UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ALIGN TECHNOLOGY, INC.,

Petitioner,

vs. Case No. IPR2024-00052

U.S. Patent No. 11,049,248

DENTAL MONITORING SAS,

Patent Owner.

The Remote Videoconference

Deposition of BUDI KUSNOTO, DDS, MS,

Taken at 444 West Lake Street,

Chicago, Illinois,

Commencing at 11:16 a.m.,

Friday, September 6, 2024,

Before Leisa M. Pastor, CSR-3500, RPR, CRR.

Veritext Job #6876129

ALIGN - EXHIBIT 1052
Align Technology, Inc. v. Dental Monitoring SAS - IPR2024-00052

APPEARANCES:

ALLYSON PARKS
Gibson, Dunn & Crutcher, LLP
200 Park Avenue
New York, New York 10166
(212) 351-2308
aparks@gibsondunn.com
Appearing on behalf of the Plaintiff.

MATTHEW A. ARGENTI
Wilson, Sonsini, Goodrich, Rosati
650 Page Mill Road
Palo Alto, California 94304
(650) 354-4154
margenti@wsgr.com
Appearing on behalf of the Patent Holder.

TABLE OF CONTENTS

WITNESS	PAGE
BUDI KUSNOTO, DDS, MS	
EXAMINATION BY MR. ARGENTI	4
EXAMINATION BY MS. PARKS	56

EXHIBITS

EXHIBIT	PAGE
(Exhibits not offered.)	

Chicago, Illinois

Friday, September 6, 2024

11:16 a.m.

BUDI KUSNOTO, DDS, MS,

was thereupon called as a witness herein, and after having first been duly sworn to testify to the truth, the whole truth and nothing but the truth, was examined and testified as follows:

EXAMINATION

BY MR. ARGENTI:

Q. Good morning, Dr. Kusnoto. Could you please state your full name for the record. 11:16

A. Budi Kusnoto. 11:16

Q. Where are you currently located? 11:16

A. Chicago. 11:16

Q. Is there anyone else in the room with you today? 11:16

A. No. 11:16

Q. Do you have any notes with you today? 11:16

A. No notes except this two declaration, as well as these references. 11:16

Q. And those references, are those the exhibits in these prior -- in these IPRs? 11:17

A. Yes. 11:17

Q. Okay. All of those are clean copies; is that right? 11:17

A. Yes, they are clean copies. 11:17
Q. So do you understand that you're here today with 11:17
regard to IPR proceedings? 11:17
A. Yes. 11:17
Q. Okay. And one of those IPRs is IPR 2024-00052 which 11:17
is related to US Patent No. 11,049,248, right? 11:17
A. Yes. 11:17
Q. And if I refer to that as the '248 Patent today, will 11:17
you understand what I'm talking about? 11:17
A. Yes. 11:17
Q. And the other IPR that's identified today is IPR 11:17
2024-00110 which relates to US Patent No. 11,109,945, 11:18
correct? 11:18
A. Yes. 11:18
Q. And if I refer to that as the '945 Patent, will you 11:18
understand what I'm talking about? 11:18
A. Yes. 11:18
Q. Do you recall that I also took your deposition about a 11:18
month ago? 11:18
A. Yes. 11:19
Q. And that previous -- 11:19
(Court reporter interrupts for 11:19
clarification at 11:19 a.m.) 11:19
BY MR. ARGENTI: 11:19
Q. The previous deposition, Dr. Kusnoto, that I took with 11:19

you about a month ago, that involved US Patent No. 11:19
10,755,409, right? 11:19
A. I don't remember the first few digits, only the '409. 11:19
Q. Okay. If I refer to that as the '409 Patent today, 11:19
you'll understand what I'm talking about? 11:19
A. Yeah. 11:19
Q. Okay. Have you had your deposition taken since that 11:19
one a month ago involving the '409 Patent? 11:20
A. You mean after the deposition? 11:20
Q. Yes. 11:20
A. No. 11:20
Q. So the same ground rules apply today as in that 11:20
previous deposition for the '409 Patent. I'm going to 11:20
run through them just so that they're clear for the 11:20
record. Okay? 11:20
A. Okay. 11:20
Q. Do you understand that you're providing testimony 11:20
under oath and you're expected to tell the truth? 11:20
A. Yes. 11:20
Q. Is there any reason you cannot provide complete and 11:20
accurate testimony today? 11:20
A. Not that I'm aware of, in regards to '248 and '945. 11:20
Q. Hopefully my questions are clear today. If you don't 11:20
understand any question, under the rules for this 11:20
proceeding, you must ask me for clarification. If you 11:20

don't tell me otherwise, I will assume that you 11:21
understand the question. Okay? 11:21
A. Okay. 11:21
Q. Please provide verbal answers rather than nodding your 11:21
head. Okay? 11:21
A. Okay. 11:21
Q. And we can take a break at any time that you'd like 11:21
one as long as there's no question pending. If there 11:21
is a question pending, you need to answer the question 11:21
before we take a break. Okay? 11:21
A. Okay. 11:21
Q. And just like last time, I will try to take a break 11:21
approximately every hour or so but if you'd like to 11:21
take one more frequently, just let me know. 11:21
A. Okay. 11:21
Q. Could you please pull out your declaration for the 11:21
'248 Patent. You have a copy of it there, right? 11:21
A. Yes. 11:21
Q. And for clarity, that is Exhibit 2030 in IPR 11:21
2024-00052; is that what you have there? 11:21
A. IPR 2024-00052. 11:21
Q. And it's Exhibit 2030? It should be marked at the 11:22
bottom right corner of the page, the first page. 11:22
A. Yes, Exhibit 2030. 11:22
Q. Okay. Turning to the last page of that exhibit, page 11:22

61, please. 11:22
A. Yes. 11:22
Q. Is that your electronic signature? 11:22
A. Yes. 11:22
Q. Did you type it? 11:22
A. I typed it. 11:22
Q. Sitting here today, is there anything about this 11:22
declaration that you would like to modify or correct? 11:22
A. Not at this moment. 11:22
Q. Now, let's take a look at your declaration for the 11:23
'945 Patent, which is Exhibit 2030 in IPR 2024-00110; 11:23
do you have that there? 11:23
A. Yes. 11:23
Q. And if you turn to page 58, is that your electronic 11:23
signature? 11:23
A. Yes. 11:23
Q. And did you type that signature as well? 11:23
A. Yes, I did. 11:23
Q. Is there anything about your declaration on the '945 11:23
Patent that you would like to change today? 11:23
A. Not at this moment. 11:23
Q. Did you do anything to prepare for this deposition? 11:23
A. Yes. 11:23
Q. What did you do? 11:23
A. I reviewed -- 11:24

MS. PARKS: Sorry, Dr. Kusnoto, I just 11:24
caution you not to reveal any discussions you might 11:24
have had with counsel in relation to the deposition. 11:24
You can go ahead and answer. 11:24
A. I reviewed the two declarations as well as the 11:24
exhibits here, the references. 11:24
BY MR. ARGENTI: 11:24
Q. And those references, would that be the Kim reference? 11:24
A. One of them, yes, Kim reference. 11:24
Q. And did you also review the Invisalign reference in 11:24
preparation for this deposition? 11:24
A. Yes, I did. 11:24
Q. And did you review the Salah reference? 11:24
A. Yes. 11:24
Q. And did you review the Frey blog exhibit? 11:24
A. Yes, in the section pertaining to Dental Monitoring. 11:25
Q. Did you review any other exhibits in preparation for 11:25
this deposition? 11:25
A. I grabbed some of the other references. The one 11:25
that -- like Exhibit 2007, 2010, and a few others. 11:25
Q. Did you review Dr. Foroosh's declaration in any of the 11:25
IPRs in preparation for this deposition? 11:25
A. I glanced through it but I did not review them in 11:25
great detail. 11:26
Q. How about his deposition transcript and his IPRs? 11:26

A. Dr. Foroosh's deposition? 11:26
Q. Yes. 11:26
A. No, I did not. 11:26
Q. Did you review the PTAB's institution decisions in 11:26
these IPRs in preparing for your deposition? 11:26
A. I don't think so. 11:26
Q. Did you review the PTAB's institution decisions in 11:26
preparing your declarations? 11:26
A. I'm -- I don't think I -- I'm not sure. I don't quite 11:26
remember. 11:27
Q. Have you ever reviewed Dr. Foroosh's deposition 11:27
transcript from these IPRs? 11:27
A. I -- not the transcript but I review his report. 11:27
Q. When preparing for your deposition today, did you 11:27
review any documents that are not cited in your 11:27
declaration? 11:27
A. No, I only review the document cited in my 11:27
declaration. 11:27
Q. Have you reviewed the declaration of Dr. John Mongan 11:27
that was submitted with Dental Monitoring's patent 11:27
owner response in the IPR on the '248 Patent? 11:27
A. No, I don't believe I did. 11:27
Q. Have you reviewed Dr. Mongan's declaration supporting 11:28
patent owner response in the IPR on the '945 Patent? 11:28
A. Not that I recall. 11:28

Q. Have you reviewed any declaration that Dr. Mongan has 11:28
provided in any of the IPRs between Align and Dental 11:28
Monitoring? 11:28
MS. PARKS: Objection to form. 11:28
A. Term of written declaration? I don't think I 11:28
reviewed. 11:28
BY MS. PARKS: 11:28
Q. Do you know whether Dr. Mongan has reviewed your 11:28
declaration submitted in the '248 IPR, Exhibit 2030? 11:29
A. I am not sure. I don't know. 11:29
Q. Do you know whether Dr. Mongan has reviewed your 11:29
declaration submitted in the '945 IPR as Exhibit 2030? 11:29
A. I don't have that interfacing. 11:29
Q. You also submitted declarations in these IPRs in 11:29
support of Dental Monitoring's preliminary responses, 11:29
correct? 11:29
A. My declaration -- can you rephrase the question? 11:29
Q. In addition to the declarations that are marked as 11:29
Exhibit 2030 that we just looked at -- 11:29
(Zoom audio drop due to cross-talk) 11:29
A. Mm-hmm. 11:29
BY MR. ARGENTI: 11:29
Q. -- those submitted earlier declarations in these IPRs, 11:30
correct? 11:30
A. From me, yes. 11:30

Q. Yes. Do you know whether Dr. Mongan has ever reviewed 11:30
those earlier declarations that you submitted in these 11:30
IPRs? 11:30
A. I -- I don't think I have that information. 11:30
Q. Have you spoken to Dr. Mongan about the '248 Patent 11:30
IPR? 11:30
A. Yes. 11:30
Q. Have you spoken to Dr. Mongan about the '945 Patent 11:30
IPR? 11:30
A. Yes. 11:30
Q. When did you speak to Dr. Mongan about these IPRs? 11:30
A. I cannot recall the exact time frame but few months 11:30
back. 11:31
Q. Did you speak to Dr. Mongan about these IPRs before 11:31
you signed your declarations that are both marked as 11:31
Exhibit 2030? 11:31
A. Yes, I believe so. 11:31
Q. About how many times did you speak to Dr. Mongan about 11:31
these IPRs? 11:31
A. Pertaining to '248 and '945? 11:31
Q. Yes. 11:31
A. One or twice. 11:31
Q. Have you spoken to Dr. Mongan about these IPRs on the 11:31
'248 and '945 Patent since the time that you signed 11:31
your declarations? 11:31

A. Since July of -- declaration was signed July 12th, is 11:31
that correct? Is that what you mean? 11:32
Q. Yes. 11:32
A. No. 11:32
Q. When you spoke to Dr. Mongan about these IPRs, was 11:32
anyone else present? 11:32
A. Legal counsel was there, but the interaction is mainly 11:32
with me and him. 11:32
Q. When you refer to legal counsel, was that Ms. Parks? 11:32
A. Not quite sure actually. I don't think so. 11:32
Q. Do you recall who it was? 11:32
A. If I'm not mistaken, it's -- it's Mr. Clyde, yeah. 11:32
Q. Have you discussed Dr. Foroosh's declaration regarding 11:33
the '248 Patent with Dr. Mongan? 11:33
A. It's -- in a way, yes, but mainly Dr. Mongan asking me 11:33
questions. 11:33
Q. Have you discussed Dr. Foroosh's declaration regarding 11:33
your '945 Patent with Dr. Mongan? 11:33
A. Similar, yes. 11:33
Q. When you say was mainly Dr. Mongan asking you 11:33
questions, was he asking you questions of specific 11:34
portions of Dr. Foroosh's declaration? 11:34
A. No, asking questions mainly pertaining to my point of 11:34
view, from the orthodontist point of view. 11:34
Q. And when you gave your point of view in response to 11:34

his questions, were you making specific reference to 11:34
any portion of Dr. Foroosh's declaration? 11:34
A. Not that I can remember. I make references to the one 11:34
that I remember is, for instance, to my own references 11:35
here in term of standardized orthodontics photography. 11:35
Q. So when you spoke to Dr. Mongan, there was never a 11:35
point then where he pointed your attention to a 11:35
specific paragraph or sentence of Dr. Foroosh's 11:35
declaration and said "do you agree with this?" and you 11:35
explained why you didn't agree; is that right? 11:35
MS. PARKS: Objection to form. 11:35
A. I don't remember exactly. It's been months. You 11:35
know, as I mentioned, the one that I remember is 11:35
talking and discussing the standardized orthodontic 11:35
photography. 11:35
BY MR. ARGENTI: 11:36
Q. Have you reviewed the '248 Patent? 11:36
A. Yes. Maybe not in great detail, but I am aware of the 11:36
'248 Patents. 11:36
Q. Did you review the '248 Patent when preparing your IPR 11:36
declaration filed in that patent? 11:36
A. Yes, I did. 11:36
Q. And I want to be clear. When I refer to your 11:36
declaration on the '248 Patent, I'm referring to that 11:36
declaration that you have a copy of there, Exhibit 11:36

2030. 11:36
A. This one, right? 11:36
Q. Yeah, yeah, not an earlier -- not the first -- 11:36
A. Yes. 11:36
Q. So, Dr. Kusnoto, unless I specifically refer to your 11:36
earlier declarations that you put in in these IPRs, 11:37
all my questions will be about the Exhibits 2030 11:37
today. Okay? 11:37
A. Okay. 11:37
Q. Have you reviewed the '248 Patent since signing your 11:37
declaration, Exhibit 2030? 11:37
A. I took a quick glance a couple days ago. 11:37
Q. Similar question for the '945 Patent. Have you 11:37
reviewed the '945 Patent? 11:38
A. Yes. 11:38
Q. Did you review the '945 Patent when preparing your IPR 11:38
declaration Exhibit 2030 in that IPR? 11:38
A. Yes. 11:38
Q. Have you reviewed the '945 Patent since signing your 11:38
declaration? 11:38
A. Similar to '248, I took a quick glance, again, on the 11:38
patent couple days ago. 11:38
Q. It's your opinion that the relevant field of both the 11:38
'248 Patent and the '945 Patent is aligner treatment, 11:38
correct? 11:38

A. It's not entirely for aligner treatment but the 11:38
aligner treatment is part of it. 11:39
Q. When you say it's not entirely for aligner treatment, 11:39
what do you mean? 11:39
A. When, okay, I -- okay. 11:39
For the patent that I take a quick glance 11:39
to review and recall my memory, the patent, I don't 11:39
think it's -- it is more wider than just only for 11:39
aligners, that's my understanding, but aligner is part 11:39
of it. 11:40
Q. And when you say it's more wider than only for 11:40
aligners, what do you mean? 11:40
A. It's not only, you know, assessing the aligner 11:40
treatment but also, you know, providing other 11:40
informations. 11:40
Q. What informations? 11:40
A. Such as the tooth construct, different alignment of -- 11:40
of identification of teeth, not necessarily only for 11:40
the aligner treatment, but aligner treatment is part 11:40
of this patent. 11:41
Q. So how then would you characterize the relevant field 11:41
of the '248 and '945 Patents? 11:41
MS. PARKS: Objection to form. 11:41
A. Not quite clear about the questions. 11:41
BY MR. ARGENTI: 11:41

Q. Could you turn to paragraph 57 of your '248 declaration, please, that's on page 36. 11:41
A. Mm-hmm. 11:41
Q. Can you read the first sentence for me. 11:41
A. What's the paragraph again? I'm sorry. 11:41
Q. Paragraph 57 on page 36. 11:41
A. Yes. 11:42
Q. So that's -- 11:42
A. The one that says the relevant field is -- the relevant field of the '248 Patent is aligner treatment, that's in my opinion, etcetera. 11:42
Q. Right, and are you saying now today that that statement is not accurate in your declaration? 11:42
A. No, it is accurate, so that's what I'm saying. I -- because I thought you are asking me about the patent itself, not the declaration. 11:42
You know, the patent, it is aligners but there is other stuff besides the aligners that was discussed in here, such as segmenting the tooth, positioning of the tooth; so I guess I misunderstood your questions. 11:43
Q. Why does it matter whether I was asking you about your '248 Patent or your declaration, isn't that sentence in your declaration addressing the '248 Patent? 11:43
A. Yes. 11:43

MS. PARKS: Objection to form. 11:43
BY MR. ARGENTI: 11:43
Q. So are you saying that your opinion in your 11:43
declaration about the relevant field is different than 11:43
the relevant field in the patent itself? 11:43
A. No, I am not saying that. 11:43
MS. PARKS: Objection to form. 11:43
BY MR. ARGENTI: 11:44
Q. Is it your opinion that the relevant field of the '248 11:44
Patent is aligner treatment? 11:44
A. In my declaration, yes, it is aligner treatment. 11:44
Q. And if we look at the '248 Patent, is it your 11:44
understanding that the relevant field of that patent 11:44
is aligner treatment? 11:44
A. The relevant -- the main idea is aligner treatment, 11:44
but there are few other things with preceding the 11:44
aligner treatment. This is what I'm trying to say. 11:44
You know, if the end goal is aligner 11:44
treatment, but the way to do it as an aligner 11:44
treatment, they go through different steps that's not 11:44
necessarily using aligner at that time. 11:44
I think that's what -- so it's -- it's 11:45
broader than just aligner treatment, but the main 11:45
idea, the main goal, is aligner treatment. 11:45
Q. Let me ask you this. If we look at that first 11:45

sentence in the paragraph 57 of your declaration. 11:45
A. Mm-hmm. 11:45
Q. You say that the relevant field of the '248 Patent is 11:45
an aligner treatment. What is the basis of that 11:45
understanding that you have? 11:45
A. The basis is on the claim of the patent itself. It 11:45
says the shape of aligner and then it's about the 11:45
aligners. That's -- that's how I read that. 11:45
Q. Did Dental Monitoring's counsel provide you with an 11:45
understanding of a legal principle to apply when 11:46
determining the relevant field of a patent? 11:46
A. May, but I don't recall exactly. 11:46
Q. How did you reach your conclusion about the relevant 11:46
field of the '248 Patent that you have in paragraph 57 11:46
of your declaration? 11:46
A. It's based on my understanding on the claim of the 11:46
patents here, and the patent claim it says about the 11:46
aligners. 11:46
Q. So it looks like you had the '248 Patent in your hands 11:46
there. Is that Exhibit 1001 in the '248 -- 11:46
A. It is 2-4, it's -- let me check, yes, it's 101, 1001. 11:46
Q. So you mentioned that your understanding of the 11:47
relevant field is based on the claims of this patent, 11:47
right? 11:47
A. Yes. 11:47

Q. Did you consider the remainder of the description in 11:47
this patent when forming your opinions about the 11:47
relevant field? 11:47
A. I did a little bit, yes. 11:47
Q. Can you turn to column 1, please. 11:47
A. What is -- which one of the follow one here? 11:47
Q. Column 1 of -- 11:47
A. Oh. 11:47
Q. -- the '248 Patent. 11:47
A. Oh. 11:47
Q. Exhibit 1001. 11:47
A. Okay. 1001. You're talking about the abstract. 11:48
Q. No, not page 1. It's -- I don't know what page of 11:48
the -- of the file it is, but if you go past the 11:48
figures, you'll get to the part that has the text of 11:48
the patent, and there are numbered columns. The 11:48
numbering is at the top of the page and there are two 11:48
columns per page. Do you see that? 11:48
A. Yes, yes, I found it. Yeah, so it's -- so is this the 11:48
one that -- column 1. Okay. Okay. So the one that 11:48
says methods for analyzing an image of a dental arch? 11:48
Q. That's the one, yeah, and you see the heading right 11:48
under that that says technical field? 11:49
A. Mm-hmm. 11:49
Q. Could you read the sentence under that technical field 11:49

heading out loud for me. 11:49
A. The present invention relates to the field of dental 11:49
arch image analysis. 11:49
Q. So '248 Patent doesn't say that its relevant field is 11:49
aligner treatment, does it? 11:49
MS. PARKS: Objection to form. 11:49
A. That's -- I think that's why in the beginning when 11:49
you -- I misunderstood your questions. I'm referring 11:49
to the patent. So I -- I tell you that, you know, it 11:49
is relevant for aligners, as I mentioned in my 11:49
declaration, but there are many more nuance that is 11:49
not specific for aligners, but at the end it leads 11:50
to -- it leads to an aligners as the claim stated. 11:50
But there are many other nuance here of the 11:50
invention that not directly related to the aligners, 11:50
even though at the end it relates to it; so maybe I'm 11:50
not explaining it too well but... 11:50
BY MR. ARGENTI: 11:50
Q. What's your basis for concluding that the relevant 11:50
field of the '248 Patent is different than what the 11:50
'248 Patent says it is? 11:50
A. It's -- 11:50
MS. PARKS: Objection to form. 11:50
A. It's my opinion as orthodontist that was -- make me 11:50
form this, because I was asked to -- to provide an 11:50

opinion as an orthodontist, as a clinician, so where 11:50
is the clinical -- clinical application of -- of this. 11:51
BY MR. ARGENTI: 11:51
Q. So when forming your opinions -- 11:51
(Audio interference via Zoom.) 11:51
MR. ARGENTI: It's pretty quiet on my end. 11:52
It's a little hard to hear. Can we move it up a 11:52
little? 11:52
(The requested portion of the record was 11:52
read by the reporter at 11:52 a.m.) 11:52
BY MR. ARGENTI: 11:53
Q. So Dr. Kusnoto, is it right that you formed your 11:53
opinion as to the relevant field of the '248 Patent 11:53
based on an assessment of what an orthodontist would 11:53
understand was the clinical application of the '248 11:53
claims? 11:53
MS. PARKS: Objection to form. 11:53
A. I will say yeah, yes. 11:54
BY MR. ARGENTI: 11:54
Q. Looking back at that sentence under the heading 11:54
technical field in the '248 Patent, the one that 11:54
reads, The present invention relates to the field of 11:54
dental arch image analysis? 11:54
A. The present invention relates to the field of dental 11:54
arch image analysis, yeah. 11:54

Q. You disagree with that sentence in the '248 Patent? 11:54
MS. PARKS: Objection to form. 11:54
A. No. 11:54
BY MR. ARGENTI: 11:54
Q. So when looking, again, at the first sentence of 11:54
paragraph 57 of your declaration where you say the 11:55
relevant field of the '248 Patent is aligner 11:55
treatment, is aligner treatment typically carried out 11:55
by a dental professional? 11:55
A. Yes. 11:55
Q. Turn back to paragraph 54 of your declaration on the 11:55
'248 Patent. Here you discuss Dental Monitoring's 11:55
proposed definition of a person of ordinary skill in 11:55
the art, correct? 11:55
Was your answer yes, Dr. Kusnoto? 11:56
A. The definition of POSA? 11:56
Q. That's the paragraph 54. I think the audio just 11:56
didn't pick up your answer. 11:56
A. Yeah, definition of POSA on paragraph 54 of my 11:56
declaration. 11:56
Q. Okay. And then in paragraph 55, you say you agree 11:56
with that definition, right? 11:56
A. Yes. 11:56
Q. That person, the POSA, has an education in computer 11:56
science, bioinformatics, or a related engineering 11:56

discipline, right? 11:56
MS. PARKS: Objection to form. 11:56
A. Yes, that's what's written. 11:56
BY MR. ARGENTI: 11:56
Q. And that POSA has work experience in machine learning 11:56
or artificial intelligence, correct? 11:57
MS. PARKS: Objection to form. 11:57
A. Yes. 11:57
BY MR. ARGENTI: 11:57
Q. And the POSA is not a dental professional, correct? 11:57
MS. PARKS: Objection to form. 11:57
A. If you continue, a POSA would also work at 11:57
multidisciplinary team, which include familiarity with 11:57
medical imaging, dental imaging, dentistry, and or 11:57
orthodontists; so that's how I think I fit in this. 11:57
BY MR. ARGENTI: 11:57
Q. Right, but the POSA themselves, based on the 11:57
definition of the POSA, would not be someone who 11:57
provides aligner treatment to patients, right? 11:57
MS. PARKS: Objection to form. 11:57
A. It -- he or she could. 11:58
BY MR. ARGENTI: 11:58
Q. In your view, someone with a computer science, 11:58
bioinformatics or related engineering education and 11:58
experience with machine learning and artificial 11:58

intelligence would be qualified to provide aligner 11:58
treatment to a patient? 11:58
MS. PARKS: Objection to form. 11:58
A. No, but in my statement here, they also work as part 11:58
of multidisciplinary team which include, you know, 11:58
dentist, that's why, you know, in this case, you know, 11:59
I am the relevant one for this particular POSA. 11:59
BY MR. ARGENTI: 11:59
Q. Right, but the POSA themselves, they wouldn't be 11:59
qualified to provide aligner treatment? 11:59
MS. PARKS: Objection to form. 11:59
A. I guess, I mean, he or she, if it meets the criteria 11:59
like me, they could. 11:59
BY MR. ARGENTI: 11:59
Q. But that would be dental education and experience and 11:59
qualifications above and beyond the POSA definition, 11:59
right? 11:59
MS. PARKS: Objection to form. 11:59
A. I'm not sure if I can answer that questions. 11:59
BY MR. ARGENTI: 12:00
Q. Why? 12:00
A. I mean, because, you know, as a -- I am as a POSA that 12:00
has a dental, an orthodontics background, so I can 12:00
certainly do the aligner treatment also. 12:00
Q. Right, but the POSA definition itself does not qualify 12:00

someone to provide aligner treatment, right? 12:00
MS. PARKS: Objection to form. 12:00
A. I'm not sure how to answer that. 12:00
BY MR. ARGENTI: 12:01
Q. Why? 12:01
A. Because, you know, me as a POSA, again, as, you know, 12:01
given the training and multidisciplinary and dental 12:01
and orthodontics background, I can certainly provide 12:01
the aligners treatment. It may not be, you know, to 12:01
assess from the orthodontics point of view, so I'm not 12:01
quite sure if -- so you are saying I'm not a POSA? 12:01
Q. No, I'm saying someone with a bare minimum of the POSA 12:02
qualifications and no additional education and 12:02
experience would not be suitable to provide aligner 12:02
treatment, correct? 12:02
A. I suppose so. 12:02
Q. So in your view, the POSA, as defined in paragraph 54, 12:02
would be unqualified for what you go on to say is the 12:02
relevant field of the '248 Patent, right? 12:02
MS. PARKS: Objection to form. 12:02
A. The people that has an imaging or work already with 12:02
imaging in the field of, let's say, the technician of 12:02
the aligner's company, they are not dentists, they 12:02
have work a lot with this. They've been trained a 12:03
lot. I am sure they know what this aligner treatment 12:03

is. 12:03
They are not providing the treatment, but 12:03
they are very aware of how the treatment progress, how 12:03
the staging was made, how the tracks was evaluated. I 12:03
work with many of those people who's excellent. 12:03
BY MR. ARGENTI: 12:03
Q. And so those people who have experience in imaging 12:03
that's relevant to aligner treatment don't need to be 12:03
dental professionals to understand the relevant field 12:03
of the '248 Patent -- 12:03
A. Yes. 12:03
Q. -- right? 12:03
A. They don't need to be dentists. That's what I'm 12:03
saying. You know, they could be dental technicians, 12:03
they could be a hygienist, you know, that -- but the 12:03
one that's already -- or even a researcher, imaging 12:04
scientist, who has work a lot in this field, they -- 12:04
they can certainly know the relevant of the aligner's 12:04
treatment. 12:04
Q. They could be a computer science scientist with 12:04
experience with machine learning software, right? 12:04
MS. PARKS: Objection to form. 12:04
A. I'm -- I am not quite sure where the machine learning 12:04
software falls for this particular assumption that you 12:04
just say it but, you know, as I mentioned, a person 12:04

who has been trained to know they -- they wouldn't be 12:04
able to deliver or prescribe the treatment inside the 12:04
patient's mouth, because that will require a dentist 12:05
or a orthodontist to do so, but they will be able to 12:05
assess or know how this technology work when applied 12:05
to aligner treatment. 12:05
BY MR. ARGENTI: 12:05
Q. And when you say a person who has been trained would 12:05
know, what training is that? 12:05
A. Imaging, you know, people that's been doing research, 12:05
imaging, dental technicians, lab technicians 12:05
specifically for 3D imaging or more specifically on 12:05
dental, they are not dentists. 12:05
Q. Let's turn to paragraph 41 of your '248 declaration, 12:05
please. 12:06
A. Page 41. 12:06
Q. Paragraph 41 -- 12:06
A. Oh. 12:06
Q. -- on page 29. 12:06
A. Paragraph 41, yes. 12:06
Q. In this paragraph you identify three general 12:06
categories of steps for typical aligner treatment as 12:06
of 2017, right? 12:06
A. Yes. 12:06
Q. And when you say this is typical, can you think of 12:06

exceptions where one of these steps didn't happen over 12:06
the course of an aligner treatment? 12:06
A. Yeah, this is the -- I cannot think of anything but 12:07
this is the most common steps that we as a dentist or 12:07
orthodontist do when we evaluate for aligners 12:07
treatment. 12:08
Q. So, for example, did step one occur in every aligner 12:08
treatment? 12:08
A. Yes. 12:08
Q. Was it a routine part of every aligner treatment for 12:08
an orthodontist to assess aligner fit at regular 12:08
intervals? 12:08
A. Assessing the progress of treatment, which include 12:08
aligner fit, at regular interval, yes. 12:08
Q. Why was assessing an aligner fit important for aligner 12:08
treatment? 12:08
A. If the aligner doesn't fit well at the given states, 12:08
then the prescribed treatment may not track as it's 12:09
prescribed at the given state; so the treatment might 12:09
ended up either get delayed or unsuccessful or even 12:09
move to the wrong place. 12:09
Q. The tooth could move to the wrong place? 12:09
A. I mean, the tooth, yeah, the tooth, yeah, if it's not 12:09
checked. 12:09
Q. Look down to paragraph 46 of your '248 declaration on 12:09

page 31. 12:09
A. What paragraph again? Sorry. 12:09
Q. 46. 12:09
A. 46, yeah. Yes. 12:09
Q. Here you refer to two primary assessments at a 12:10
patient's examination, right? 12:10
A. Mm-hmm. 12:10
Q. And those are assessment of alignment of teeth and 12:10
assessment of aligner fit, right? 12:10
A. Alignment of teeth and aligner fit. 12:10
Q. Are those two assessments related to each other? 12:10
A. Not necessarily. 12:10
Q. But they can be, right? 12:10
A. They can, but also they -- they are not necessarily 12:10
coincide. 12:10
Q. Right. But for example, I think in your answer that 12:10
you just gave about the previous paragraph, you said 12:10
it's important to check aligner fit, because if you 12:10
don't, then you could get the teeth moving in an 12:11
undesirable direction, right? 12:11
A. Yeah. 12:11
Q. If we look in the next paragraph, paragraph 47, in 12:11
that paragraph you discuss an example examination 12:11
during the tenth week of treatment, right? 12:11
A. Yes. 12:11

Q. And you say that an orthodontist would make a visual 12:11
comparison between the patient's dentition and a 12:11
rendering of expected dentition at that point in time, 12:11
right? 12:11
A. Yes. 12:11
Q. If the patient's teeth don't match, what's expected at 12:11
that point in treatment, it could indicate a treatment 12:11
issue, correct? 12:11
A. Yes. 12:11
Q. What are some of the potential treatment issues that 12:12
this comparison might detect? 12:12
A. Well, the teeth is not moving to the location where 12:12
they supposed to be. They could either move too far 12:12
or move too less to the designated destination at the 12:12
given states of treatment. 12:12
Q. Poor aligner fit could be one thing preventing the 12:12
treatment from progressing as expected, right? 12:12
A. They are somewhat independent because the -- the way 12:12
that we evaluate them first is we need to make sure 12:12
that the patient's teeth look similar to what the 12:13
simulation at the given stage is. Okay? You don't 12:13
see any growths completely totally out. Okay? 12:13
So if that already pass, then we assess the 12:13
aligner fit secondarily to that, but if that already 12:13
completely failed then, you know, we don't even bother 12:13

to assess aligner fit because we just have to perform 12:13
rescan and do rebuild refinement at that point of 12:13
time. 12:13
If that's passed, then we check aligner 12:13
fit, and then if the aligner fit it well, then it's 12:14
good to go. If at that time the aligner did not fit, 12:14
then we might have to prescribe other treatment 12:14
regime. 12:14
Q. But even if you don't get to checking aligner fit, if 12:14
the teeth haven't moved as expected at that point in 12:14
treatment, that could be caused by poor aligner fit, 12:14
right? 12:14
A. Well, it could be as one of the reason, yeah, because 12:14
of poor oral hygiene it could be other reason, but 12:14
yeah, I mean, it could be because aligner is not 12:14
fitting there. 12:14
Q. In the next paragraph, No. 48, you go on to say that 12:14
orthodontists also assessed aligner treatment, 12:15
correct? 12:15
A. Assessed the aligner -- yes, aligner treatment. 12:15
Q. Some aligner treatment problems that might be detected 12:15
include problems with aligner fit, tooth attachments, 12:15
or detention complications, correct? 12:15
A. Dentition. Dentition complications, yeah. 12:15
Q. What are tooth attachments? 12:15

A. Tooth attachment is -- it's almost, like, a composite 12:15
filling materials that was placed on the tooth, glued 12:15
to the tooth, or teeth, most of the time is several 12:15
teeth, to aid in aligners moving the teeth or tooth. 12:15
Q. And what do you mean there when you refer to dentition 12:16
complications? 12:16
A. That, you know, the teeth or tooth that's not moved to 12:16
where we want it to move or, you know, it -- it has 12:16
other complications such as developing gum problem or 12:16
become mobile or sensitive, so those are the few other 12:16
things. 12:16
Q. So what's the distinction then between the assessment 12:16
that you talk about in paragraph 47 where you're 12:16
looking at whether the teeth have moved as expected 12:16
and the assessment in paragraph 48 where you're saying 12:16
you could be looking at dentition complications? 12:16
A. Well, even if the tooth move to where it should be, we 12:17
still have to check each tooth in term of vitality, 12:17
sensitivity, gum problem, oral hygiene, because in 12:17
some cases during the movement, even if the tooth move 12:17
to where it should be, the patient develop 12:17
hypersensitivity on that region, so then we have to 12:17
act upon it and we have to make sure the patients are 12:17
not in pain. 12:17
Q. In your previous answer, though, you said that a 12:17

dentition complication would be or could be that 12:17
you're looking has the tooth not moved to where we 12:17
expected it to move, right? 12:18
A. Yeah, it could be one of them is not moving to where 12:18
it should be or moving in the wrong direction. 12:18
Q. So is that a different assessment in paragraph 48 than 12:18
the assessment that you're talking about in paragraph 12:18
47? 12:18
A. It's dentition complication is much broader than just 12:18
the location. Part of it is assessing location, of 12:18
course, the way, because we are moving teeth, the 12:18
movement has to be correct, but then part of it is 12:18
addressing a tooth health itself, whether the tooth is 12:18
still good at that particular -- not only the tooth 12:18
but also the surrounding tissue of the tooth or teeth. 12:18
Q. I want to set aside the health issue and focus just on 12:18
the movement issue. 12:18
In paragraph 48, a little further down, you 12:18
say that the -- the an aligners might move the tooth 12:19
in an unintended direction, i.e., non-tracking, such 12:19
that the movement would be detrimental to the patient. 12:19
Do you see that? 12:19
A. Yes. 12:19
Q. And if we focus on this unintended movement that 12:19
you're talking about in paragraph 48, is that a 12:19

different assessment than the previous assessment you 12:19
talk about in paragraph 47? 12:19
A. It's -- it's -- the one in paragraph 48 has broader -- 12:19
for the movement, it is the same, but for the 12:19
assessing the dentition complication, movement is part 12:19
of it. 12:19
Q. So then do I have it right that you're going to check 12:19
the tooth movement as part of each of these two main 12:20
assessments that are performed that you're talking 12:20
about in paragraph 47 and 48? 12:20
A. Can you rephrase that again? 12:20
Q. Both of the assessments that you talk about, one in 12:20
paragraph 47 and the one in paragraph 48, both involve 12:20
assessing the movement of teeth and whether it's 12:20
moving as desired, correct? 12:20
A. The movement of the teeth or tooth is part of the 12:20
assessment in both paragraph. If I may add, in 12:20
paragraph 47, the first sentence you also inspect the 12:20
current states of the dentition that will include if 12:20
there is any dental complications. 12:21
Q. Right, and then that would also be an aspect of the 12:21
assessment described in paragraph 48 regarding 12:21
assessing the aligner treatment, right? 12:21
A. Yes. 12:21
MS. PARKS: Objection to form. 12:21

MR. ARGENTI: We've been going a little 12:21
over an hour, Dr. Kusnoto, why don't we take a break. 12:21
THE WITNESS: Okay. What time we come 12:21
back? 10 minutes? 12:21
MR. ARGENTI: Can we come back I guess 12:21
11:30 your time? That would be nine minutes. 12:21
THE WITNESS: Okay. Thank you. 12:21
MR. ARGENTI: Okay. 12:21
(Recess taken at 12:21 p.m.) 12:21
(On the record at 12:30 p.m.) 12:30
BY MR. ARGENTI: 12:30
Q. Dr. Kusnoto, let's turn back to paragraph 57 of your 12:30
'248 declaration on page 36, please. This is the one 12:30
we looked at earlier where you had that opinion about 12:30
the relevant field. 12:30
If we keep looking at the rest of that 12:30
paragraph, you mentioned the Kim, Invisalign, Salah, 12:30
and Frey references, correct? 12:31
A. Yes. 12:31
Q. And at the end of that paragraph, you say that those 12:31
references use terms that would have had a specific 12:31
meaning to dental professionals; do you see that? 12:31
MS. PARKS: Objection to form. 12:31
A. The last sentence you mean? 12:31
BY MR. ARGENTI: 12:31

Q. Right. 12:31
A. Yeah. Yeah. Yeah. Yeah, I see. 12:31
Q. What terms are you referring to there? 12:31
A. It's dental photography, I think, the standardized 12:31
photography, and then, like, in -- in how -- how the 12:31
dental records, dental standardized photography should 12:32
be, that's what I mean with the specific meaning. 12:32
Q. Let's take them one at a time and focus first on the 12:32
Kim reference. 12:32
In this sentence at the end of paragraph 57 12:32
when you say that the -- it uses terms that would have 12:32
had a specific meaning to dental professionals. 12:32
Are there any terms in Kim that you would 12:32
point me to that you're referring to there? 12:32
A. May I have a look at the reference here? 12:32
Q. Of course. Do you have a copy of the Kim reference 12:32
available to you there? 12:32
A. Yes, I just need to know the numbers. Let me see. 12:32
Trying to find it. Just one second. 12:32
Q. Right. I believe that's Exhibit 1005. 12:32
A. Give me a minute to look. 12:33
Yeah, in paragraph, couple of these in Kim, 12:34
one is, like, left-side angle, right-side angle, 12:34
photos, a collection of top, bottom, left, right 12:34
photos surrounding central front photo; so I think 12:34

this terminology is meaningful to dental and 12:34
orthodontist but not really, I mean, for general 12:34
public. 12:34
Q. Was that a -- can you point me to a particular page? 12:34
A. Oh, I'm sorry, it's in page 9 of Kim, down below, 12:35
point No. 3, there's a method wherein that the teeth 12:35
alignment, front view, bottom view, front view, you 12:35
know, those thing, left-side angle, right-side angle, 12:35
yeah. 12:35
Q. So there was claim 3 of Kim that you were referring 12:35
to, right? 12:35
A. Yes. Yes. 12:35
Q. Anything else that you would point me to as a term in 12:35
Kim that has a specific meaning to dental 12:35
professionals? 12:35
A. It's a teeth alignment. 12:35
Q. And can you give me the paragraph where that appears? 12:35
A. I think they come in several -- several paragraph, 12:35
including the first in the abstract, providing remote 12:36
teeth alignment surface. That's one. And then all 12:36
throughout the claim there is a lot of teeth alignment 12:36
mentioned, point No. 4 wherein the teeth alignment 12:36
report and so on. 12:36
Q. And what's the specific meaning that that term "teeth 12:36
alignment" would have to dental professionals? 12:36

A. That means they have to be not only aligned in an 12:36
ideal dentition dental arch, we call it dental arch. 12:36
It's a curve of human dentition, but they have to be 12:36
at a particular location and a particular bite, with 12:37
ideal overbite and, you know, certain relationship 12:37
between tooth to the neighboring teeth. 12:37
Q. Anything else in Kim that you would point me to? 12:37
A. Those are the two big things and then maybe, you know, 12:37
they mention about clear aligner, so that's -- it's a 12:37
dental term there. 12:37
Q. Are there any terms from the Kim reference that you 12:37
believe Dr. Foroosh interpreted differently than a 12:38
dental professional would have? 12:38
A. I am not sure how to answer that, because Dr. Foroosh 12:38
I think is more to the technical aspect. I'm not sure 12:38
how to answer that. 12:39
Q. Can you point me to any of Dr. Foroosh's testimony 12:39
that you think is based on an inaccurate understanding 12:39
of a term in Kim that would have a special meaning to 12:39
a dental professional? 12:39
A. I might have to go back, please, give a moment. 12:39
Q. Sure. 12:39
A. I'm trying to look now at Exhibit 2054, which it's not 12:39
the declaration but -- or you know, the report, but -- 12:40
so your question is, again, if Dr. Foroosh 12:40

1		misunderstood some of the thing that I just mentioned	12:40
2		about? Is that right?	12:40
3	Q.	Right. Are there any terms from the Kim reference	12:40
4		that you believe Dr. Foroosh interpreted differently	12:40
5		than a dental professional would have?	12:40
6	A.	Because Dr. Foroosh's transcript here is mainly on,	12:41
7		you know, I'm just glancing through it, you know, it's	12:41
8		mainly on technical aspect to this. I'm not quite	12:41
9		familiar actually if there is any specific -- can you	12:41
10		give me an example of specific paragraph that	12:41
11		Dr. Foroosh says that -- that I -- so I can take a	12:41
12		look at it?	12:41
13	Q.	No. I'm asking if you can give me an example. I'm	12:41
14		asking if you're aware of any of Dr. Foroosh's	12:41
15		testimony where he applies a different understanding	12:41
16		of any terminology in Kim than what a dental	12:41
17		professional would have.	12:41
18	A.	Is there any particular -- because I didn't have -- I	12:42
19		don't think I have Dr. Foroosh's testimony here except	12:42
20		for the -- this long transcript in 2054. Is there	12:42
21		any -- if it's not in here, then I might not be able	12:42
22		to give you -- I'd have to go back to you on that	12:42
23		because I don't quite remember.	12:42
24	Q.	So sitting --	12:42
25	A.	I only have 2054 that pertain to Foroosh, yeah.	12:42

Q. Dr. Kusnoto, I'd be happy to provide you with a copy 12:42
of Dr. Foroosh's declaration if that would help you 12:42
answer my question, but it sounds like it's not 12:42
something that you considered and you haven't reached 12:42
an opinion on this as far as whether Dr. Foroosh has 12:42
applied a different understanding of any terminology 12:42
in Kim than what a dental professional would have? 12:43
MS. PARKS: Objection to form. 12:43
A. I'm not sure but I don't think, you know, 12:43
Dr. Foroosh -- so you are asking me if Dr. Foroosh 12:43
completely misunderstood the terminology as what I 12:43
mentioned just now, like standard orthodontic 12:43
photographs, clear aligners, and teeth alignment, is 12:43
that what you are -- you are mentioning? I mean, 12:43
that's your question, right? 12:43
So I, you know, in my opinion, again, I 12:43
don't have it in front of me here, don't quite 12:43
remember, but in my opinion, Dr. Foroosh is not 12:43
misunderstanding any of those. He understand what 12:44
clear aligners mean and what the standardized 12:44
orthodontic photographs means. 12:44
BY MR. ARGENTI: 12:44
Q. So there's no terminology in Kim that you would point 12:44
me to that you think Dr. Foroosh misunderstood or 12:44
applied a different understanding than a dental 12:44

professional would, right? 12:44
MS. PARKS: Objection to form. 12:44
A. Not that I'm aware of, having no document here in 12:44
front of me, just based on my recollection, yeah. 12:44
BY MR. ARGENTI: 12:44
Q. Again, Dr. Kusnoto, I would be happy to provide a copy 12:44
of Dr. Foroosh's declaration if it would help you 12:44
answer this question. Would you like a copy? 12:44
A. I, you know, I'm not sure if it's needed but I'm -- 12:44
when I'm preparing this, I did take a look at Foroosh 12:45
but not -- it's been a while, okay? So when -- when I 12:45
am glancing through it, I -- I do think Dr. Foroosh is 12:45
not misunderstanding any of this. 12:45
Q. Why don't we, just to avoid any concern about this 12:45
issue, I'm going to upload a copy of Dr. Foroosh's 12:45
declaration. 12:45
Do you have a copy of Dr. Foroosh's 12:45
declaration there with you today, Dr. Kusnoto? 12:45
A. No. 12:45
MS. PARKS: Are you referring to Exhibit 12:45
1002? 12:46
MR. ARGENTI: That's correct. 12:46
THE WITNESS: Okay. Just want to make sure 12:46
I have it here. I don't see it. Oh, I'm looking at 12:46
the wrong file. Sorry. This is 2000. That's why. 12:46

Yeah. Yeah, this is what I'm looking for. Yeah, I 12:46
found it. 12:46
BY MR. ARGENTI: 12:46
Q. You do have a copy of that -- 12:46
A. No, no, no, I was looking at the wrong pile; so yeah, 12:46
okay. 12:46
Q. And is that -- is that Exhibit 1002 in the '248 IPR? 12:46
A. Yes, it is 1002. 12:46
Q. Do you also have a copy of Exhibit 1002 in the '945 12:46
IPR? 12:46
A. Yes, I'm looking at '248, 1002, '248. Yeah, because 12:46
they're both the same number. 12:47
Q. They're both 1002, but I just want to make sure you 12:47
have the 1002 from the '248 IPR. 12:47
A. Yes. 12:47
Q. And the -- 12:47
A. Yes. 12:47
Q. From the '945 -- 12:47
A. Yes, yes, I have both. 12:47
Q. -- IPR. Okay. 12:47
So now that you have both exhibits 12:47
available to you, I'll ask the question again. 12:47
Are there any terms from the Kim reference 12:47
that you believe Dr. Foroosh interpreted differently 12:47
than a dental professional would have? 12:47

A. Give me a moment to look at the paragraph. Trying to 12:47
find my, oh, there you are, my Kim reference. It get 12:52
buried under the files. 12:52
In terms of those three things that I had 12:52
mentioned pertaining to Kim, you know, I think for the 12:52
most part Dr. Foroosh is grasping the terminology 12:52
correctly. 12:52
Q. And are there any other terms in Kim that you would 12:52
point me to as something that Dr. Foroosh 12:52
misinterpreted compared to how a dental professional 12:52
would understand it? 12:52
A. As terminology, not that I'm aware of. 12:53
Q. Now I'll ask about the Invisalign reference which is 12:53
Exhibit 1006. Do you have a copy of that there? 12:53
A. Yeah. Yes, I have 1006 here. 12:53
Q. Okay. Are there any terms from the Invisalign 12:54
reference, Exhibit 1006, that you believe Dr. Foroosh 12:54
interpreted differently than a dental professional 12:54
would have? 12:54
A. One second. I think I hear somebody knocking on the 12:54
door, I should ignore it or -- 12:55
Q. Do we need to go off the record for a second? 12:55
MS. PARKS: Yeah. 12:55
A. I'm not sure who that is actually. 12:55
BY MR. ARGENTI: 12:55

Q. Well, I can tell it's not Ms. Parks, so go ahead if 12:55
you need to answer, then go ahead and go answer it. 12:55
A. Yeah. It's the guy bringing lunch. Sorry about that. 12:55
Yeah, let me just give me a minute try to organize 12:55
here... 12:55
(Off the record at 12:55 p.m.) 12:55
(On the record at 12:58 p.m.) 12:55
A. I think for a -- yeah, so I have rearranged this a 12:58
little bit, so -- I think with the exception of the 12:58
illustration of poor fit, okay, for the most part, 12:58
he's getting the terminology correct. 12:58
BY MR. ARGENTI: 12:58
Q. Okay. Now I'll ask about the Salah reference. 12:58
A. Mm-hmm. 12:58
Q. Which is Exhibit 1008. Do you have a copy of that 12:58
too? 12:59
A. Yeah, I have it here, 1008. 12:59
Q. Are there any terms from the Salah reference Exhibit 12:59
1008 that you believe Dr. Foroosh interpreted 12:59
differently than a dental professional would have? 12:59
A. Here, but that's the -- I'm sorry, that's the guy 12:59
again. 13:00
Yeah, I think for the most part he also get 13:00
it correct, I mean, in term of the terminology. 13:03
Q. Last I'll ask you about the Frey blog exhibit, Exhibit 13:03

1009. Do you have a copy of that available? 13:03
A. Yeah, I have 1009. 13:04
Q. Are there any terms or phrase in Exhibit 1009 that you 13:04
believe that Dr. Foroosh interpreted differently than 13:04
a dental professional would have? 13:04
A. I don't think -- I don't think Dr. Foroosh use any 13:04
phrase reference. I don't think he refer to phrase at 13:05
all. 13:05
Q. So I would agree that it's not a reference in the 13:05
obviousness combinations at issue here. 13:05
A. Yeah. 13:05
Q. But since you mentioned Frey in your paragraph 57 of 13:05
your declaration. 13:05
A. Mm-hmm. 13:05
Q. You go on to say that that's one of the exhibits that 13:05
uses special terminology. I just want to ask you, 13:05
again, are there any terms in Frey Exhibit 1009 that 13:05
you believe Dr. Foroosh interpreted differently than a 13:05
dental professional would have? 13:06
A. Yeah, I'm not sure how to answer this because there is 13:06
none in Foroosh that refer to -- even the similarity 13:06
to -- to this, with -- I mean, let me -- let me see. 13:06
Q. Dr. Kusnoto, Dr. Foroosh in his declaration on the 13:07
'248 Patent, Exhibit 1002, mentions Exhibit 1009 in 13:07
paragraphs 73 and 90, if that helps your review. 13:07

A. Paragraph 73? 13:07
Q. 73 and 90. 13:07
A. In paragraph 73, I think Dr. Foroosh is -- he got it 13:11
all good. I mean, all the terminology there is good. 13:11
Still not quite sure about the paragraph 90. 13:11
The first sentence of paragraph 90 in 13:12
Dr. Foroosh is the one that I'm a little bit unsure, 13:12
because to me, it reads like it's a -- it's a methods 13:12
for orthodontics practice, which is, if we go back to 13:12
2017, this method was kind of a one off, you know, 13:13
it's not really proposed or reinforced by the board or 13:13
the -- the education to ask the patient to use their 13:13
own phone to acquire image because that -- the first 13:13
sentence kind of suggests that it's -- it's a 13:13
consistent with methods for orthodontic practice. 13:13
It's almost like generalization but, you 13:13
know, if it's refer only for Frey, there's one -- one 13:13
instance here then, I mean, this depiction is good. 13:14
Q. Okay. So aside from your disagreement with the first 13:14
sentence of paragraph 90, to the extent that it's 13:14
purporting to refer to a generalized approach to 13:14
practice, you do not take issue with Dr. Foroosh's 13:14
understanding of any terminology in Exhibit 1009, 13:14
correct? 13:14
A. Yeah, no disagreement in term of terminology. 13:14

Q. Let's turn now to paragraph 48 of your '248 declaration on page 32. Sorry, I misspoke. Let's turn to paragraph 58 of your '248 declaration on page 37. 13:14 13:14 13:15 13:15

A. 58, yeah. 13:15

Q. And this is where you begin your discussion of the Invisalign prior art reference, right? 13:15 13:15

A. Mm-hmm. 13:15

Q. A little bit more than halfway down the paragraph 58 your declaration says, Invisalign also instructs orthodontists to perform steps in office that could not be performed remotely or virtually, such as assessing tight contacts with floss and testing aligner retention with a dental scaler. 13:15 13:15 13:15 13:15 13:15 13:15 13:15

Do you see that? 13:15

A. Yes. 13:15

Q. What are the tight contacts that that sentence refers to? 13:15 13:16

A. Oh, it's the contacts between two teeth. Yeah, sometimes as teeth be moved, they become either too tight or too loose or it doesn't contact to where it's supposed to be. 13:16 13:16 13:16 13:16

Q. Would assessing tight contacts with floss be done with the aligner worn on the teeth? 13:16 13:16

A. No. 13:16

Q. When the Invisalign guide refers to assessing tight 13:16
contacts with unwaxed floss, that's not something that 13:16
evaluates aligner fit, right? 13:16
A. No, it's not for aligner fit. 13:16
Q. Now let's turn to paragraph 64 of your '248 13:16
declaration, please. 13:17
A. 64? Yes. 13:17
Q. In the first sentence of paragraph 64, do you see 13:17
where you say, In reality, there was no way to make 13:17
quantitative evaluations of aligner fit from a visual 13:17
inspection of a digital image in 2017? 13:17
A. Mm-hmm. 13:17
Q. When you say there was no way to make quantitative 13:17
evaluations of aligner fit from visual inspection of a 13:17
digital image in 2017, do you mean it was impossible? 13:17
A. Yeah, it is quantitative -- okay? -- measurement. 13:17
Yeah, it is impossible. If you, you know, what -- if 13:18
it's a precise measurement, yeah, it is -- it's not 13:18
there in 2017. 13:18
Q. And by visual inspections, you mean by a dentist's or 13:18
orthodontist's eyes making a visual inspection, right? 13:18
A. From a digital image, and this is pertaining to 13:18
looking at the pictures, yeah. 13:18
Q. Do you have an opinion whether using computer image 13:18
analysis would have allowed for quantitative 13:18

evaluations of aligner fit of a digital image in 2017? 13:18
A. I think depends on the techniques used, but I was 13:18
unaware of any digital technology that is able to 13:19
quantify aligner fitness in term of millimetrics or 13:19
some units of measurements at that time. 13:19
Q. So when you say there was no way to do it in 2017, are 13:19
you saying you are not aware of a known way to do it 13:19
or that it would have been impossible? 13:19
MS. PARKS: Objection to form. 13:19
A. Could probably mean both, you know, from my point of 13:20
view as an orthodontist, clinicians looking at 13:20
two-dimensional image being project to me, then I 13:20
would say there is no way to -- for me as an 13:20
orthodontist to measure it without, you know, at -- 13:20
with the technology that happened there in 2017. 13:20
But, you know, I don't know if there is any 13:20
other methods that they can, you know, use at that 13:20
time to measure such thing. 13:20
BY MR. ARGENTI: 13:20
Q. Are you saying you aren't sure whether it was possible 13:20
to make quantitative evaluations of aligner fit from 13:20
visual inspection of a digital image in 2017? 13:21
MS. PARKS: Objection to form. 13:21
A. I think with the technology in 2017 from the 13:21
orthodontist point of view, and using the digital 13:21

technology at that time, this quantitative evaluation 13:21
of aligner fit, it's -- it's not possible at that 13:21
2017. 13:21
BY MR. ARGENTI: 13:21
Q. It would not have been possible to make quantitative 13:21
evaluations of aligner fit using computer image 13:21
analysis analyzing a digital image in 2017, that's 13:21
your testimony? 13:22
MS. PARKS: Objection to form. 13:22
A. Yeah, with a digital image provided to us, as an 13:22
orthodontist at -- using the technology at that time, 13:22
I would say it is not possible. 13:22
BY MR. ARGENTI: 13:22
Q. Using what technology at that time? 13:22
A. We don't yet have solid, deep learning, for instance, 13:22
we don't have yet solid AI technology that's able to 13:23
identify the region of tooth -- tooth for tooth and 13:23
how far it is from the actual alignment, for instance. 13:23
Okay? And then just by looking at the digital image 13:23
and at that time. 13:23
So I mean, in the lab, probably, but I'm 13:24
not aware of anything on the hand of an orthodontist 13:24
that we can use this. 13:24
Q. Oh, so when you're saying it would not have been 13:24
possible, you are saying it was not in widespread use 13:24

among orthodontists? 13:24
A. I'm not aware -- 13:24
MS. PARKS: Objection to form. 13:24
A. Yeah. 13:24
BY MR. ARGENTI: 13:24
Q. When you're saying it would not have been possible to 13:24
make quantitative evaluations of an aligner fit using 13:24
computer image analysis of a digital image in 2017, 13:24
what you mean is that it was not part of the 13:24
widespread standard of care for orthodontists at that 13:24
time; is that right? 13:24
MS. PARKS: Objection to form. 13:24
A. Then yes, because we were just -- didn't have any 13:24
tooth that we can use readily and publicly available 13:25
or can even as our diagnostic tools to perform so in 13:25
2017. 13:25
BY MR. ARGENTI: 13:25
Q. Let's look now at the previous page of your 13:25
declaration, page 42 and paragraph 63. 13:25
In this paragraph, you have a photograph 13:25
from Exhibit 2063, correct? 13:25
A. Yes. 13:25
Q. And in the sentence above that photograph you say, 13:25
Importantly, the separation cannot be asserted with 13:25
precision even -- sorry. Let me start that over. 13:25

A. Okay. 13:26
Q. In the sentence above that photograph, you say, 13:26
Importantly, the separation cannot be assessed with 13:26
precision even though this appears to be a 13:26
high-quality photograph taken with controlled lighting 13:26
in acquisition conditions, not a patient-created 13:26
cellphone image. 13:26
Do you see that? 13:26
A. Yes. 13:26
Q. Why do you say the separation can't be assessed with 13:26
precision in this picture? 13:26
A. Because we just simply didn't have tool available or 13:26
to assess the situation in metrics, millimetrics. We 13:26
know there is a separation but how far and how much we 13:26
don't know. 13:26
Q. And you don't know because there was no widespread -- 13:27
A. Tools. 13:27
Q. -- available tool that was part of the standard of 13:27
care at that time? 13:27
A. Yes. 13:27
MS. PARKS: Objection to form. 13:27
BY MR. ARGENTI: 13:27
Q. Let's turn to paragraph 74 now on page 49 of your '248 13:27
declaration. 13:27
A. Page 49? 13:27

Q. Right, paragraph 74. 13:27
A. Yes. 13:27
Q. In this paragraph, you discuss Kim's disclosure 13:27
regarding checking a photo or video of an aligner 13:27
currently worn by the orthodontic patient to determine 13:27
if the aligner is normal and corresponds to an 13:27
appropriate step, correct? 13:27
A. Yes. 13:28
Q. At the end of paragraph 74, you say that the 13:28
assessment of the aligner is normal, means assessing 13:28
whether it has abnormalities such as damage, right? 13:28
A. Yes. 13:28
Q. If an aligner is damaged, could that prevent it from 13:28
fitting on the teeth properly? 13:28
A. Sometimes yes, sometimes no, depends on how extensive 13:28
is the damage and where the damage is. 13:28
Q. Aligner damage could cause an aligner fit issue, 13:28
correct? 13:28
A. Again, depending on where the damage is. Sometimes it 13:28
fits well, sometimes it does not. 13:29
Q. Are you familiar with the term bonded expander in the 13:29
context of orthodontic treatment? 13:29
A. Yes. 13:29
Q. What is a bonded expander? 13:29
A. It's a type of orthodontics device which is bonded or 13:29

glued to the tooth, teeth, and it's being used to 13:29
widen the jaw. 13:29
Q. So a bonded expander is an orthodontics appliance, 13:30
right? 13:30
A. It's an orthodontics appliance. 13:30
Q. Let's turn to paragraph 83 of your '248 declaration 13:30
please, where you discuss Salah. Let me know when 13:30
you're there. 13:30
A. Yes, I'm here. 13:30
Q. Looking at figure 11 of Salah that you have included 13:30
on this page, would you agree that this is an image of 13:30
teeth fitted with an orthodontic appliance? 13:30
A. Yeah, this is teeth with orthodontic appliance. 13:31
Q. And would you also agree that Salah teaches taking 13:31
such dental images with a cellphone? 13:31
A. Salah has the ability to take the image with a 13:31
cellphone. 13:31
Q. Under that image, figure 11, three lines down, do you 13:32
see where it has parentheses and it starts a quote, 13:32
"Salah similarly teaches." 13:32
Do you see that sentence? 13:32
A. Yes. 13:32
Q. And the sentence reads, Salah similarly teaches 13:32
acquiring dental images with a cellphone, including of 13:32
teeth fitted with orthodontic appliances. 13:32

That sentence is accurate, correct? 13:32
A. Yes. 13:32
MR. ARGENTI: Why don't we take a break and 13:32
I think I'm about done here but we'll take a short 13:32
break and then we can come back and see if we have any 13:32
additional questions. 13:32
THE WITNESS: Okay. Like 10 minutes? 13:32
MR. ARGENTI: Yeah, let's do -- why don't 13:32
we do till a quarter to the hour. How about that? 13:32
10:45. 12:45 your time. 13:33
THE WITNESS: Okay. 13:33
MR. ARGENTI: All right. Thank you. 13:33
(Recess taken at 1:33 p.m.) 13:45
(On the record at 1:45 p.m.) 13:45
BY MR. ARGENTI: 13:45
Q. Dr. Kusnoto, during any of the breaks today, did you 13:45
discuss your testimony with counsel for Dental 13:45
Monitoring? 13:45
A. No. 13:45
MR. ARGENTI: Thank you. That's all the 13:45
questions I have unless I have any follow-up after 13:45
redirect. 13:45
MS. PARKS: Okay. I just have a couple of 13:45
questions for you Dr. Kusnoto. 13:45
EXAMINATION 13:45

BY MS. PARKS: 13:45
Q. So first can you please pull up your '248 Patent 13:45
declaration. 13:46
A. Yes. 13:46
Q. Can you turn to paragraph 87. 13:46
A. Yes. 13:46
Q. About halfway down that paragraph do you see the 13:46
citation to Exhibit 2054 where it says Foroosh 13:46
transcript or Foroosh TR, period? 13:46
A. Mm-hmm. 13:46
Q. When you prepared the opinions set forth in this 13:46
declaration in paragraph 87, did you review 13:46
Dr. Foroosh's transcript? 13:46
A. I did. 13:46
Q. Okay. And then earlier today, do you recall 13:46
Mr. Argenti asking you questions about what terms and 13:47
the various references have specific meaning for 13:47
dental professionals? 13:47
A. Yes. 13:47
Q. And do you also recall telling Mr. Argenti that you 13:47
had conversations with Dr. Mongan about the substance 13:47
of these IPRs? 13:47
A. Yes. 13:47
Q. In the course of those discussions with Dr. Mongan, 13:47
did he ask you for clarification about any terms used 13:47

in the references? 13:47
A. Excuse me, any term of what? 13:47
Q. In your discussions with Dr. Mongan, did he ask you 13:47
for clarification about the meaning of the terms used 13:47
in various references? 13:47
MR. ARGENTI: Objection, scope. 13:47
A. I'm having a little bit problem hearing. Term in 13:47
various references? 13:48
BY MS. PARKS: 13:48
Q. Yes. Yes. In your discussions with Dr. Mongan, did 13:48
you discuss with him the meaning of terms used in the 13:48
references? 13:48
MR. ARGENTI: Objection, scope. 13:48
A. If you are -- again, I don't quite get the last 13:48
sentence. I'm so sorry. Term of similar references? 13:48
Is that -- 13:48
BY MS. PARKS: 13:48
Q. Yes, I can try it a different way. 13:48
Did you discuss with Dr. Mongan the meaning 13:48
of the Kim reference, the Invisalign reference, the 13:48
Salah reference, and the Frey reference? 13:48
MR. ARGENTI: Objection, scope, form. 13:48
A. Oh, the meaning of -- of that, yes. 13:48
BY MS. PARKS: 13:49
Q. And in each case in your discussions with Dr. Mongan, 13:49

did you give him your view of the meaning of those 13:49
references from the perspective of a dental 13:49
professional? 13:49
MR. ARGENTI: Objection, scope, form. 13:49
A. Yeah, I clarified the meaning. 13:49
BY MS. PARKS: 13:49
Q. Okay. And turning back to your '248 Patent 13:49
declaration, can you please look at paragraph 64. 13:49
A. Yes. 13:49
Q. And do you recall discussing the first sentence of 13:49
paragraph 64 with Mr. Argenti earlier? And this is 13:49
the sentence that states, "In reality, there is no way 13:49
to make quantitative evaluations of aligner fit from a 13:49
visual inspection of a digital image in 2017"? 13:50
A. Yes. 13:50
Q. And do you recall telling Mr. Argenti that there was 13:50
no widespread tool for doing this quantitative 13:50
evaluation as of 2017? 13:50
A. Yes. 13:50
Q. Putting aside whether a tool was widespread, are you 13:50
aware of any tools for doing this quantitative 13:50
evaluation in 2017? 13:50
A. No. 13:50
MS. PARKS: Okay. No further questions for 13:51
me. Thank you, Dr. Kusnoto. 13:51

MR. ARGENTI: Nothing from me. Thank you, 13:51
Dr. Kusnoto. 13:51
THE WITNESS: Thank you very much. 13:51
(The deposition was concluded at 1:51 p.m.
Signature of the witness was not requested
by counsel for the respective parties
hereto.)

CERTIFICATE OF NOTARY

STATE OF MICHIGAN)
) SS
COUNTY OF MONROE)

I, LEISA PASTOR, certify that this deposition was taken before me on the date hereinbefore set forth; that the foregoing questions and answers were recorded by me stenographically and reduced to computer transcription; that this is a true, full and correct transcript of my stenographic notes so taken; and that I am not related to, nor of counsel to, either party nor interested in the event of this cause.

LEISA PASTOR, CSR-3500, CRR,
Notary Public,
Monroe County, Michigan
My Commission expires: 9/7/27

&

& 2:4

1

1 20:5,7,13,20
10 36:4 56:7
10,755,409 6:2
1001 19:20,21 20:11,12
1002 42:21 43:7,8,9,11,13 43:14 46:24
1005 37:20
1006 44:14,15 44:17
1008 45:15,17 45:19
1009 46:1,2,3 46:17,24 47:23
101 19:21
10166 2:6
10:45 56:10
11 55:10,18
11,049,248 1:7 5:6
11,109,945 5:12
12th 13:1
14711 61:21
1:33 56:13
1:45 56:14
1:51 60:4

2

2-4 19:21
200 2:5
2000 42:25
2007 9:20
2010 9:20
2017 28:23 47:10 49:11,15 49:19 50:1,6 50:15,22,24 51:3,7 52:8,16 59:14,18,22
2024 1:17 4:2
2024-00052 5:5 7:20,21
2024-00110 5:12 8:11
2030 7:19,22,24 8:11 11:9,12 11:19 12:16 15:1,7,11,17
2054 39:23 40:20,25 57:8
2063 52:21
212 2:7
248 5:8 6:22 7:17 10:21 11:9 12:5,20 12:24 13:14 14:17,19,20,24 15:10,21,24 16:22 17:1,10 17:23,24 18:9 18:12 19:3,14 19:19,20 20:9 21:4,20,21 22:13,15,21 23:1,7,12 26:19 27:10 28:14 29:25 36:13 43:7,11 43:11,14 46:24 48:1,3 49:5 53:23 55:6 57:2 59:7
29 28:19

3

3 38:6,10
31 30:1
32 48:2
3500 1:18 61:22
351-2308 2:7
354-4154 2:15
36 17:2,6 36:13
37 48:4
3d 28:12

4

4 3:6 38:22
409 6:3,4,8,13
41 28:14,16,17 28:20
42 52:19
444 1:14
46 29:25 30:3,4
47 30:22 33:13 34:8 35:2,10 35:13,18
48 32:17 33:15 34:6,18,25 35:3,10,13,22 48:1
49 53:23,25

5

54 23:11,17,19 26:17
55 23:21
56 3:7
57 17:1,6 19:1 19:14 23:6 36:12 37:10 46:12
58 8:14 48:3,5 48:9

6

6 1:17 4:2
61 8:1
63 52:19
64 49:5,7,8 59:8,11
650 2:13,15
6876129 1:19

7

73 46:25 47:1,2 47:3
74 53:23 54:1,9

8

83 55:6
87 57:5,12

9

9 38:5
9/7/27 61:25
90 46:25 47:2,5 47:6,20

94304 2:14
945 5:15 6:22 8:11,19 10:24 11:12 12:8,20 12:24 13:18 15:13,14,16,19 15:24 16:22 43:9,18

a

a.m. 1:16 4:3 5:23 22:10
ability 55:16
able 28:2,4 40:21 50:3 51:16
abnormalities 54:11
above 25:16 52:23 53:2
abstract 20:12 38:19
accurate 6:21 17:13,14 56:1
acquire 47:13
acquiring 55:24
acquisition 53:6
act 33:23
actual 51:18
actually 13:10 40:9 44:24
add 35:17
addition 11:18
additional 26:13 56:6
addressing 17:24 34:13
ago 5:19 6:1,8 15:12,22
agree 14:9,10 23:21 46:9 55:11,14
ahead 9:4 45:1 45:2
ai 51:16
aid 33:4
align 1:4 11:2
aligned 39:1
aligner 15:24 16:1,2,3,9,13 16:19,19 17:10 18:10,11,14,15 18:17,18,19,21 18:23,24 19:4 19:7 21:5 23:7 23:8 24:19 25:1,10,24 26:1,14,25 27:8 28:6,22 29:2,7,10,11,14 29:15,15,17 30:9,10,18 31:16,24 32:1 32:4,5,6,9,11 32:15,18,20,20 32:21,22 35:23 39:9 48:14,24 49:3,4,10,14 50:1,4,21 51:2 51:6 52:7 54:4 54:6,10,13,17 54:17 59:13
aligner's 26:23 27:18
aligners 16:9 16:12 17:17,18 19:8,18 21:10 21:12,13,15 26:9 29:5 33:4 34:19 41:13,20
alignment 16:17 30:8,10 38:7,16,20,21 38:22,25 41:13 51:18
allowed 49:25
allyson 2:3
alto 2:14
analysis 21:3 22:23,25 49:25 51:7 52:8
analyzing 20:21 51:7
angle 37:23,23 38:8,8
answer 7:9 9:4 23:15,18 25:19 26:3 30:16 33:25 39:14,16 41:3 42:8 45:2 45:2 46:20
answers 7:4 61:9
aparks 2:8
appeal 1:2
appearances 2:1
appearing 2:9 2:17
appears 38:17 53:4
appliance 55:3 55:5,12,13
appliances 55:25
application 22:2,15
applied 28:5 41:6,25
applies 40:15
apply 6:12 19:10
approach 47:21
appropriate 54:7
approximately 7:13
arch 20:21 21:3 22:23,25 39:2 39:2
argenti 2:11 3:6 4:11 5:24 9:7 11:22 14:16 16:25 18:2,8 21:18 22:3,6,11,19 23:4 24:4,9,16

24:22 25:8,14 25:20 26:4 27:6 28:7 36:1 36:5,8,11,25 41:22 42:5,22 43:3 44:25 45:12 50:19 51:4,13 52:5 52:17 53:22 56:3,8,12,15,20 57:16,20 58:6 58:13,22 59:4 59:11,16 60:1
art 23:14 48:7
artificial 24:6 24:25
aside 34:16 47:19 59:20
asked 21:25
asking 13:15,20 13:21,23 17:15 17:22 40:13,14 41:10 57:16
aspect 35:21 39:15 40:8
asserted 52:24
assess 26:10 28:5 29:11 31:23 32:1 53:13
assessed 32:18 32:20 53:3,10
assessing 16:13 29:13,15 34:10 35:5,14,23 48:13,23 49:1 54:10
assessment 22:14 30:8,9 33:12,15 34:6 34:7 35:1,1,17 35:22 54:10
assessments 30:5,11 35:9 35:12
assume 7:1
assumption 27:24
attachment 33:1
attachments 32:22,25
attention 14:7
audio 11:20 22:5 23:17
available 37:17 43:22 46:1 52:14 53:12,18
avenue 2:5
avoid 42:14
aware 6:22 14:18 27:3 40:14 42:3 44:12 50:7 51:22 52:2 59:21

b

back 12:13 22:20 23:11 36:4,5,12 39:21 40:22 47:9 56:5 59:7
background 25:23 26:8
bare 26:12
based 19:16,23 22:14 24:17 39:18 42:4
basis 19:4,6 21:19
beginning 21:7
behalf 2:9,17
believe 10:22 12:17 37:20 39:12 40:4 43:24 44:17 45:19 46:4,18
beyond 25:16
big 39:8
bioinformatics 23:25 24:24
bit 20:4 45:9 47:7 48:9 58:7
bite 39:4
blog 9:15 45:25
board 1:2 47:11
bonded 54:21 54:24,25 55:3
bother 31:25
bottom 7:23 37:24 38:7
break 7:7,10,12 36:2 56:3,5
breaks 56:16
bringing 45:3
broader 18:23 34:9 35:3
budi 1:13 3:4 4:5,14
buried 44:3

c

california 2:14
call 39:2
called 4:6
care 52:10 53:19
carried 23:8
case 1:6 25:6 58:25
cases 33:20
categories 28:22
cause 54:17 61:14
caused 32:11
caution 9:2
cellphone 53:7 55:15,17,24
central 37:25
certain 39:5
certainly 25:24 26:8 27:18
certificate 61:1
certify 61:6
change 8:20
characterize 16:21

check 19:21 30:18 32:4 33:18 35:7
checked 29:24
checking 32:9 54:4
chicago 1:15 4:1,16
citation 57:8
cited 10:15,17
claim 19:6,16 19:17 21:13 38:10,21
claims 19:23 22:16
clarification 5:23 6:25 57:25 58:4
clarified 59:5
clarity 7:19
clean 4:25 5:1
clear 6:14,23 14:23 16:24 39:9 41:13,20
clinical 22:2,2 22:15
clinician 22:1
clinicians 50:11
clyde 13:12
coincide 30:15
collection 37:24
column 20:5,7 20:20
columns 20:16 20:18
combinations 46:10
come 36:3,5 38:18 56:5
commencing 1:16
commission 61:25
common 29:4
company 26:23
compared 44:10
comparison 31:2,11
complete 6:20
completely 31:22,25 41:11
complication 34:1,9 35:5
complications 32:23,24 33:6 33:9,16 35:20
composite 33:1
computer 23:24 24:23 27:20 49:24 51:6 52:8 61:10
concern 42:14
concluded 60:4
concluding 21:19
conclusion 19:13
conditions 53:6
consider 20:1
considered 41:4
consistent 47:15
construct 16:17
contact 48:21
contacts 48:13 48:17,19,23 49:2
contents 3:1
context 54:22
continue 24:12
controlled 53:5
conversations 57:21
copies 4:25 5:1
copy 7:17 14:25 37:16 41:1 42:6,8,15 42:17 43:4,9 44:14 45:15 46:1
corner 7:23
correct 5:13 8:8 11:16,24 13:2 15:25 23:14 24:6,10 26:15 31:8 32:19,23 34:12 35:15 36:18 42:22 45:11,24 47:24 52:21 54:7,18 56:1 61:11
correctly 44:7
corresponds 54:6
counsel 9:3 13:7,9 19:9 56:17 60:6 61:13
county 61:4,24
couple 15:12,22 37:22 56:23
course 29:2 34:11 37:16 57:24
court 5:22
created 53:6
criteria 25:12
cross 11:20
crr 1:18 61:22
crutcher 2:4
csr 1:18 61:22
current 35:19
currently 4:15 54:5
curve 39:3

d

damage 54:11 54:16,16,17,19
damaged 54:13
date 61:7
days 15:12,22
dds 1:13 3:4 4:5

decisions 10:4 10:7
declaration 4:20 7:16 8:8 8:10,19 9:21 10:16,18,19,23 11:1,5,9,12,17 13:1,13,17,22 14:2,9,21,24,25 15:11,17,20 17:2,13,16,23 17:24 18:4,11 19:1,15 21:11 23:6,11,20 28:14 29:25 36:13 39:24 41:2 42:7,16 42:18 46:13,23 48:2,3,10 49:6 52:19 53:24 55:6 57:3,12 59:8
declarations 9:5 10:8 11:14 11:18,23 12:2 12:15,25 15:6
deep 51:15
defined 26:17
definition 23:13,16,19,22 24:18 25:16,25
delayed 29:20
deliver 28:2
dental 1:8 9:16 10:20 11:2,15 19:9 20:21 21:2 22:23,24 23:9,12 24:10 24:14 25:15,23 26:7 27:9,14 28:11,13 35:20 36:22 37:4,6,6 37:12 38:1,14 38:25 39:2,2 39:10,13,20 40:5,16 41:7 41:25 43:25 44:10,18 45:20 46:5,19 48:14 55:15,24 56:17 57:18 59:2
dentist 25:6 28:3 29:4
dentist's 49:20
dentistry 24:14
dentists 26:23 27:13 28:13
dentition 31:2 31:3 32:24,24 33:5,16 34:1,9 35:5,19 39:2,3
depending 54:19
depends 50:2 54:15
depiction 47:18
deposition 1:13 5:18,25 6:7,9 6:13 8:22 9:3 9:11,18,22,25 10:1,5,11,14 60:4 61:7
described 35:22
description 20:1
designated 31:14
desired 35:15
destination 31:14
detail 9:24 14:18
detect 31:11
detected 32:21
detention 32:23
determine 54:5
determining 19:11
detrimental 34:21
develop 33:21
developing 33:9
device 54:25
diagnostic 52:15
different 16:17 18:4,20 21:20 34:6 35:1 40:15 41:6,25 58:18
differently 39:12 40:4 43:24 44:18 45:20 46:4,18
digital 49:11,15 49:22 50:1,3 50:22,25 51:7 51:10,19 52:8 59:14
digits 6:3
dimensional 50:12
direction 30:20 34:5,20
directly 21:15
disagree 23:1
disagreement 47:19,25
discipline 24:1
disclosure 54:3
discuss 23:12 30:23 54:3 55:7 56:17 58:11,19
discussed 13:13 13:17 17:19
discussing 14:14 59:10
discussion 48:6
discussions 9:2 57:24 58:3,10 58:25
distinction 33:12
document 10:17 42:3
documents 10:15

doing 28:10 59:17,21
door 44:21
dr 4:12 5:25 9:1,21 10:1,11 10:19,23 11:1 11:8,11 12:1,5 12:8,11,14,18 12:23 13:5,13 13:14,15,17,18 13:20,22 14:2 14:6,8 15:5 22:12 23:15 36:2,12 39:12 39:14,17,25 40:4,6,11,14,19 41:1,2,5,10,10 41:18,24 42:6 42:7,12,15,17 42:18 43:24 44:6,9,17 45:19 46:4,6 46:18,23,23 47:3,7,22 56:16,24 57:13 57:21,24 58:3 58:10,19,25 59:25 60:2
drop 11:20
due 11:20
duly 4:7
dunn 2:4

e

earlier 11:23 12:2 15:3,6 36:14 57:15 59:11
education 23:24 24:24 25:15 26:13 47:12
either 29:20 31:13 48:20 61:13
electronic 8:3 8:14
ended 29:20
engineering 23:25 24:24
entirely 16:1,3
etcetera 17:11
evaluate 29:5 31:19
evaluated 27:4
evaluates 49:3
evaluation 51:1 59:18,22
evaluations 49:10,14 50:1 50:21 51:6 52:7 59:13
event 61:13
exact 12:12
exactly 14:12 19:12
examination 3:6,7 4:10 30:6 30:23 56:25
examined 4:9
example 29:7 30:16,23 40:10 40:13
excellent 27:5
except 4:20 40:19
exception 45:9
exceptions 29:1
excuse 58:2
exhibit 3:11 7:19,22,24,25 8:11 9:15,20 11:9,12,19 12:16 14:25 15:11,17 19:20 20:11 37:20 39:23 42:20 43:7,9 44:14 44:17 45:15,18 45:25,25 46:3 46:17,24,24 47:23 52:21 57:8
exhibits 3:9,12 4:22 9:6,17 15:7 43:21 46:15
expander 54:21 54:24 55:3
expected 6:18 31:3,6,17 32:10 33:14 34:3
experience 24:5 24:25 25:15 26:14 27:7,21
expires 61:25
explained 14:10
explaining 21:17
extensive 54:15
extent 47:20
eyes 49:21

f

failed 31:25
falls 27:24
familiar 40:9 54:21
familiarity 24:13
far 31:13 41:5 51:18 53:14
field 15:23 16:21 17:9,10 18:4,5,9,13 19:3,11,14,23 20:3,23,25 21:2,4,20 22:13,21,22,24 23:7 26:19,22 27:9,17 36:15
figure 55:10,18
figures 20:15
file 20:14 42:25
filed 14:21
files 44:3

filling 33:2
find 37:19 44:2
first 4:7 6:3 7:23 15:3 17:4 18:25 23:5 31:19 35:18 37:8 38:19 47:6,13,19 49:8 57:2 59:10
fit 24:15 29:11 29:14,15,17 30:9,10,18 31:16,24 32:1 32:5,5,6,9,11 32:22 45:10 49:3,4,10,14 50:1,21 51:2,6 52:7 54:17 59:13
fitness 50:4
fits 54:20
fitted 55:12,25
fitting 32:16 54:14
floss 48:13,23 49:2
focus 34:16,24 37:8
follow 20:6 56:21
follows 4:9
foregoing 61:8
form 11:4 14:11 16:23 18:1,7 21:6,23 21:25 22:17 23:2 24:2,7,11 24:20 25:3,11 25:18 26:2,20 27:22 35:25 36:23 41:8 42:2 50:9,23 51:9 52:3,12 53:21 58:22 59:4
formed 22:12
forming 20:2 22:4
foroosh 39:12 39:14,25 40:4 40:11,25 41:5 41:10,10,18,24 42:10,12 43:24 44:6,9,17 45:19 46:4,6 46:18,21,23 47:3,7 57:8,9
foroosh's 9:21 10:1,11 13:13 13:17,22 14:2 14:8 39:17 40:6,14,19 41:2 42:7,15 42:17 47:22 57:13
forth 57:11 61:8
found 20:19 43:2
frame 12:12
frequently 7:14
frey 9:15 36:18 45:25 46:12,17 47:17 58:21
friday 1:17 4:2
front 37:25 38:7,7 41:17 42:4
full 4:13 61:11
further 34:18 59:24

g

general 28:21 38:2
generalization 47:16
generalized 47:21
getting 45:11
gibson 2:4
gibsondunn.c... 2:8
give 37:21 38:17 39:21 40:10,13,22 44:1 45:4 59:1
given 26:7 29:17,19 31:15 31:21
glance 15:12,21 16:6
glanced 9:23
glancing 40:7 42:12
glued 33:2 55:1
go 9:4 18:20 20:14 26:18 32:6,17 39:21 40:22 44:22 45:1,2,2 46:15 47:9
goal 18:18,24
going 6:13 35:7 36:1 42:15
good 4:12 32:6 34:14 47:4,4 47:18
goodrich 2:12
grabbed 9:19
grasping 44:6
great 9:24 14:18
ground 6:12
growths 31:22
guess 17:20 25:12 36:5
guide 49:1
gum 33:9,19
guy 45:3,21

h

halfway 48:9 57:7
hand 51:22
hands 19:19
happen 29:1
happened 50:15
happy 41:1 42:6

hard 22:7
head 7:5
heading 20:22 21:1 22:20
health 34:13,16
hear 22:7 44:20
hearing 58:7
help 41:2 42:7
helps 46:25
hereinbefore 61:8
hereto 60:7
high 53:5
hmm 11:21 17:3 19:2 20:24 30:7 45:14 46:14 48:8 49:12 57:10
holder 2:17
hopefully 6:23
hour 7:13 36:2 56:9
human 39:3
hygiene 32:14 33:19
hygienist 27:15
hypersensitiv... 33:22

i

i.e. 34:20
idea 18:15,24
ideal 39:2,5
identification 16:18
identified 5:11
identify 28:21 51:17
ignore 44:21
illinois 1:15 4:1
illustration 45:10
image 20:21 21:3 22:23,25 47:13 49:11,15 49:22,24 50:1 50:12,22 51:6 51:7,10,19 52:8,8 53:7 55:11,16,18 59:14
images 55:15 55:24
imaging 24:14 24:14 26:21,22 27:7,16 28:10 28:11,12
important 29:15 30:18
importantly 52:24 53:3
impossible 49:15,17 50:8
inaccurate 39:18
include 24:13 25:5 29:13 32:22 35:19
included 55:10
including 38:19 55:24
independent 31:18
indicate 31:7
information 12:4
informations 16:15,16
inside 28:2
inspect 35:18
inspection 49:11,14,21 50:22 59:14
inspections 49:20
instance 14:4 47:18 51:15,18
institution 10:4 10:7
instructs 48:10
intelligence 24:6 25:1
interaction 13:7
interested 61:13
interfacing 11:13
interference 22:5
interpreted 39:12 40:4 43:24 44:18 45:19 46:4,18
interrupts 5:22
interval 29:14
intervals 29:12
invention 21:2 21:15 22:22,24
invisalign 9:10 36:17 44:13,16 48:7,10 49:1 58:20
involve 35:13
involved 6:1
involving 6:8
ipr 5:3,5,11,11 7:19,21 8:11 10:21,24 11:9 11:12 12:6,9 14:20 15:16,17 43:7,10,14,20
ipr2024-00052 1:6
iprs 4:23 5:5 9:22,25 10:5 10:12 11:2,14 11:23 12:3,11 12:14,19,23 13:5 15:6 57:22
issue 31:8 34:16,17 42:15 46:10 47:22 54:17
issues 31:10

j

jaw 55:2
job 1:19
john 10:19
july 13:1,1

k

keep 36:16
kim 9:8,9 36:17 37:9,13,16,22 38:5,10,14 39:7,11,19 40:3,16 41:7 41:23 43:23 44:2,5,8 58:20
kim's 54:3
kind 47:10,14
knocking 44:20
know 7:14 11:8 11:10,11 12:1 14:13 16:13,14 17:17 18:18 20:13 21:9 25:5,6,6,22 26:6,6,9,25 27:14,15,18,25 28:1,5,9,10 31:25 33:7,8 37:18 38:8 39:5,8,24 40:7 40:7 41:9,16 42:9 44:5 47:10,17 49:17 50:10,14,16,16 50:17 53:14,15 53:16 55:7
known 50:7
kusnoto 1:13 3:4 4:5,12,14 5:25 9:1 15:5 22:12 23:15 36:2,12 41:1 42:6,18 46:23 56:16,24 59:25 60:2

l

lab 28:11 51:21
lake 1:14
leads 21:12,13
learning 24:5 24:25 27:21,23 51:15
left 37:23,24 38:8
legal 13:7,9 19:10
leisa 1:18 61:6 61:22
lighting 53:5
lines 55:18
little 20:4 22:7 22:8 34:18 36:1 45:9 47:7 48:9 58:7
llp 2:4
located 4:15
location 31:12 34:10,10 39:4
long 7:8 40:20
look 8:10 18:12 18:25 29:25 30:22 31:20 37:15,21 39:23 40:12 42:10 44:1 52:18 59:8
looked 11:19 36:14
looking 22:20 23:5 33:14,16 34:2 36:16 42:24 43:1,5 43:11 49:23 50:11 51:19 55:10
looks 19:19
loose 48:21
lot 26:24,25 27:17 38:21
loud 21:1
lunch 45:3

m

m 1:18
machine 24:5 24:25 27:21,23
made 27:4
main 18:15,23 18:24 35:8
make 14:3 21:24 31:1,19 33:23 42:23 43:13 49:9,13 50:21 51:5 52:7 59:13
making 14:1 49:21
margenti 2:16
marked 7:22 11:18 12:15
match 31:6
materials 33:2
matter 17:22
matthew 2:11
mean 6:9 13:2 16:4,12 25:12 25:22 29:23 32:15 33:5 36:24 37:7 38:2 41:14,20 45:24 46:22 47:4,18 49:15 49:20 50:10 51:21 52:9
meaning 36:22 37:7,12 38:14 38:24 39:19 57:17 58:4,11 58:19,23 59:1 59:5
meaningful 38:1
means 39:1 41:21 54:10
measure 50:14 50:18
measurement 49:16,18
measurements 50:5
medical 24:14

meets 25:12
memory 16:7
mention 39:9
mentioned 14:13 19:22 21:10 27:25 36:17 38:22 40:1 41:12 44:5 46:12
mentioning 41:14
mentions 46:24
method 38:6 47:10
methods 20:21 47:8,15 50:17
metrics 53:13
michigan 61:2 61:24
mill 2:13
millimetrics 50:4 53:13
minimum 26:12
minute 37:21 45:4
minutes 36:4,6 56:7
misinterpreted 44:10
misspoke 48:2
mistaken 13:12
misunderstan... 41:19 42:13
misunderstood 17:20 21:8 40:1 41:11,24
mm 11:21 17:3 19:2 20:24 30:7 45:14 46:14 48:8 49:12 57:10
mobile 33:10
modify 8:8
moment 8:9,21 39:21 44:1
mongan 10:19 11:1,8,11 12:1 12:5,8,11,14,18 12:23 13:5,14 13:15,18,20 14:6 57:21,24 58:3,10,19,25
mongan's 10:23
monitoring 1:8 9:16 11:3 56:18
monitoring's 10:20 11:15 19:9 23:12
monroe 61:4,24
month 5:19 6:1 6:8
months 12:12 14:12
morning 4:12
mouth 28:3
move 22:7 29:21,22 31:13 31:14 33:8,17 33:20 34:3,19
moved 32:10 33:7,14 34:2 48:20
movement 33:20 34:12,17 34:21,24 35:4 35:5,8,14,16
moving 30:19 31:12 33:4 34:4,5,11 35:15
multidiscipli... 24:13 25:5 26:7

n

name 4:13
necessarily 16:18 18:21 30:12,14
need 7:9 27:8 27:13 31:19 37:18 44:22 45:2
needed 42:9
neighboring 39:6
never 14:6
new 2:6,6
nine 36:6
nodding 7:4
non 34:20
normal 54:6,10
notary 61:1,23
notes 4:19,20 61:12
nuance 21:11 21:14
number 43:12
numbered 20:16
numbering 20:17
numbers 37:18

o

oath 6:18
objection 11:4 14:11 16:23 18:1,7 21:6,23 22:17 23:2 24:2,7,11,20 25:3,11,18 26:2,20 27:22 35:25 36:23 41:8 42:2 50:9 50:23 51:9 52:3,12 53:21 58:6,13,22 59:4
obviousness 46:10
occur 29:7
offered 3:12
office 1:1 48:11
oh 20:8,10 28:18 38:5

42:24 44:2 48:19 51:24 58:23
okay 4:25 5:5 6:4,7,15,16 7:2 7:3,5,6,10,11 7:15,25 15:8,9 16:5,5 20:12 20:20,20 23:21 31:21,22 36:3 36:7,8 42:11 42:23 43:6,20 44:16 45:10,13 47:19 49:16 51:19 53:1 56:7,11,23 57:15 59:7,24
opinion 15:23 17:11 18:3,9 21:24 22:1,13 36:14 41:5,16 41:18 49:24
opinions 20:2 22:4 57:11
oral 32:14 33:19
ordinary 23:13
organize 45:4
orthodontic 14:14 41:12,21 47:15 54:5,22 55:12,13,25
orthodontics 14:5 25:23 26:8,10 47:9 54:25 55:3,5
orthodontist 13:24 21:24 22:1,14 28:4 29:5,11 31:1 38:2 50:11,14 50:25 51:11,22
orthodontist's 49:21
orthodontists 24:15 32:18 48:11 52:1,10
overbite 39:5
own 14:4 47:13
owner 1:9 10:21,24

p

p.m. 36:9,10 45:6,7 56:13 56:14 60:4
page 2:13 3:3 3:11 7:23,23 7:25,25 8:14 17:2,6 20:13 20:13,17,18 28:16,19 30:1 36:13 38:4,5 48:2,3 52:18 52:19 53:23,25 55:11
pain 33:24
palo 2:14
paragraph 14:8 17:1,5,6 19:1,14 23:6 23:11,17,19,21 26:17 28:14,17 28:20,21 29:25 30:2,17,22,22 30:23 32:17 33:13,15 34:6 34:7,18,25 35:2,3,10,13,13 35:17,18,22 36:12,17,20 37:10,22 38:17 38:18 40:10 44:1 46:12 47:1,3,5,6,20 48:1,3,9 49:5,8 52:19,20 53:23 54:1,3,9 55:6 57:5,7,12 59:8 59:11
paragraphs 46:25
parentheses 55:19
park 2:5
parks 2:3 3:7 9:1 11:4,7 13:9 14:11 16:23 18:1,7 21:6,23 22:17 23:2 24:2,7,11,20 25:3,11,18 26:2,20 27:22 35:25 36:23 41:8 42:2,20 44:23 45:1 50:9,23 51:9 52:3,12 53:21 56:23 57:1 58:9,17,24 59:6,24
part 16:2,9,19 20:15 25:4 29:10 34:10,12 35:5,8,16 44:6 45:10,23 52:9 53:18
particular 25:7 27:24 34:14 38:4 39:4,4 40:18
parties 60:6
party 61:13
pass 31:23
passed 32:4
past 20:14
pastor 1:18 61:6,22
patent 1:1,2,7,9 2:17 5:6,8,12 5:15 6:1,4,8,13 7:17 8:11,20 10:20,21,24,24 12:5,8,24 13:14,18 14:17 14:20,21,24 15:10,13,14,16 15:19,22,24,24 16:6,7,20 17:10,15,17,23 17:24 18:5,10

18:12,13 19:3 19:6,11,14,17 19:19,23 20:2 20:9,16 21:4,9 21:20,21 22:13 22:21 23:1,7 23:12 26:19 27:10 46:24 57:2 59:7
patents 14:19 16:22 19:17
patient 25:2 33:21 34:21 47:12 53:6 54:5
patient's 28:3 30:6 31:2,6,20
patients 24:19 33:23
pending 7:8,9
people 26:21 27:5,7 28:10
perform 32:1 48:11 52:15
performed 35:9 48:12
period 57:9
person 23:13 23:24 27:25 28:8
perspective 59:2
pertain 40:25
pertaining 9:16 12:20 13:23 44:5 49:22
petitioner 1:5
phone 47:13
photo 37:25 54:4
photograph 52:20,23 53:2 53:5
photographs 41:13,21
photography 14:5,15 37:4,5 37:6
photos 37:24 37:25
phrase 46:3,7,7
pick 23:18
picture 53:11
pictures 49:23
pile 43:5
place 29:21,22
placed 33:2
plaintiff 2:9
please 4:12 7:4 7:16 8:1 17:2 20:5 28:15 36:13 39:21 49:6 55:7 57:2 59:8
point 13:23,24 13:25 14:7 26:10 31:3,7 32:2,10 37:14 38:4,6,13,22 39:7,17 41:23 44:9 50:10,25
pointed 14:7
poor 31:16 32:11,14 45:10
portion 14:2 22:9
portions 13:22
posa 23:16,19 23:24 24:5,10 24:12,17,18 25:7,9,16,22,25 26:6,11,12,17
positioning 17:20
possible 50:20 51:2,5,12,25 52:6
potential 31:10
practice 47:9 47:15,22
preceding 18:16
precise 49:18
precision 52:25 53:4,11
preliminary 11:15
preparation 9:11,17,22
prepare 8:22
prepared 57:11
preparing 10:5 10:8,14 14:20 15:16 42:10
prescribe 28:2 32:7
prescribed 29:18,19
present 13:6 21:2 22:22,24
pretty 22:6
prevent 54:13
preventing 31:16
previous 5:21 5:25 6:13 30:17 33:25 35:1 52:18
primary 30:5
principle 19:10
prior 4:23 48:7
probably 50:10 51:21
problem 33:9 33:19 58:7
problems 32:21 32:22
proceeding 6:25
proceedings 5:3
professional 23:9 24:10 39:13,20 40:5 40:17 41:7 42:1 43:25 44:10,18 45:20 46:5,19 59:3

professionals 27:9 36:22 37:12 38:15,25 57:18
progress 27:3 29:13
progressing 31:17
project 50:12
properly 54:14
proposed 23:13 47:11
provide 6:20 7:4 19:9 21:25 25:1,10 26:1,8 26:14 41:1 42:6
provided 11:2 51:10
provides 24:19
providing 6:17 16:14 27:2 38:19
ptab's 10:4,7
public 38:3 61:23
publicly 52:14
pull 7:16 57:2
purporting 47:21
put 15:6
putting 59:20

q

qualifications 25:16 26:13
qualified 25:1 25:10
qualify 25:25
quality 53:5
quantify 50:4
quantitative 49:10,13,16,25 50:21 51:1,5 52:7 59:13,17 59:21
quarter 56:9
question 6:24 7:2,8,9,9 11:17 15:13 39:25 41:3,15 42:8 43:22
questions 6:23 13:16,21,21,23 14:1 15:7 16:24 17:21 21:8 25:19 56:6,21,24 57:16 59:24 61:8
quick 15:12,21 16:6
quiet 22:6
quite 10:9 13:10 16:24 26:11 27:23 40:8,23 41:17 47:5 58:14
quote 55:19

r

rather 7:4
reach 19:13
reached 41:4
read 17:4 19:8 20:25 22:10
readily 52:14
reads 22:22 47:8 55:23
reality 49:9 59:12
really 38:2 47:11
rearranged 45:8
reason 6:20 32:13,14
rebuild 32:2
recall 5:18 10:25 12:12 13:11 16:7 19:12 57:15,20 59:10,16
recess 36:9 56:13
recollection 42:4
record 4:13 6:15 22:9 36:10 44:22 45:6,7 56:14
recorded 61:9
records 37:6
redirect 56:22
reduced 61:10
refer 5:8,15 6:4 13:9 14:23 15:5 30:5 33:5 46:7,21 47:17 47:21
reference 9:8,9 9:10,13 14:1 37:9,15,16 39:11 40:3 43:23 44:2,13 44:17 45:13,18 46:7,9 48:7 58:20,20,21,21
references 4:21 4:22 9:6,8,19 14:3,4 36:18 36:21 57:17 58:1,5,8,12,15 59:2
referring 14:24 21:8 37:3,14 38:10 42:20
refers 48:17 49:1
refinement 32:2
regard 5:3
regarding 13:13,17 35:22 54:4
regards 6:22
regime 32:8

region 33:22 51:17
regular 29:11 29:14
reinforced 47:11
related 5:6 21:15 23:25 24:24 30:11 61:12
relates 5:12 21:2,16 22:22 22:24
relation 9:3
relationship 39:5
relevant 15:23 16:21 17:9,10 18:4,5,9,13,15 19:3,11,13,23 20:3 21:4,10 21:19 22:13 23:7 25:7 26:19 27:8,9 27:18 36:15
remainder 20:1
remember 6:3 10:10 14:3,4 14:12,13 40:23 41:18
remote 1:12 38:19
remotely 48:12
rendering 31:3
rephrase 11:17 35:11
report 10:13 38:23 39:24
reporter 5:22 22:10
requested 22:9 60:5
require 28:3
rescan 32:2
research 28:10
researcher 27:16
respective 60:6
response 10:21 10:24 13:25
responses 11:15
rest 36:16
retention 48:14
reveal 9:2
review 9:10,13 9:15,17,21,23 10:4,7,13,15,17 14:20 15:16 16:7 46:25 57:12
reviewed 8:25 9:5 10:11,19 10:23 11:1,6,8 11:11 12:1 14:17 15:10,14 15:19
right 4:25 5:6 6:2 7:17,23 14:10 15:2 17:12 19:24 20:22 22:12 23:22 24:1,17 24:19 25:9,17 25:25 26:1,19 27:12,21 28:23 30:6,9,13,16,20 30:24 31:4,17 32:12 34:3 35:7,21,23 37:1,20,23,24 38:8,11 40:2,3 41:15 42:1 48:7 49:3,21 52:11 54:1,11 55:4 56:12
road 2:13
room 4:17
rosati 2:12
routine 29:10
rpr 1:18
rules 6:12,24
run 6:14

s

salah 9:13 36:17 45:13,18 55:7,10,14,16 55:20,23 58:21
sas 1:8
saying 17:12,14 18:3,6 26:11 26:12 27:14 33:15 50:7,20 51:24,25 52:6
says 17:9 19:7 19:17 20:21,23 21:21 40:11 48:10 57:8
scaler 48:14
science 23:25 24:23 27:20
scientist 27:17 27:20
scope 58:6,13 58:22 59:4
second 37:19 44:20,22
secondarily 31:24
section 9:16
see 20:18,22 31:22 34:22 36:22 37:2,18 42:24 46:22 48:15 49:8 53:8 55:19,21 56:5 57:7
segmenting 17:19
sensitive 33:10
sensitivity 33:19
sentence 14:8 17:4,23 19:1 20:25 22:20 23:1,5 35:18 36:24 37:10 47:6,14,20 48:17 49:8

52:23 53:2 55:21,23 56:1 58:15 59:10,12
separation 52:24 53:3,10 53:14
september 1:17 4:2
set 34:16 57:11 61:8
several 33:3 38:18,18
shape 19:7
short 56:4
side 37:23,23 38:8,8
signature 8:3 8:15,17 60:5 61:21
signed 12:15,24 13:1
signing 15:10 15:19
similar 13:19 15:13,21 31:20 58:15
similarity 46:21
similarly 55:20 55:23
simply 53:12
simulation 31:21
sitting 8:7 40:24
situation 53:13
skill 23:13
software 27:21 27:24
solid 51:15,16
somebody 44:20
somewhat 31:18
sonsini 2:12
sorry 9:1 17:5 30:2 38:5 42:25 45:3,21 48:2 52:25 58:15
sounds 41:3
speak 12:11,14 12:18
special 39:19 46:16
specific 13:21 14:1,8 21:12 36:21 37:7,12 38:14,24 40:9 40:10 57:17
specifically 15:5 28:12,12
spoke 13:5 14:6
spoken 12:5,8 12:23
ss 61:3
stage 31:21
staging 27:4
standard 41:12 52:10 53:18
standardized 14:5,14 37:4,6 41:20
start 52:25
starts 55:19
state 4:12 29:19 61:2
stated 21:13
statement 17:13 25:4
states 1:1 29:17 31:15 35:19 59:12
stenographic 61:11
stenographic... 61:9
step 29:7 54:7
steps 18:20 28:22 29:1,4 48:11
street 1:14
stuff 17:18
submitted 10:20 11:9,12 11:14,23 12:2
substance 57:21
suggests 47:14
suitable 26:14
support 11:15
supporting 10:23
suppose 26:16
supposed 31:13 48:22
sure 10:9 11:10 13:10 25:19 26:3,11,25 27:23 31:19 33:23 39:14,15 39:22 41:9 42:9,23 43:13 44:24 46:20 47:5 50:20
surface 38:20
surrounding 34:15 37:25
sworn 4:7

t

table 3:1
take 7:7,10,12 7:14 8:10 16:6 36:2 37:8 40:11 42:10 47:22 55:16 56:3,4
taken 1:14 6:7 36:9 53:5 56:13 61:7,12
talk 11:20 33:13 35:2,12
talking 5:9,16 6:5 14:14 20:12 34:7,25 35:9
teaches 55:14 55:20,23

team 24:13 25:5
technical 20:23 20:25 22:21 39:15 40:8
technician 26:22
technicians 27:14 28:11,11
techniques 50:2
technology 1:4 28:5 50:3,15 50:24 51:1,11 51:14,16
teeth 16:18 30:8,10,19 31:6,12,20 32:10 33:3,4,4 33:7,14 34:11 34:15 35:14,16 38:6,16,20,21 38:22,24 39:6 41:13 48:19,20 48:24 54:14 55:1,12,13,25
tell 6:18 7:1 21:9 45:1
telling 57:20 59:16
tenth 30:24
term 11:5 14:5 33:18 38:13,24 39:10,19 45:24 47:25 50:4 54:21 58:2,7 58:15
terminology 38:1 40:16 41:6,11,23 44:6,12 45:11 45:24 46:16 47:4,23,25
terms 36:21 37:3,11,13 39:11 40:3 43:23 44:4,8 44:16 45:18 46:3,17 57:16 57:25 58:4,11
testified 4:9
testify 4:7
testimony 6:17 6:21 39:17 40:15,19 51:8 56:17
testing 48:13
text 20:15
thank 36:7 56:12,20 59:25 60:1,3
thing 31:16 38:8 40:1 50:18
things 18:16 33:11 39:8 44:4
think 10:6,9 11:5 12:4 13:10 16:8 18:22 21:7 23:17 24:15 28:25 29:3 30:16 37:4,25 38:18 39:15,18 40:19 41:9,24 42:12 44:5,20 45:8,9,23 46:6 46:6,7 47:3 50:2,24 56:4
thought 17:15
three 28:21 44:4 55:18
tight 48:13,17 48:21,23 49:1
till 56:9
time 7:7,12 12:12,24 18:21 31:3 32:3,6 33:3 36:3,6 37:8 50:5,18 51:1,11,14,20 52:11 53:19 56:10
times 12:18
tissue 34:15
today 4:17,19 5:2,8,11 6:4,12 6:21,23 8:7,20 10:14 15:8 17:12 42:18 56:16 57:15
took 5:18,25 15:12,21
tool 53:12,18 59:17,20
tools 52:15 53:17 59:21
tooth 16:17 17:19,20 29:22 29:23,23 32:22 32:25 33:1,2,3 33:4,7,17,18,20 34:2,13,13,14 34:15,19 35:8 35:16 39:6 51:17,17,17 52:14 55:1
top 20:17 37:24
totally 31:22
tr 57:9
track 29:18
tracking 34:20
tracks 27:4
trademark 1:1
trained 26:24 28:1,8
training 26:7 28:9
transcript 9:25 10:12,13 40:6 40:20 57:9,13 61:11
transcription 61:10
treatment 15:24 16:1,2,3 16:14,19,19 17:11 18:10,11

18:14,15,17,19 18:20,23,24 19:4 21:5 23:8 23:8 24:19 25:2,10,24 26:1,9,15,25 27:2,3,8,19 28:2,6,22 29:2 29:6,8,10,13,16 29:18,19 30:24 31:7,7,10,15,17 32:7,11,18,20 32:21 35:23 54:22
trial 1:2
true 61:11
truth 4:7,8,8 6:18
try 7:12 45:4 58:18
trying 18:17 37:19 39:23 44:1
turn 8:14 17:1 20:5 23:11 28:14 36:12 48:1,3 49:5 53:23 55:6 57:5
turning 7:25 59:7
twice 12:22
two 4:20 9:5 20:17 30:5,11 35:8 39:8 48:19 50:12
type 8:5,17 54:25
typed 8:6
typical 28:22 28:25
typically 23:8

u

u.s. 1:7
unaware 50:3
under 6:18,24 20:23,25 22:20 44:3 55:18
understand 5:2 5:9,16 6:5,17 6:24 7:2 22:15 27:9 41:19 44:11
understanding 16:9 18:13 19:5,10,16,22 39:18 40:15 41:6,25 47:23
undesirable 30:20
unintended 34:20,24
united 1:1
units 50:5
unqualified 26:18
unsuccessful 29:20
unsure 47:7
unwaxed 49:2
upload 42:15
use 36:21 46:6 47:12 50:17 51:23,25 52:14
used 50:2 55:1 57:25 58:4,11
uses 37:11 46:16
using 18:21 49:24 50:25 51:6,11,14 52:7

v

various 57:17 58:5,8
verbal 7:4
veritext 1:19
video 54:4
videoconfere... 1:12
view 13:24,24 13:25 24:23 26:10,17 38:7 38:7,7 50:11 50:25 59:1
virtually 48:12
visual 31:1 49:10,14,20,21 50:22 59:14
vitality 33:18
vs 1:6

w

want 14:23 33:8 34:16 42:23 43:13 46:16
way 13:15 18:19 31:18 34:11 49:9,13 50:6,7,13 58:18 59:12
we've 36:1
week 30:24
west 1:14
widen 55:2
wider 16:8,11
widespread 51:25 52:10 53:16 59:17,20
wilson 2:12
witness 3:3 4:6 36:3,7 42:23 56:7,11 60:3,5
work 24:5,12 25:4 26:21,24 27:5,17 28:5
worn 48:24 54:5
written 11:5 24:3
wrong 29:21,22 34:5 42:25 43:5
wsgr.com 2:16

y

yeah 6:6 13:12 15:3,3 20:19 20:22 22:18,25 23:19 29:3,23 29:23 30:4,21 32:13,15,24 34:4 37:2,2,2,2 37:22 38:9 40:25 42:4 43:1,1,1,5,11 44:15,23 45:3 45:4,8,17,23 46:2,11,20 47:25 48:5,19 49:16,17,18,23 51:10 52:4 55:13 56:8 59:5

york 2:6,6

z

zoom 11:20 22:5

Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

DISCLAIMER: THE FOREGOING FEDERAL PROCEDURE RULES ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE ABOVE RULES ARE CURRENT AS OF APRIL 1, 2019. PLEASE REFER TO THE APPLICABLE FEDERAL RULES OF CIVIL PROCEDURE FOR UP-TO-DATE INFORMATION.

VERITEXT LEGAL SOLUTIONS

COMPANY CERTIFICATE AND DISCLOSURE STATEMENT

Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

Veritext Legal Solutions is committed to maintaining the confidentiality of client and witness information, in accordance with the regulations promulgated under the Health Insurance Portability and Accountability Act (HIPAA), as amended with respect to protected health information and the Gramm-Leach-Bliley Act, as amended, with respect to Personally Identifiable Information (PII). Physical transcripts and exhibits are managed under strict facility and personnel access controls. Electronic files of documents are stored in encrypted form and are transmitted in an encrypted

fashion to authenticated parties who are permitted to access the material. Our data is hosted in a Tier 4 SSAE 16 certified facility.

Veritext Legal Solutions complies with all federal and State regulations with respect to the provision of court reporting services, and maintains its neutrality and independence regardless of relationship or the financial outcome of any litigation. Veritext requires adherence to the foregoing professional and ethical standards from all of its subcontractors in their independent contractor agreements.

Inquiries about Veritext Legal Solutions' confidentiality and security policies and practices should be directed to Veritext's Client Services Associates indicated on the cover of this document or at www.veritext.com.