to
8 roof estimation?

9 A Well, that, depending on the project we
10 were working on, those were whole-house repairs,
11 in some cases, where it was all of the exterior
12 sidings, roofing, as well as interior work.

13 Q And how did you apply roof estimation
14 techniques to those situations?

15 A Well, we did both site investigations
16 to determine what was on site. We worked off of
17 the building blueprints that were prepared by a
18 third party. Those were then taken off, the
19 material takeoffs were done, figuring quantities.
20 And then those quantities were applied to material
21 labor rates. Those material labor rates were,
22 then, extended on down to a final quote.

1 Q And when you say "site investigation,"
2 what did the site investigations entail?

3 A Most of the time, they were just a
4 visual from the ground. There may have been an
5 occasion or two that we did get up, but it was
6 rare, but we did get up on site to do some
7 evaluation of the roofing material.

8 Q And did that include roof measurements?

9 A We didn't do any measurements from that
10 because we were working off -- we may have done a
11 couple, just to quantify, just to double-check the
12 drawings, a quality control check sort of thing.

13 Q When you refer to "drawings," these are
14 architectural drawings for the property?

15 A That's correct.

16 Q And what time frame were you doing that
17 work?

18 A That was from 1981 to 1987.

19 Q So, if we, now, turn to your CV,
20 page 87, which is attached to the declaration.

21 Are you there?

22 A Yes, ma'am -- yes, sir.

1 Q You refer to various work experience
2 you have, including a company called DANAC?

3 A DANAC.

4 Q DANAC, Inc.?

5 A Yes.

6 Q Can you describe what you did for them?

7 A I started out as an estimator for that
8 firm in 1981. I later became head of estimating
9 over five or six other estimators. This firm
10 specialized in military construction, and the vast
11 majority of that work was on base housing.

12 Q Okay. And so, when you say, I don't
13 know, about midway through the paragraph,
14 describing that work experience, you said
15 "Mr. Cummings was one of the two estimators
16 responsible for reviewing contract documents,
17 suitability for construction, evaluation errors,
18 and ambiguities in the drawings and preparing cost
19 estimates for competitive bidding."

20 Did that include making roof
21 estimations?

22 A It did.

1 Q How did you go about making those roof
2 estimations?

3 A As we discussed before, we would take
4 the drawings, and if we felt it was warranted, we
5 would go to the site and do preliminary
6 evaluations to confirm the drawings against the
7 site condition. But then the materials were taken
8 off in a similar fashion. We would measure, do
9 the takeoffs, apply the material and labor to
10 them, bid the job.

11 Q Okay. And in doing that work, did you
12 use any aerial images to estimate the roof
13 measurements?

14 A We did not.

15 Q Okay. Looking at the other list of --
16 you go through four or five jobs here. Do any of
17 those other ones relate to roof estimation?

18 A Bill Strong Enterprises.

19 Q Okay. And how does that relate to roof
20 estimations?

21 A Bill Strong Enterprises was actually a
22 competitor of DANAC. When DANAC went out of

1 business, they were looking for an estimator.

2 Q And similar type of work to what you
3 did at DANAC?

4 A Yes.

5 Q What time was the work?

6 A That was '86, '87 time frame to '88, in
7 that range.

8 Q Okay. And did you use aerial images at
9 all, for roof estimations purposes, while working
10 at Bill Strong Enterprises?

11 A No.

12 Q Any other of those work experiences
13 where you did roof estimation?

14 A No. Other than what I may have done as
15 part of my architectural practice. That was more
16 of a -- rather than for bidding, it was for a
17 magnitude of cost estimate for an owner. The same
18 process applied.

19 Q Okay.

20 A But they weren't for competitive
21 bidding.

22 Q And in what time frame did you do that

1 work?

2 A That was from '84 to whatever time I
3 started Bill Strong. '86, '87.

4 Q Okay. So, if I remember correctly, you
5 indicated that you worked at Bill Strong
6 Enterprises until 1988, correct?

7 A Yes.

8 Q And then after 1988, did you do any
9 work in the roof estimation area?

10 A I did not. Let me back up for a
11 second.

12 I have prepared, over the course, from
13 basically 1994, I've been on projects where I've
14 acted as an expert in providing cost estimates in
15 litigation cases.

16 Q Okay. Your CV also identifies
17 lectures, seminars, and publications.

18 Do you see that?

19 A Yes.

20 Q Do any of those lectures, seminars, or
21 publications listed there relate to roof
22 estimation?

1 A No, they don't.

2 Q And have you ever -- I mean, have you
3 ever used aerial images for roof estimation
4 purposes?

5 MR. HAGIZ: Objection to form.

6 A I've used them not for the estimating
7 portion, I've used aerials in order to get an
8 evaluation of what we're trying to decide. In
9 some of these litigation cases, there's a claim on
10 a roof between a contractor. So used it in terms
11 of just general knowledge of what the roof is
12 like, things of that nature.

13 Q Okay. Turning back to the body of the
14 declaration, paragraph 5.

15 A Okay.

16 Q Looks like you have paragraph 7.

17 A Okay.

18 Q This is a section titled "Level of
19 Skill in the Art."

20 Do you see that?

21 A Yes, I do.

22 Q Did you determine what the level of

1 skill in the art would be?

2 A Yeah. I told the attorneys what I
3 thought would be applicable.

4 Q And what was your basis for coming up
5 with this level of skill in the art?

6 A Well, based on my experience in doing
7 estimating. The question was, you know, I gave
8 them information on basic estimating principles,
9 techniques, history; things of that nature.

10 Q Okay. Anything else?

11 A There may have been. I don't recall
12 any specific.

13 Q You also, in the first sentence there,
14 you say "in my opinion, a person of ordinary skill
15 in the art at the time of the alleged invention."

16 What is the reference you're using for
17 time of the alleged invention, what is the date?

18 A What is the date?

19 Q Yeah. I mean, what do you think it is
20 basing it on here?

21 A The date is -- I can't -- you can't go
22 back now. You have to be working in the area and

1 have knowledge at the time that that was
2 happening. You can't have it now and look back on
3 it.

4 So it's at the time that the invention
5 was done, which is like we do on the other
6 forensic evaluations.

7 Q And what is that time, in your view,
8 what is that?

9 A For the date?

10 Q Yeah. Just want to make sure we're on
11 the same page.

12 A I get the two confused. Let me tell
13 you because I've got it here. I believe it's
14 2012.

15 March 19th, 2012.

16 Q And how did you come to that date?

17 A That was the date given to me that
18 that's what they were looking for.

19 Q Okay. On that date -- actually, let me
20 go back.

21 Looking at the language there, you
22 indicate, when I say "there," in paragraph 7, that

1 a person of ordinary skill in the art at the time
2 of the alleged invention would have a bachelor's
3 degree in architecture or an equivalent.

4 What would be an example of an
5 equivalent?

6 A Could be an engineering degree. It
7 could be, like, a professional degree dealing with
8 construction. Could be a contractor.

9 Q So when you say "a professional"?

10 A Well, a licensed engineer, or licensed
11 architect.

12 Q A PE?

13 A A PE.

14 Q So what is your basis for saying those
15 are equivalent, an engineer, having an engineering
16 degree is equivalent to a degree in architecture?

17 A Because we're dealing with
18 construction. In that regard, these people are
19 dealing with construction. Certainly, there are
20 civil -- excuse me, structural engineers that
21 would deal with this sort of application, as well
22 as contractors.

1 Q So when you say "contractors," what
2 kind of contractors are you referring to?

3 A They could be a general that does
4 roofing or could be a specialty roofing
5 contractor. As long as they're doing renovation
6 or construction that entails roofing, at least in
7 part of their application. A siding contractor
8 would not be applicable.

9 Q So that's separate and apart from the
10 type of degree they have, though?

11 A Absolutely. Yes, sir.

12 Q I guess, what I was looking for, you
13 say a bachelor's degree in architecture or an
14 equivalent. I was trying to understand what
15 equivalent degrees --

16 A I'm sorry. Yeah, a structural
17 engineer, something of that nature, that deals
18 with roof construction.

19 Q All right. And I assume a civil
20 engineer is what you're referring to?

21 A They could. But civil engineering
22 deals primarily with earthwork and utilities.

1 Q Okay. So, at the time of the
2 invention, would you consider yourself a -- would
3 you have considered yourself a person of ordinary
4 skill in the art?

5 A Yes, sir.

6 Q And that's because why?

7 A Because of the six to eight years I was
8 doing estimating and my professional degree, the
9 work I've done, both in design, review of
10 buildings and roofs.

11 Q And at that time, the time of
12 invention, were you working with other individuals
13 that you would consider persons of ordinary skill
14 in the art?

15 A Certainly.

16 Q Do you know when aerial images of
17 rooftops were first used to estimate roofing
18 measurements?

19 MR. HAGIZ: Objection to form.

20 A I don't know the exact date, but I know
21 that there are some of the newer ones that were, I
22 want to say, in the late 1990s. We had aerial

1 imaging we used, a firm I worked at, before,
2 that's listed in here, we used aerial imaging for
3 site planning. So I'm familiar with that sort of
4 application of it.

5 Q When you say "site planning," what do
6 you mean by that?

7 A They were land planners. So they would
8 do aerials that would then -- we should measure
9 and draw off of those aerial images to do basic
10 layouts for land planning, subdivisions, and
11 things of that nature.

12 Q So that wasn't used for roof
13 measurements, though?

14 A No, that wasn't for roof measurements.
15 I was talking about aerials.

16 Q So, just to make sure my question was
17 clear, was it looking, specifically, at aerial
18 images used for rooftop measurements?

19 A I don't remember the exact date. I
20 would imagine it was probably in the early 200s --
21 2000s, excuse me.

22 Q And when you say you'd imagine it was

1 in that time frame, what is the basis for --

2 A There is no basis. I'm saying I don't
3 know for sure, but that seems to be when things
4 started popping in the industry, that I can
5 remember.

6 Q So, going back to your CV. We walked
7 through, at the end of your declaration, other
8 work experiences that you've listed there. Which
9 of those occurred before the filing date of the
10 '538 patent?

11 A That would -- well, all the ones on the
12 second page, because I'm using the -- I'm using
13 the March 19, 2012. So the second page goes from,
14 basically, 1981 up through '89.

15 Q And when you say "the second page" --

16 A I'm sorry, the second -- second page of
17 my CV.

18 Q So it's High Point Schaer?

19 A Schaer.

20 Q To DANAC?

21 A That's correct.

22 Q All right.

1 A And then, my firm was formed in 1990.
2 So the first, you know, the ten years.

3 Q And currently --

4 A Well, excuse me. Not ten years.

5 Q 20?

6 A 20 years. It slips away.

7 Q And have you had any other jobs that
8 aren't listed here on your CV?

9 A No.

10 Q All right.

11 A Let me back up. I did not list the
12 ones before DANAC. That was -- I did mention,
13 briefly, I worked for a firm that did land
14 planning. That's not on here. And another small
15 architectural firm. They were part of my
16 internship period.

17 Q Okay. Fair enough.

18 (Roofr Exhibit 1001 previously marked
19 for identification and retained by counsel.)

20 Q I am handing you what is marked as
21 Roofr Exhibit 1001.

22 What is this?

1 A This is the patent for '538.

2 Q And I assume you've seen this before?

3 A I have.

4 Q And you reviewed the '538 patent?

5 A I have.

6 Q Do you understand the '538 patent?

7 A I believe so.

8 Q Would you say you're very familiar with
9 the '538 patent?

10 A I guess that depends on your
11 terminology for "very," but I'm familiar with it.

12 Q All right. When was the last time you
13 reviewed the '538 patent?

14 A Probably yesterday, just to glance
15 through it.

16 Q Okay. And I'm going to bounce back and
17 forth between the patent and your dec.

18 A Okay.

19 Q Now turning back to your dec, paragraph
20 21.

21 A Okay.

22 Q You make a statement there the examiner

1 gave his reason for allowances that prior art --
2 I'm sorry, I'm reading from the wrong paragraph.
3 Paragraph 21, you make the statement "The examiner
4 ultimately issued the claims based on the
5 perceived lack of disclosures finding the
6 predominant pitch of a roof in the prior art"; is
7 that correct?

8 A That's correct.

9 Q So what is your basis for that
10 statement?

11 A That basis was off of the -- I think it
12 was out of the -- one of the documents I read from
13 the institution. I can't remember which one it
14 was. There was something in there that came to
15 that. I don't remember. It's something -- one of
16 those documents in that packet that had the
17 responses and the -- I thought it was in there.

18 Q Sir, when you're saying "packet," what
19 do you mean by packet?

20 A I'm sorry. That was the one we talked
21 about that had the institution's decisions and
22 both sides' responses.

1 Q So this is a packet that the attorneys
2 provided with documents?

3 A Yeah, yeah, right.

4 Q Okay. Are you familiar with the file
5 history of the '538 patent?

6 A Briefly.

7 Q Okay. So we would say we're familiar
8 with that?

9 A Yes.

10 Q Okay. If I can draw your attention to
11 the previous paragraph in your dec, why don't you
12 take a moment to read paragraph 20.

13 A All right.

14 Q So, after reviewing that paragraph,
15 what do you believe is the basis for the examiner
16 allowing the '538 patent?

17 MR. HAGIZ: Objection to form.

18 A That, again, comes from the documents
19 in that -- I don't know how you want to refer to
20 that packet.

21 Q Okay.

22 A It came from that information. This

1 could have come from the attorney. I don't know,
2 as far as --

3 Q So in paragraph 20, it refers to a
4 notice of allowance.

5 A Yes.

6 Q Do you have an understanding what a
7 notice of allowance is?

8 MR. HAGIZ: Objection to form.

9 A I don't offhand. No.

10 Q So in that paragraph, you quote the
11 examiner's statement in the notice of allowance as
12 saying "finding that the prior art did not
13 disclose determining an estimated roofing area of
14 the roof based upon the predominant pitch and the
15 footnote of the roof."

16 A That's correct.

17 Q And do you understand that's a
18 statement made by the examiner?

19 A That's my understanding.

20 Q And that statement comes from the
21 examiner's notice of allowance.

22 A Yes. That's my understanding.

1 Q And so, then, how do you reconcile what
2 you have in paragraph 20 with your statement in
3 paragraph 21?

4 MR. HAGIZ: Objection to form.

5 Q Shall I clarify?

6 A In paragraph 20, it says the examiner
7 issued a notice of allowance, which he was going
8 to allow the claim to -- or allow the patent
9 holders to move forward. And that allowance was
10 based on paragraph 20.

11 Q Okay. So, then, in -- but in paragraph
12 20, the examiner issued -- you quote the examiner
13 saying that he issued a notice of allowance,
14 finding that the prior art did not disclose and
15 "determining an estimated roofing area of the roof
16 based on the predominant pitch and the footnote of
17 the roof."

18 A Yes.

19 Q So, would that not suggest to you that
20 the reason the examiner allowed the case was based
21 on a determination that an estimated roofing area
22 of the roof based on the predominant pitch and the

1 footprint of the roof was not disclosed in the
2 prior art?

3 MR. HAGIZ: Objection to form.

4 A Yes.

5 Q So, then, how do you reconcile that
6 with your statement in the following paragraph
7 that "The examiner ultimately issued the claims
8 based on the perceived lack of disclosures and
9 finding of the predominant pitch of a roof in the
10 prior art"?

11 MR. HAGIZ: Objection to form.

12 A As we sit here today, I can't, without
13 going back and seeing how we got to there. I
14 can't, today.

15 Q Okay. So in your opinion, what is the
16 subject matter of the '538 patent?

17 MR. HAGIZ: Objection to form.

18 A The '538 patent deals with the --
19 determining the predominant pitch for a roof and,
20 also, it deals with the first part of it.

21 The first part of it has to do with the
22 memory system. Yes, it has to do with the REGAL

1 memory systems and the predominant pitch.

2 Q So if we turn to paragraph 16 of your
3 declaration. The first sentence states "The '538
4 patent is generally directed towards a system and
5 process for roof measurement using an image of a
6 roof."

7 Do you see that?

8 A I apologize, which paragraph again?

9 Q Sorry. Paragraph 16 of your
10 declaration.

11 A Okay. I'm sorry, yep.

12 Q And just to repeat, the first sentence
13 of that paragraph states that "The '538 patent is
14 generally directed towards a system and process
15 for roof measurement using an image of a roof."

16 A Yes.

17 Q Do you see that?

18 Do you think that's the subject matter
19 of the '538 patent?

20 A Yes, I was getting a little more
21 specific on my answer, so, yeah, you're correct.

22 Q Okay. And so, do you consider yourself

1 a person of ordinary skill in the art in the
2 subject matter of systems and processes for roof
3 measurement using an image of a roof?

4 MR. HAGIZ: Objection to form.

5 A From a user standpoint, yes.

6 Q What do you mean by from a user
7 perspective?

8 A Well, I mean, I work with computers.
9 Is it the process? Let me ask you this: Could
10 you restate your question?

11 Q So you make the comment here that the
12 patent is generally directed towards a system and
13 process for roof measurement using an image of the
14 roof, correct?

15 A Yes.

16 Q So do you consider yourself a person of
17 ordinary skill in the art in the subject matter of
18 systems and processes for roof measurement using
19 an image of the roof?

20 MR. HAGIZ: Objection to form.

21 A I would say so.

22 Q And why would you say that?

1 A Well, the identification of the roof is
2 no different than the identifications we use now
3 for -- or we have used then, I should say, when we
4 look up the links for other applications. I mean,
5 that part of it, we've been using for as long as
6 Google Maps and others have been available, in
7 terms of the location of roof.

8 Q So why are you referring to the
9 location of the roof? How is that relevant here?

10 A I may be misunderstanding your
11 question, I apologize.

12 Q So I'm just looking, again, at that
13 first sentence of your declaration, paragraph 16,
14 and --

15 A Well -- okay.

16 Q And you characterized the patent as
17 being directed towards a system and process for
18 roof measurement using an image of a roof.

19 A Okay. The basic premise of that
20 sentence, now that I've read it, there's -- the
21 process of measuring the roof from an image is
22 really no different than the process we've -- of

1 measuring a roof from a plan. You go through the
2 same process. One shows you a photograph,
3 basically, one is a drawing.

4 The process of what happens after that
5 is basically the same, in terms of what you're
6 doing, in terms of takeoff and calculations.

7 Q So is it your view that whether you're
8 using a blueprint or an aerial image to make roof
9 estimations is the same?

10 A Yes. The process is.

11 Q And what do you mean by "the process
12 is"?

13 A Well, as I just explained, you start
14 off with an aerial image, a nadir image or a
15 top-down image.

16 Q Uh-huh.

17 A No different than a blueprint. So two
18 additional -- it's a two-dimensional drawing or
19 photograph. It's top down. All you can see is
20 our outlines and lines.

21 Q Okay.

22 A The calculations for that, whether

1 you're doing it manually off of the drawings,
2 around the perimeters and the sides, using the
3 plans to get the elevations, to get the pitch of
4 the roof, those things, that process that you go
5 through doesn't matter, in my mind, whether it's
6 on the computer or the -- manually. That process
7 is the same.

8 Q Okay. So going back to the question
9 about, do you consider yourself a person of
10 ordinary skill in the subject matter of the '538
11 patent?

12 A Yes.

13 Q So, yes, you do?

14 A Yes, I do.

15 Q And is your answer to that question
16 based on the fact that you have lots of experience
17 working with blueprints?

18 MR. HAGIZ: Objection to form.

19 A Well, because of the process of how you
20 do the estimate. The calculations for the
21 outside, the pitch angles, all of that's the same,
22 whether or not it's on the computer or manually.

1 Q And you have a lot of experience doing
2 that in the context of working with blueprints,
3 correct?

4 A That's correct.

5 Q Okay. And so, the related question, do
6 you consider yourself an expert in the subject
7 matter of the '538 patent?

8 MR. HAGIZ: Objection to form.

9 A As it goes to the process of
10 calculating the roof areas for an estimate or
11 report, yes.

12 Q Okay. And if at any point you need a
13 break, let me know. I generally try to break
14 every hour just to take a breather.

15 A That's fine.

16 Q I actually forgot what time we started.

17 (Roofr Exhibit 1010 previously marked
18 for identification and retained by counsel.)

19 Q I'm going to hand you what is now
20 labeled Roofr Exhibit 1010.

21 And have you seen this document before?

22 A I have.

1 Q And what is this document?

2 A This is a document prepared by David
3 Bailey to the Corps of Engineers for procedures,
4 inspections for, what he termed, "steep-slope
5 asphalt shingles."

6 Q And prior to this matter, had you seen
7 this Bailey reference before?

8 A I had not.

9 Q And how did you learn about the Bailey
10 reference?

11 A This was part of the packet when we
12 discussed earlier on about finding documents that
13 was produced to me.

14 Q That was the packet provided by the
15 attorneys, right?

16 A Yes, sir.

17 Q Okay.

18 (Cummings Exhibit 1 marked for
19 identification and attached to the transcript.)

20 Q I'm handing you a document. Let me
21 pull it up here so I have it too.

22 Have you seen this document before?

1 A I have not.

2 Q Do you know what -- what is this
3 document?

4 A It appears to be a copy of what's
5 titled a "Residential Asphalt Roof Manual," by the
6 Asphalt Roof Manufacturers Association.

7 Q You, correct me if I'm wrong, just said
8 you had not seen it before?

9 A I have not seen this document before.

10 Q Okay. So, clearly, you have not used
11 this manual before?

12 A I have not, no.

13 Q Okay. Turning back to your declaration
14 for a minute, and paragraph 30.

15 A All right.

16 Q In the middle of that first paragraph,
17 you make a statement "Accordingly, Bailey
18 qualifies as prior art to the '538 patent under
19 pre-AIA Section 102(b)."

20 What is your basis for your opinion for
21 that statement?

22 MR. HAGIZ: Objection to form.

1 A Well, as to the date, it was definitely
2 before the date of the patent. As to the legal
3 citing, I can't attest to that.

4 Q Okay. Do you understand what
5 Section 102(b) is?

6 MR. HAGIZ: Objection to form.

7 A Off the top of my head, I do not.

8 Q Okay. Turn to paragraph 35 of your
9 declaration.

10 A All right.

11 Q Can you read the first sentence of that
12 paragraph for the record?

13 A "Bailey explains that finding the
14 predominant pitch (i.e. pitch) for a 'roof
15 section' means any roof area of 10,000 square feet
16 or less- for example, Bailey teaches that all
17 exposed roof areas on that building shown in
18 Figure 2 would comprise one roof section."

19 Q So what do you mean by that sentence?

20 MR. HAGIZ: Objection to form.

21 A What I understood Bailey to mean in his
22 documents is that you have a multi-pitched roof,

1 more than -- a normal roof would have,
2 traditionally, would have two planes to it, gabled
3 roof, front and a back. You could have one that
4 has roofs going at 90 degrees to the main roof and
5 dormers and different pitches. Multiple planes.

6 Q Uh-huh.

7 A So what Bailey was saying is, is that
8 we're going to look at anything less than 10,000
9 square feet, and by his reasoning for his paper,
10 and we'll look at that as one roof section. A
11 roof section is one plane of a roof. So if I have
12 a regular roof, a gable roof, which is -- it
13 slants one direction on the front of the house and
14 one direction on the back of the house. It's a
15 pyramid-type thing. Each plane, each section --
16 each side of that is a section. So he takes each
17 flat area of the roof, irregardless of the
18 direction, as a section.

19 So what he's saying is if the figure
20 comprised -- we can have all these multiple
21 sections, anything less -- 10,000 square feet or
22 less, we want to count them as one section. We

1 don't want to have ten sections, we want to come
2 up with a predominant pitch for the roof. What's
3 the primary pitch?

4 Q So what is the significance of 10,000
5 square feet in that sentence?

6 MR. HAGIZ: Objection to form.

7 A I don't know. That was Bailey's
8 criteria for using the predominant pitch for that
9 section.

10 Q In the Figure 2, directly beneath what
11 you just read in your declaration, the diagram is
12 annotated, correct?

13 A Yes, it is.

14 Q What annotations did you add?

15 A As I said, we talked about bits and
16 pieces, so I can't tell which word I put where.
17 We talked about it, and we used Bailey's, and I
18 can't tell whether I wrote -- said that specific
19 thing or it was a combination. I don't know.

20 Q So, let me clarify my question. I
21 wasn't trying to distinguish what you put in
22 versus your attorneys. I was trying to

1 distinguish what's new compared to what was in
2 Bailey, in terms of the annotations.

3 A Okay. I got it. Yeah.

4 Q Sorry about that.

5 A Okay. And if I remember correctly, if
6 it's in a marked circle, or whatever, that is
7 something that's been added.

8 Q Let me maybe be more specific. There
9 is a cull-out that says "one roof section with
10 multiple pitches."

11 Do you see that in the --

12 A Yes.

13 Q Did you add that?

14 A That was added.

15 Q And what do you mean by "one roof
16 section with multiple pitches," and what is that
17 cull out -- stop there. Let me restate the
18 question.

19 A Okay.

20 Q You added the cull-out, correct?

21 A Correct. The cull-out was added.

22 Q And what portion of the roof is the

1 cull-out directed to?

2 A Okay. What this is trying to depict is
3 this is a roof with multiple, multiple sections.
4 Each one of those angles is a separate section.

5 Q Okay.

6 A So on this one, if I count the number
7 of sections, one, two, three, four, five, six,
8 seven, eight, nine, if you count the other side of
9 the dormer, that's ten sections of roof.

10 Q Okay.

11 A Each plane is a, he's calling it a
12 section, "he" being Bailey.

13 Q Okay. So when you say one roof section
14 in the cull-out, are you pointing to one of those
15 ten sections, or the whole roof?

16 A Well, this is actually referring to
17 Bailey's statement that multiple sections, 10,000
18 square feet or less, you can take multiple
19 sections and combine them to get one pitch.

20 Q So, where in Bailey does Bailey teach
21 me that?

22 A The roof section means any roof 10,000

1 square feet or less.

2 Q Excuse me. Where are you reading?

3 A I apologize. Page 15, paragraph 35.

4 Bailey teaches that all exposed roof
5 areas on the building shown in Figure 2 comprise
6 one roof section.

7 Q So are you, then, saying that the
8 entire portion that's, I guess, orange, is
9 considered one roof section?

10 A That's according to Bailey, yes.

11 Q When you say "it's according to
12 Bailey," can you point me to where in Bailey we're
13 talking about at this point? I gave you the
14 Bailey reference.

15 A Well, that quote was taken out of -- on
16 Bailey's exhibit, page 10. At the bottom, it
17 talks about -- several sections talk about roof
18 sections. And that quote was taken from the last
19 paragraph on page 10. And the diagram was taken
20 from page 11 of the same document.

21 Q Okay. And referring back to the
22 diagram, the cull-out.

1 A Yes.

2 Q How do you know, from the diagram, that
3 there are multiple pitches? What is your basis
4 for that?

5 A By looking at the drawing, you can see
6 the multiple pitches to the roof.

7 Q So the different sections --

8 A The different sections.

9 Q -- those ten sections that you
10 identified earlier?

11 A Yes. They're all different directions.

12 Q Okay. So, now, if we look directly at
13 Bailey, page 15 of Bailey.

14 A Page 15. Okay.

15 Q So you see item 33 or row labeled 33?

16 A Yes.

17 Q There's a 4 and 12; do you understand
18 what that means?

19 A Yes, that's the slope of the roof.

20 Q What does the 4 mean?

21 A That's the rise every 12 inches.

22 Q So 4 inches every 12 inches?

1 A Yes.

2 Q And what does "primary" mean there? Do
3 you have an understanding of that?

4 A Primary would be the predominant, or
5 the prominent, the main. You could use any one of
6 those adjectives, but it's the primary or
7 predominant pitch.

8 Q So are you equating primary to
9 predominant?

10 MR. HAGIZ: Objection to form.

11 A Yes.

12 THE WITNESS: Sorry.

13 Q So if we look back on Bailey, going
14 back one page to -- what is it? Page 14. What is
15 this -- it says "roof section identification
16 worksheet."

17 What is this a worksheet for, in your
18 opinion?

19 MR. HAGIZ: Objection to form.

20 A This would be for one section of the
21 roof. Excuse me, this is the total area. It's
22 2,800. It's got it identified in Section A. It

1 does not give me what section A is, in the
2 document, to know what section ID that is.

3 I didn't --

4 Q I thought you were still looking.

5 A Oh, no; I'm sorry. I was looking while
6 I was waiting.

7 Q So --

8 A It --

9 Q Go ahead.

10 A It appears to be that this is the
11 worksheet when he's combined everything together.
12 Section A is 2,800 square feet. That's too large
13 for one individual section. And he's gone through
14 the calculations and on the next slide, he said
15 this is the 4 and 12 pitches, which is the
16 predominant pitch for all of those roof areas.

17 Q And do you have the understanding of
18 how he determined the primary slope?

19 MR. HAGIZ: Objection to form.

20 A He talks about a predominant pitch and
21 taking -- he really doesn't give you an exact
22 formula or anything of that nature on how to

1 calculate it. Predominant pitch, during this
2 frame and during my time frame, was a very common
3 approach. But you basically -- I'm getting off
4 track. To answer, no, he does not say it.

5 Q Okay. So in terms of the worksheet --

6 A Yes.

7 Q -- do you have an understanding how
8 that would be used?

9 MR. HAGIZ: Objection to form.

10 A Off the top of my head, I don't know
11 because we didn't delve that far into the
12 documents.

13 Q Are you aware of any other places in
14 the form where slope is indicated?

15 MR. HAGIZ: Objection to form.

16 A There are other areas where slope is in
17 a large document. But, yes, there are other areas
18 that mention slope. There's slope on page 12. He
19 says slope configuration of roofing system.

20 Q So let me refine my question.

21 A Okay.

22 Q Referring specifically to the

1 worksheet, are there any other entries for slope?

2 MR. HAGIZ: Objection to form.

3 A There's only one at line 33.

4 Q Okay. And so who would complete this
5 form? Do you have a sense of who would do that?

6 MR. HAGIZ: Objection to form.

7 A This would be -- this was all done
8 manually. So he's training the people to go into
9 the field and do the valuation of the roof. So it
10 would be whoever the technician was who was out on
11 the job site.

12 Q Okay. If I go back to your
13 declaration, paragraph 57.

14 A All right.

15 Q So, you state there "Bailey expressly
16 teaches calculating the predominant slope of the
17 roof."

18 A Yes.

19 Q Is that still your opinion?

20 A It is.

21 Q Why is that your opinion?

22 A Because in order to get a predominant

1 pitch out of multiple pitches, you have to do some
2 sort of an average to get to the predominant
3 pitch.

4 So if all of the sections -- there's --
5 say there's four sections that are all at 4/12
6 pitch and one section that's a 8/12 pitch. It
7 could be that the number of 4/12 pitches exceeds
8 the area of the 8/12.

9 So it's trying to determine, what's the
10 most predominant pitch on the roof? Is it the
11 8/12 pitch or is it the 4/12?

12 So you have to look at all the
13 individual sections and determine what is the
14 predominant pitch of the roof.

15 Q But that's not stated in Bailey,
16 correct?

17 A In Bailey, it's stated, he talks about
18 that you have to examine each one of the roof
19 sections individually and then determine the
20 predominant pitch.

21 Q But I thought we said, earlier, that he
22 doesn't tell us how that's determined?

1 MR. HAGIZ: Objection to form.

2 THE WITNESS: Excuse me.

3 A There's no calculation.

4 Q Correct.

5 A That's correct, there is not.

6 Q So the individual filling out the form,
7 this worksheet, would make this estimate; is that
8 correct?

9 A Yes.

10 Q Of the slope?

11 A Correct.

12 Q So you cite, in paragraph 57, this
13 Section 33, which I believe is an excerpt from
14 Bailey, correct?

15 A Yes, it is.

16 Q And that excerpt says the predominant
17 slope of the roof section, is the title, the roof
18 plan will generally indicate the slope.

19 What is that referring to?

20 A That's referring to a notation on a set
21 of plans, drawings.

22 Q So is that referring back to the

1 worksheet or something else?

2 A That would be -- if it's referring
3 to -- the roof plan will generally indicate it's a
4 drawing.

5 Q And will a roof plan generally indicate
6 a predominant slope?

7 A Normally, it will not, no.

8 Q Okay. And then, the statement that you
9 quote there goes on to say "If the slope is not
10 noted on the roof plan, this section's drawing may
11 indicate the slope."

12 What is your understanding of that
13 statement?

14 A Quite often, and probably more
15 typically, is there will be a cross-section or end
16 elevation, where you can see the actual slope of
17 the roof, and those will have an indication of
18 what the roof pitches are for those that are
19 visible.

20 Q And it refers to a single slope, the
21 slope, correct?

22 A Yes.

1 Q Now, is that a predominant slope?

2 MR. HAGIZ: Objection to form.

3 A At this point, you don't know. He's
4 just saying that is a slope.

5 Q Okay. And then he goes on, in that
6 paragraph, to say "If such information is not
7 available, field measurement will be required (use
8 the method in Appendix B)."

9 Have you reviewed the measurement in
10 Appendix B?

11 A Yes.

12 MR. HAGIZ: Mike, when would be a good
13 time for a short break?

14 MR. SPECHT: Now would be a good time.

15 (Recess taken from 2:41 p.m. to
16 2:57 p.m.)

17 BY MR. SPECHT:

18 Q Welcome back.

19 A Thank you.

20 Q I want to direct your attention to the
21 Bailey reference.

22 A Okay.

1 Q Page 136. This is in Appendix D.

2 A All right.

3 Q Do you see a diagram on page 136?

4 A I do.

5 Q The title, if you will, is "Estimating
6 Area Complex Roofs."

7 A Yes.

8 Q And do you understand what's occurring
9 in this figure and flowchart?

10 A Yes.

11 Q So, in terms of -- there's four steps
12 indicated here, correct?

13 A Yes.

14 Q What is your understanding of what
15 occurs in step 1?

16 A They're calculating the horizontal area
17 of the footprint of the roof, or building, which
18 is the shaded, dark shaded area below the floating
19 house.

20 Q Okay. So, that's indicated in that
21 block 1, right, calculation for horizontal area
22 under nine-inch sloped roof?

1 A Yes.

2 Q What is the nine-inch sloped roof
3 referring to?

4 A Excuse me. The nine-inch slope is the
5 one to the left, and you'll see the 9/12 pitch
6 triangle on the end of the house. That's the 9/12
7 slope.

8 Q So 9/12, that's a fairly steep roof?

9 A Yes, it is. It's not a walking roof.

10 Q Okay. And so, that's in step 1, you
11 calculate the horizontal area under the 9-inch
12 sloped roof, correct?

13 A Yes.

14 Q What occurred in step -- what is your
15 understanding of what occurs in step 2?

16 A For step 2, they're deducting areas
17 from that calculation for the chimney and
18 triangular areas of the, I don't know what the L
19 roof -- oh, the roof that overlaps, the one to the
20 right, where it overlaps. So they're deducting
21 that area out of the gross square footage of the
22 9/12 roof.

1 Q Okay. And then in step 3, what is your
2 understanding of step 3?

3 MR. HAGIZ: Objection to form.

4 A Calculate the net projected area of the
5 main roof.

6 Q That was it.

7 A That's that step.

8 Q That's the full answer.

9 A Yes.

10 Q I thought you were still looking.

11 A No, I'm sorry.

12 Q And then moving on to step 4.

13 A Calculated the horizontal area under
14 the 6-inch sloped roof.

15 Q And what is the 6-inch sloped roof
16 portion of the house?

17 A That's the section to the right of the
18 main -- at a 90-degree angle to the main house.

19 Q Okay. And, so, in any of these steps,
20 where does Bailey determine the predominant slope?

21 MR. HAGIZ: Objection to form.

22 A In these calculations, he doesn't.

1 He's showing you how to calculate the areas, the
2 individual areas.

3 Q Okay. So, in the calculations that
4 Bailey uses to estimate the area of complex roofs,
5 does he use the predominant slope in any way?

6 MR. HAGIZ: Objection to form.

7 A When you estimate the individual areas,
8 like this, that's not a predominant slope
9 calculation. That's a couple -- you're trying to
10 find the slopes of all the various areas of the
11 roof, and the square footage.

12 Q So in this example, he does not use
13 predominant slope as part of his calculation?

14 A No, he does not.

15 Q Okay. And then, I have another
16 question with respect to Bailey while we're here.
17 This is on page 37. I'm sorry. 137.

18 A Oh, 137.

19 Q My apologies.

20 And do you see a Table 3 area/rake
21 conversion?

22 A Yes.

1 Q Do you have an understanding of that
2 table?

3 MR. HAGIZ: Objection to form.

4 A Yes. This is when you look at the
5 square footage in a two-dimensional plane.

6 Q All right.

7 A And then, you need to account for the
8 angle of the roof. You would use a table like
9 this that has the slopes per foot on the left-hand
10 side, the 4/12, 6/12, 8/12, as we mentioned
11 before.

12 Q Okay.

13 A You would measure the horizontal area
14 by the rake factor, which is the -- rake factor,
15 that's the edge of the roof that angles up to the
16 peak.

17 Q Okay.

18 A So that's the factor you multiply the
19 square footage by in order to get the correct
20 square footage of the angled portion of the roof.

21 Q So that would give you the actual area
22 of the surface of the roof?

1 A Correct. If you think of a right
2 triangle, and the hypotenuse is the diagonal.

3 Q Yep.

4 A So I'm measuring the bottom of that
5 triangle, and I'm multiplying it by that factor to
6 get this figure, rather than A squared, plus B
7 squared, and the whole...

8 Q Fair enough. Just, because we're using
9 hand signs now, when you say "this figure," that's
10 the -- you're using this table to calculate the
11 actual surface area of the roof, correct?

12 A That's correct.

13 Q Based on this rake factor?

14 A Right. It's the angled section of the
15 roof, the actual square footage.

16 Q And so, this table in Bailey, in
17 general, doesn't disclose that this table is used
18 to calculate the pitch, that's, essentially,
19 inherent in the figure -- or in the table?

20 MR. HAGIZ: Objection to form.

21 A The pitch has to be -- this table
22 doesn't determine pitch. Once you determine the

1 pitch in the field, or off the drawings or
2 whatever, then you can apply this factor to
3 wherever the pitch had been determined.

4 (Roofr Exhibit 1004 previously marked
5 for identification and retained by counsel.)

6 Q Okay. I'm going to hand you what is
7 marked as Roofr Exhibit 1004.

8 And what did I just hand you?

9 A This is the patent for Pershing '789,
10 Aerial Roof Estimation System and Method.

11 Q And have you seen this before?

12 A I have.

13 Q And are you familiar with this patent?

14 A Yes.

15 Q Or, actually, it's a publication, not a
16 patent.

17 A You're correct. Yes.

18 Q So you're familiar with this?

19 A Yes.

20 Q Now, you can reference your dec,
21 paragraph 54.

22 You state there that "Thus, the

1 footprint of the roof includes at least its area."

2 Do you see that? It's the third
3 sentence in paragraph 54.

4 A Yes.

5 Q What do you mean by that sentence?

6 MR. HAGIZ: Objection to form.

7 A Well, if you think of the footprint in
8 two-dimensional forms again, that the roof, the --
9 what this is saying is that the footprint, the
10 two-dimensional footprint, would include --
11 includes, at least, its area, and the areas, by
12 this, the figures, are in the small numbers in the
13 Figure 5E. Those are the areas of the roof that's
14 being referenced.

15 Q So, in that sentence, when you're
16 saying "its area," what is "its" referring to?

17 A Of the footprint.

18 Q So the -- if I use what your
19 definition, what you just said "its" is referring
20 to, then the sentence would be the footprint of
21 the roof includes, at least, the footprint area?

22 A At least -- the least it includes is

1 its area. So the footprint, at the very least,
2 has the area.

3 Q Okay. And what is the area you're
4 referring to?

5 A The area, according to 5E, is the two
6 dimensional -- based on this, what's supposed to
7 be an aerial image, it's the horizontal area of
8 the roof.

9 Q Okay. So is it your view that the
10 areas indicated in that figure are areas of the
11 horizontal projection of the roof?

12 A That's how I'm reading it.

13 Q And so, when you say "the footprint of
14 the roof includes, at least, its area," why would
15 it be bigger than the area?

16 A Well, it's not bigger than the area.
17 That's the least information. It could have
18 dimensions, it could have other -- it could have
19 other annotations. But it has at least its -- it
20 has, at least, its square footage or the area
21 marked on it.

22 Q Okay. So, if I, like, restate what I

1 think I understand this sentence to mean, the
2 footprint of the roof includes, at least, the area
3 of the footprint?

4 A Yes.

5 Q And it might include other identifiers,
6 like, length and width and dimensions?

7 A Correct.

8 Q Okay. So you're not saying the
9 footprint is bigger than the area, it's more,
10 just, there's other things that can characterize
11 the footprint?

12 A Yes.

13 Q Okay.

14 A The footprint is, based on this
15 drawing, is the outer boundary lines. And all
16 this is saying is that it has got the square
17 footage of each of the individual areas.

18 Q And those are individual areas,
19 horizontal projections of the roof --

20 A Yes.

21 Q -- in your view?

22 A Yes.

1 Q And it's your view that that's what
2 Pershing is telling us?

3 A Yes.

4 Q I just want to make sure I understand
5 this notion -- or understand your notion of the
6 footprint area.

7 If we turn back to Bailey.

8 A All right.

9 Q Bailey page 133.

10 A Yes.

11 Q So, do you see there's three example of
12 roofs in Figure 13?

13 A Yes.

14 Q Call those examples of simple roofs.

15 And you see there's one in the middle
16 referred to as "gable"?

17 A Yes.

18 Q So, in that scenario, if -- just for
19 argument's sake, if A was 40 feet and B was
20 20 feet, and you had a slope of 15 degrees, what
21 would the area of the roof be?

22 MR. HAGIZ: Objection to form.

1 A Oh, I don't know if I can calculate
2 that off the top of my head. I'm sorry.

3 Q Do you know how you would go about
4 doing it?

5 A You could go -- well, if you have the
6 dimension of B and have the dimension of A, it's a
7 very simple calculation on that.

8 Q Can you do that in your head?

9 A That's just width times length. If the
10 B is the slope, it's taking its flat plane and
11 titling it up, so you don't -- the calculation is
12 the same, width times length.

13 Q Just to be clear, my understanding is B
14 is not the slope, B is the dimension of the width
15 of the roof, correct?

16 A Are you referring to the little
17 cross-section down below?

18 Q I'm referring to where it has the black
19 roofs.

20 A Okay.

21 Q So, you have A, which is the length
22 from, say, one end of the house to the other.

1 A Right.

2 Q And then B is the width of that roof
3 section.

4 A B is the width at the angle, at the
5 slope, it's not a horizontal projection.

6 Q Understood. So it's giving you the
7 surface area of the roof?

8 A That's correct.

9 Q Right now, I'm looking at if I wanted
10 to know the surface area of that gable roof, in
11 Figure 3, how would I calculate it? And you said
12 that would be simple. We could probably do that
13 in our heads. Basically, A times B.

14 A Correct.

15 Q And that calculation is -- the slope of
16 the roof, for the purposes of determining the
17 surface area of the roof, is irrelevant, correct?

18 A Determines -- at that point, it's
19 already been -- well -- somebody is -- yeah, you
20 don't need the slope because you've got an actual
21 dimension.

22 Q A and B, yeah.

1 So if, in another scenario, we said
2 A equals 40 and B equals 20, and the slope is now
3 45 degrees, the surface area of the roof would
4 still be the same, correct?

5 A If the dimensions are the same?

6 Q A and B are the same in those two
7 scenarios?

8 A Yeah.

9 Q The only thing changing is the slope.

10 A Nothing changes as long as the
11 dimensions stay the same, whether it's a lower
12 slope or steeper one.

13 Q Okay. So then, switching gears,
14 staying with that same figure, if we're now
15 looking at the area of the footprint of the
16 roof --

17 A Yes.

18 Q -- is that a calculation you can do in
19 your head?

20 MR. HAGIZ: Objection to form.

21 A If it is a simple -- if it's a simple
22 one like that. Again, it's A times B. If it's a

1 rectangular house.

2 Q Well, just to be clear. I'm not
3 looking at -- so A times B was what we did to
4 determine the surface area of the roof, correct?

5 A Yes.

6 Q And now, what I'm looking for is how
7 you would determine the footprint of that roof,
8 what is the area of the footprint of that roof?

9 Is that going to be A times B or
10 something different?

11 MR. HAGIZ: Objection to form.

12 A It would be -- there's -- there's
13 probably a way. I don't -- off the top of my
14 head, I've never calculated a roof that direction.
15 So there would have to be a way to get to,
16 basically, forming a triangle. I don't -- I don't
17 know that -- off the top of my head, I don't know
18 how you'd calculate that.

19 Q Okay.

20 MR. SPECHT: Give us a minute.

21 THE WITNESS: Sure.

22 MR. SPECHT: We are finished. You can

1 make your train.

2 THE WITNESS: Thank you.

3 MR. SPECHT: We're finished.

4 MR. HAGIZ: Yeah. Can we take a
5 five-minute break?

6 MR. SPECHT: Sure.

7 MR. HAGIZ: Because I didn't realize
8 you were going to be done already. Let's take a
9 five-minute break. I don't know if I have
10 anything to ask, but we'll come back and figure it
11 out.

12 (Recess taken from 3:17 p.m. to
13 3:22 p.m.)

14 EXAMINATION BY COUNSEL FOR THE PETITIONER

15 BY MR. HAGIZ:

16 Q All right, Mr. Cummings, I just have a
17 couple of really quick follow-up questions.

18 You recall, earlier today, you were
19 asked about your professional experience and
20 background involving roofing?

21 A Yes.

22 Q And I may have missed it, I just wanted

1 to be sure. What was the kind of period of time
2 of your professional employment where you were --
3 where your, kind of your job duties involved
4 performing roof measurements?

5 A As a full-time estimator and working
6 for contractors, about six years, from 1981
7 through '89. And then, during my architectural
8 practice, I did estimates on roofing as well. And
9 then, since 1990, I've done a significant number
10 of estimates for roof repairs and roof placements
11 and dealing with litigation cases.

12 Q And for what period of that time did
13 you do roof measurements, not as on-site
14 measurements, so, for example, photographs or
15 blueprints?

16 A Well, between, 1981 and 2009 -- I mean,
17 I'm still doing it today, but during the time
18 period of this, 2008.

19 Q For any other work that you did
20 involving analyzing roofs specifically, did you
21 ever use photographs of roofs?

22 A Yes.

1 Q And in what way did you use photographs
2 of roofs for your work?

3 A Primarily as a reference. Because the
4 majority of what I had been doing, for the last
5 30 years anyway, is repair, replacement, or
6 something to do with litigation. So it's more of
7 a validation.

8 You can from sub photographs just to
9 confirm what the roof looks like. You might even
10 be able to verify, visually, the slope or pitch
11 based on a photograph, depending on who took it
12 and what they were looking for.

13 MR. HAGIZ: Okay. That's all I have.

14 MR. SPECHT: Just brief redirect.

15 THE WITNESS: Sure.

16 EXAMINATION BY COUNSEL FOR THE PATENT OWNER

17 BY MR. SPECHT:

18 Q You indicated you did a significant
19 number of roof estimates from 1990 onward.

20 A Yes.

21 Q Can you quantify what "significant" is?

22 A Let's see, probably in the neighborhood

1 of, I'd say, 15 to 20.

2 Q And did any of those involve aerial
3 imagery?

4 A They did not.

5 Q And you also indicated that you used
6 photographs of roofs in some of your work,
7 correct?

8 A Yes.

9 Q And what was the purpose of those --
10 the use of those photographs?

11 A As I just stated, it was for reference.

12 Q Did you gather dimensional information
13 from those photographs?

14 A No dimensional information. It was
15 used to verify what was there. And I may have
16 been possible, in some, to kind of get an idea of
17 what the slope was, whether the drawings were
18 correct.

19 MR. SPECHT: Okay. I have no further
20 questions.

21 MR. HAGIZ: Nothing else from me.

22 MR. SPECHT: All right.

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 1:36 p.m. to 3:25 p.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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