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Transcript of John P. Rodgers, Ph.D., P.E.

Date: December 5, 2023
Case: Reflex USA LLC -v- Longyear TM, Inc., et al. (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

REFLEX USA, LLC

Petitoner,

v.

LONGYEAR TM, INC. AND

GLOBALTECH CORPORATION PTY LTD.

Patent Owner.

_____

IPR2023-00642

U.S. Patent No. 10,830,013

_____

VIDEOTAPED DEPOSITION

JOHN P. RODGERS, Ph.D., P.E.

Tuesday, December 5, 2023

10:05 a.m. EST

Job No.: 515927

Pages 1 - 92

Reported by: APRIL REID

Videotaped Deposition of JOHN P. RODGERS, Ph.D., P.E. held virtually. All appeared remotely.

A P P E A R A N C E S

ON BEHALF OF THE PETITIONER, REFLEX USA LLC:

RAJESH "RAJ" PAUL, ESQ.
SCOTT WEIDENFELLER, ESQ.
COVINGTON & BURLING, LLP
One CityCenter
850 Tenth Street, NW
Washington, D.C. 20001-4956
(202) 662-6000

A P P E A R A N C E S cont'd

ON BEHALF OF THE PATENT OWNER, LONGYEAR TM, INC. AND GLOBALTECH CORPORATION PTY LTD.:

SCOTT T. JARRATT, ESQ.

BROOKE COHEN, ESQ.

HAYNES AND BOONE, LLP

2801 N. Harwood Street

Suite 2300

Dallas, TX 75201

(214) 651-5615

ALSO PRESENT:

MANITA JOSEPH, Videographer

– – – – –

I N D E X

John P. Rodgers, Ph.D., P.E. PAGE

Examination by Mr. Jarratt 7

Examination by Mr. Paul 81

P R O C E E D I N G S

THE VIDEOGRAPHER: Here begins media number 1 in the Videotaped Deposition of John P. Rodgers, Ph.D, P.E., in the matter of Reflex USA, LLC, versus Longyear TM, Inc., et al., in the United States Patent and Trademark Office before the Patent and -- I'm sorry, before the Patent Trial and Appeal Board, Case No. IPR-2023-00642. 10:05:18 10:05:19 10:05:21 10:05:27 10:05:35 10:05:38 10:05:42 10:05:43

Today's date is December 5th, 2023. 10:05:52

The time on the video monitor is 10:06 a.m. 10:05:56 10:05:59

The remote videographer today is Manita Joseph, representing Planet Depos. 10:06:01 10:06:03

All parties of this video deposition are attending remotely. 10:06:06 10:06:08

Would counsel please voice-identify themselves and state whom they represent. 10:06:11 10:06:12

MR. PAUL: Raj Paul of Covington & Burling on -- on behalf of Petitioner, Reflex USA. 10:06:19 10:06:20 10:06:22

Also with me is Scott Weidenfeller, also 10:06:24

of Covington Burling, also on behalf of Petitioner, Reflex USA. 10:06:26 10:06:28

MR. JARRATT: This is Scott Jarratt with Haynes and Boone on behalf of Patent Owner, Longyear TM and GlobalTech Corporation. 10:06:32 10:06:34 10:06:36

And with me also is Brooke Cohen, also of Haynes and Boone, for Patent Owner. 10:06:42 10:06:44

THE VIDEOGRAPHER: The court reporter today is April Reid, representing Planet Depos. 10:06:48 10:06:48 10:06:50

Would the reporter please swear in the witness. 10:06:51 10:06:54

THE COURT REPORTER: Dr. Rodgers, if I may please get you to raise your right hand. 10:07:09 10:07:10

THEREUPON: 10:07:11

JOHN P. RODGERS, Ph.D., P.E. 10:07:11

being first duly sworn or affirmed to testify to the truth, the whole truth, and nothing but the truth, was examined and testified as follows: 10:07:11 10:07:11 10:07:11 10:07:11

THE COURT REPORTER: Thank you. 10:07:12

We may begin. 10:07:13

EXAMINATION

BY MR. JARRATT:

Q. Good morning, Dr. Rodgers. 10:07:15

A. Good morning. 10:07:16

Q. Can you please state your full name, for the record. 10:07:17 10:07:19

A. John P. Rodgers. 10:07:20

Q. And you've been deposed before; is that correct? 10:07:21 10:07:23

A. I have. 10:07:23

Q. About how many times? 10:07:25

A. 20. 10:07:26

Q. Is it fair to say you generally know how depositions work? 10:07:30 10:07:33

A. Yes. 10:07:34

Q. You understand that you must provide verbal answers to my questions so that the court reporter can make an accurate transcript? 10:07:35 10:07:37 10:07:39

A. I understand. 10:07:42

Q. And so because we're forming a record here, it's important that we don't talk over each other. So if you can let me finish my questions, 10:07:45 10:07:48 10:07:50

I'll let you finish your answers. Is that fair? 10:07:52

A. That sounds good. 10:07:55

Q. All right. Do you understand that your 10:07:56

counsel might object to a question, but you still 10:07:58

must provide an answer to that question unless 10:08:00

instructed otherwise? 10:08:03

A. I understand. 10:08:04

Q. And if you're -- if you're confused 10:08:07

about any question I ask, just please let me know; 10:08:10

and I can perhaps answer [sic] it a different way. 10:08:13

Can we agree on that? 10:08:15

A. Yes. 10:08:17

Q. Aside from Zoom, are there any other 10:08:20

applications running on your computer you're 10:08:22

connecting with today? 10:08:24

A. No. I've tried to shut everything down 10:08:27

that I could. 10:08:29

Q. Are there any documents open on your 10:08:31

personal computer? 10:08:33

A. No. 10:08:34

Q. Any web pages of messaging -- messaging 10:08:36

-- messaging programs? 10:08:38

A. No. 10:08:41

Q. Do you have any electronic devices with you besides your computer? 10:08:43 10:08:45

A. Nothing on me. I've got my phone in my backpack at the end of the table. 10:08:48 10:08:50

Q. Do -- do you have any physical papers or documents related to this case with you? 10:08:55 10:08:56

A. I've got my declaration and exhibits right here by -- on my left side. 10:08:59 10:09:02

Q. Do you have any handwritten notes with you? 10:09:07 10:09:09

A. No notes. 10:09:10

Q. Is there any reason you can't provide full and accurate testimony today? 10:09:11 10:09:13

A. No. 10:09:16

Q. And do you understand the testimony you're providing today will be used in inter partes review proceeding IPR 2023-00642? 10:09:16 10:09:21 10:09:23

A. Yes. 10:09:32

Q. And do you understand that your testimony will be publicly available if filed in this proceeding? 10:09:35 10:09:35 10:09:38

A. Yes. 10:09:40

Q. And if the transcript is filed, that any member of the public will be able to download and read the transcript? 10:09:42 10:09:44 10:09:46

A. I understand. 10:09:48

Q. And do you understand that IPR 2023-00642 concerns U.S. Patent 10,830,013? 10:09:51 10:09:52

A. Yes. 10:10:03

Q. And if I say the '01 -- if I say the "'013 patent," will you understand that to be referring to U.S. Patent 10,830,013? 10:10:05 10:10:07 10:10:09

A. Yes. 10:10:14

Q. About how many IPRs have you worked on? 10:10:17

A. Somewhere around ten. Maybe a little -- little less. 10:10:21 10:10:24

Q. Of those IPRs, how many were you working for -- on for Petitioner, Reflex USA? 10:10:25 10:10:28

A. This is the only one. 10:10:33

Q. And just for some other definitions, if I refer to "this IPR," do you understand that to be referring to IPR-2023-00642? 10:10:37 10:10:39 10:10:44

A. Yes. 10:10:50

Q. When I say "your declaration," will you understand that I'm referring to Exhibit 1022 filed in this IPR? 10:10:52 10:10:55 10:11:00

A. Yes. 10:11:04

Q. And if I use the acronym "POSITA," P-O-S-I-T-A, will you understand that that means a person of ordinary skill in the art as of the priority date of the '013 patent? 10:11:05 10:11:08 10:11:12 10:11:16

A. Yes. 10:11:19

Q. Have you provided any expert consulting services for Reflex USA prior to this case? 10:11:22 10:11:24

A. Yes. 10:11:29

Q. Can you describe some of those services provided? 10:11:36 10:11:37

A. Yes. 10:11:39

When I was first engaged by Reflex, it was in conjunction with an ITC case. And I did very little work, maybe a prior art search or something like that. I'm trying to remember when it was. It was earlier in 2022, perhaps. But there wasn't much there at all. I didn't do very much work for them. I didn't end up being a 10:11:39 10:11:43 10:11:48 10:11:54 10:11:56 10:12:00 10:12:03

witness in the ITC case. 10:12:06

And then I got called in to this IPR. 10:12:09

And that's -- this is really the first full 10:12:11

project I've had with them. 10:12:16

Q. When did you begin working on this IPR 10:12:20

for Reflex USA? 10:12:23

A. It was in the fall of 2022, 10:12:25

approximately October. 10:12:27

Q. I'm sorry. There's a little bit of work 10:12:35

being done. Can you hear that construction noise 10:12:36

behind me? 10:12:39

A. No. 10:12:40

Q. Okay. That's good. 10:12:40

And who -- so your declaration is 1022. 10:12:44

So who wrote your declaration in this IPR? 10:12:50

A. I wrote my declaration. 10:12:54

Q. Were you provided with a first draft? 10:12:58

A. Not that I recall. I mean, I -- I 10:13:03

worked with counsel, but I -- I believe I -- 10:13:04

actually, I don't remember. I don't remember 10:13:08

exactly. 10:13:10

Q. You don't remember if you were provided 10:13:12

a first draft or not? 10:13:14

A. I don't remember where the document 10:13:16

originated, but it's, you know, my report, my 10:13:18

opinions. 10:13:22

Q. When you say you -- you answered that 10:13:23

you wrote the report. So do you not remember when 10:13:26

or how you wrote the report? 10:13:31

I -- I'm maybe not clear about what you 10:13:34

don't remember about writing your report. 10:13:35

A. I wrote my report with input from 10:13:37

counsel. I don't recall exactly the origination 10:13:40

of the document, which was your prior question I 10:13:43

was trying to answer. 10:13:46

Q. All right. Who developed the positions 10:13:49

in your declaration? 10:13:51

A. Well, I did, in discussions with 10:13:53

counsel. 10:13:55

Q. Approximately how long did you spend 10:13:57

preparing your declaration? 10:13:59

A. I really don't know. It was over a 10:14:00

period of -- it seems like it was a couple of 10:14:06

months in the fall of 2022. And I -- I don't 10:14:09

really know how long that was. 10:14:12

Q. And what did you review in preparation 10:14:18

for your dep- -- deposition today? 10:14:20

A. My declaration, patent at issue and then 10:14:24

the four primary references, prior art references 10:14:32

that I rely on in my declaration, and the 10:14:37

institution decision. That's it. 10:14:41

Q. Did you meet with anybody to prepare? 10:14:47

A. Yes. 10:14:49

I met with Raj and Scott, who are at the 10:14:52

table here. 10:14:59

Q. All right. Are there any errors in your 10:14:59

declaration, that you're aware of? 10:15:01

MR. PAUL: Objection, form. 10:15:05

A. I -- I'm not specifically aware of any 10:15:07

errors. 10:15:09

Q. In drafting your declaration, did you 10:15:12

choose your words carefully? 10:15:14

A. Oh, I always try to. 10:15:15

Q. So did you -- before you signed your 10:15:19

declaration, did you review it carefully? 10:15:23

A. I did. 10:15:25

Q. Do you still stand by all the opinions that you provided in your declaration? 10:15:28 10:15:29

A. I do. 10:15:32

Q. So you mentioned you have a copy of your declaration, a physical copy in front of you. Do you have any markings, highlightings, scribbles or anything like that in the copy? 10:15:37 10:15:40 10:15:42 10:15:46

A. No. It's a clean copy. I just tabbed the sections. 10:15:48 10:15:52

Q. Okay. Dr. Rodgers, are you a patent attorney? 10:15:55 10:16:01

A. No. 10:16:01

Q. Do you apply any legal concepts in your declaration? 10:16:02 10:16:07

A. Only as instructed by counsel. 10:16:07

Q. In what way did you come to understand those legal concepts you applied? 10:16:16 10:16:18

MR. PAUL: I am going to caution the witness not to divulge the substance of communications with your attorney. 10:16:22 10:16:23 10:16:25

A. Well, I've done approximately ten IPRs now. I've been on both sides. So I'm starting to 10:16:29 10:16:32

get the hang of how these work. 10:16:37

Q. All right. Can you turn to page 32 in 10:16:41

your declaration. 10:16:43

A. Sure. 10:16:54

Q. And let me clarify, that's page 32 as 10:16:55

printed on the bottom of the PDF. The PDF page is 10:16:58

33. 10:17:02

A. Yes. I'm in hard copy 32. 10:17:03

Q. So on page 32, there's a section labeled 10:17:10

"E. Prosecution History." 10:17:12

Why did you include a prosecution 10:17:17

history section in your declaration? 10:17:19

A. Because some of it was relevant to this 10:17:20

IPR. 10:17:29

Q. Which parts were relevant to this IPR? 10:17:32

A. The parts that I've written, included in 10:17:36

my declaration. 10:17:39

Q. I believe you reference the prosecution 10:17:45

history many times throughout your declaration, 10:17:47

including in the Prior Art Mapping section; is 10:17:49

that correct? 10:17:52

A. Yes. 10:17:54

Q. So is it fair to say that this discussion on the prosecution history is an important part of your opinion? 10:17:55 10:17:57 10:17:59

MR. PAUL: Objection, form. 10:18:02

A. I think it's an interesting part of my opinion. 10:18:05 10:18:07

Q. Is "interesting" different than "important"? 10:18:09 10:18:10

A. No. It can be important. 10:18:11

Q. What is nonstatutory double patenting? 10:18:16

A. It's something to the effect of trying to get two patents on the same general idea. 10:18:22 10:18:24

Q. What is -- what do the words "patentably indistinct" mean as you use in paragraph 57? 10:18:33 10:18:36

MR. PAUL: Objection to form. 10:18:44

A. Let me read that. 10:18:54

Oh. I'm missing a paragraph number. There's two paragraphs -- two paragraphs after 57, so I was reading the wrong one. I apologize. There's a blank, unnumbered paragraph under 57. 10:18:55 10:19:23 10:19:25 10:19:29

Okay. Yes, now I'm with you. 10:19:42

So related to that nonstatutory double 10:19:44

patenting, when -- when -- when things are patentably indistinct, there's overlap between the claims on the two patents that are being applied for. 10:19:47 10:19:50 10:19:55 10:19:58

Q. What is a terminal disclaimer? 10:20:01

MR. PAUL: Objection to form. 10:20:05

A. I'm not an expert in this, but it's something to the effect of terminating or agreeing to terminate the time period for which certain patent's in effect, I believe. 10:20:08 10:20:10 10:20:14 10:20:20

Q. If you turn to page 33 now, in the paragraph that's not numbered, there's a sentence that begins -- it says "... notable..." 10:20:24 10:20:29 10:20:33

Can you read that? I believe that's the second sentence. Can you please read that sentence. 10:20:37 10:20:39 10:20:41

A. "This is notable because the pending claims at issue during those prosecutions share the same limitations recited in claims 1 to 3 and 19 to 22 of the '013 patent." 10:20:41 10:20:47 10:20:52 10:20:58

Q. What do you mean when you say "this is notable"? 10:21:04 10:21:05

MR. PAUL: Objection to form. 10:21:07

A. It's notable, just as I said here, 10:21:08

because -- because they're claiming the same 10:21:18

thing. So commentary on the claims in these other 10:21:20

family member patents are relevant to this IPR 10:21:24

because they're dealing with the same issues, the 10:21:27

same technical limitations in -- in the claims. 10:21:30

Q. If we turn to the next page, can you 10:21:46

read the first full sentence starting with the 10:21:50

word "Instead..." 10:21:53

A. "Instead, the Patent Owner succeeded in 10:21:57

overcoming the examiner's rejections and 10:21:59

eventually secured allowance of the claims of the 10:22:03

'463 and '529 patents by amending the pending 10:22:07

claims to require additional limitations not at 10:22:12

issue in the '013 patent claims here." 10:22:17

Q. So by this statement, do you mean that 10:22:25

the limitations added to the '463 patent to secure 10:22:27

allowance are not in the '013 patent claims? 10:22:32

MR. PAUL: Objection to form. 10:22:39

A. That's not what I said. 10:22:40

I don't suggest -- I'm not -- I'm not 10:22:47

stating that here. 10:22:50

Q. So what do you mean by the sentence? 10:22:51

A. I mean that the Patent Owner eventually secured allowance of the claims in those other patents by adding additional limitations. And those additional limitations are not at issue in the '013 that we're talking about here. 10:22:53 10:23:00 10:23:04 10:23:07 10:23:10

Q. So do you mean, for example, if element A was added to the '463 patent to gain allowance, that element A is not in the '013 patent claims? 10:23:14 10:23:16 10:23:20 10:23:25

MR. PAUL: Objection, hypothetical. 10:23:26

A. Just -- I think it's pretty clear what the sentence is saying. What I'm trying to explain, that the two family members added additional limitations that are not in the '013 in the process of amending those claims to gain allowance in those family member patents, and that's it. That's all I'm saying. 10:23:27 10:23:31 10:23:34 10:23:38 10:23:42 10:23:45 10:23:46

Q. All right. Would it -- would it surprise you to know that this statement is not accurate? 10:23:49 10:23:52 10:23:54

MR. PAUL: Objection, form. 10:23:56

A. I don't know. You can explain it, if you'd like. I could listen. 10:23:59 10:24:01

Q. Let's go -- let's look at the first citation, Exhibit 1011 of the '463 file history at page 36. 10:24:05 10:24:07 10:24:16

MR. JARRATT: This is previously -- for the court reporter, this is previously marked Exhibit 1011. 10:24:18 10:24:19 10:24:21

A. You want me to go with hard copies for anything or do you want to share anything? 10:24:25 10:24:28

Q. Do you have hard copies? 10:24:31

A. I think I do. I think I've got everything. 10:24:33 10:24:35

Q. Let's -- let's look at your hard copy, if that's available. 10:24:36 10:24:38

A. Okay. Let me see what I've got. 10:24:39

This is page 225, the bottom corner? 10:25:02

Q. Correct. 10:25:07

A. Okay. I think I'm there. 10:25:12

Q. Do you understand what we're looking at on page 36 of Exhibit 1011? 10:25:16 10:25:19

A. No. I need to get my bearings on where we are in this prosecution history. 10:25:23 10:25:24

Q. Sure. Take your time. 10:25:30

A. Okay. Okay. 10:25:31

I think I've got my bearings. 10:28:31

Q. Okay. On page 36 of Exhibit 1011, can you please read that second whole paragraph starting with, "As set forth herein..." 10:28:33 10:28:38 10:28:42

A. Sure. 10:28:49

"As set forth herein, independent claim 1 has been amended to incorporate the limitation of 'a window that extends from the exterior surface into optical communication with the sealed interior cavity proximate the closed proximal end of the sealed interior cavity.'" Both Beach and Juergens are silent regarding the presence of such a window, and a person of ordinary skill in the art would not have been motivated to modify the cited references to provide such a window." 10:28:50 10:28:53 10:28:55 10:29:00 10:29:05 10:29:12 10:29:16 10:29:26 10:29:29 10:29:32 10:29:37

Q. So this limitation cited in this paragraph -- can we call it the "window 10:29:40 10:29:44

limitation" -- is this the additional limitation you're referring to on page 34 of your declaration that was used to secure the '463 patent? 10:29:46 10:29:50 10:29:54

MR. PAUL: Objection, form, speculation. 10:30:00

A. Let me look back to page 34. 10:30:02

Q. Uh-huh. 10:30:04

A. Excuse me. 10:30:04

So that summary on page 36 of 225 in the prosecution history that I just read is not all inclusive of the amendments that were made in this amendment we're reading as part of prosecution history. 10:30:05 10:30:59 10:31:05 10:31:10 10:31:12

So my paragraph 34 comments were broader, referring to all the amendments made to this set of claims. 10:31:12 10:31:15 10:31:22

Q. Was this window limitation you just read, was it, as you say, amended to the pending claims -- was it an additional limitation amended to the pending claims to secure allowance of the '463 patent? 10:31:28 10:31:32 10:31:47 10:31:52 10:31:55

MR. PAUL: Objection to form. 10:31:58

A. I can't tell you what was in the 10:31:58

examiner's mind at the time, about how the examiner decided whether or not to allow certain claims. 10:32:14 10:32:18 10:32:20

All I can say is the Patent Owner amended several aspects, several limitations, added limitations to several claims as described in this prosecution history. And in total, when those claims were eventually allowed, it was as a result of those limitations that overcame the examiner's rejections. 10:32:20 10:32:23 10:32:27 10:32:30 10:32:35 10:32:39 10:32:43

Q. Well, in your declaration you specifically point to, "Additional limitations." Which additional limitations were you referring to that were added to the '463 patent? 10:32:50 10:32:52 10:33:00 10:33:05

A. I was referring to the entirety of the limitations that were added and the amendments to the claims starting on page 31 of 225 and extending to page 34 of 225. 10:33:07 10:33:11 10:33:15 10:33:20

Q. With respect to claim 1 of the pending claims you just mentioned on page 31, which of those limitations are not found in the '013 patent claim 1? 10:33:35 10:33:40 10:33:47 10:33:53

MR. PAUL: Objection to form. 10:33:57

A. I've got the '013 here, pulling up. 10:33:58

I'm sorry. Would you repeat the 10:34:06

question again. 10:34:43

Q. Yes. 10:34:44

With respect to claim 1 of the pending 10:34:45

claims in the '463 patent you just mentioned on 10:34:48

page 31 of the prosecution history, which of those 10:34:53

limitations added to claim 1 are not found in the 10:34:56

'013 patent claim 1? 10:35:00

MR. PAUL: Objection to form. 10:35:04

A. Oh. The amended claim on page 31 has 10:35:04

several additions, and they all appear in what was 10:35:38

finally awarded as the '013 patent. 10:35:44

Q. So my question is: On page 34 of your 10:35:51

declaration, which additional limitations were you 10:35:56

referring to that are not at issue in the '013 10:36:04

patent claims here? 10:36:07

MR. PAUL: Objection, asked and 10:36:10

answered. 10:36:10

A. On page 34 of -- 10:36:15

Q. Of -- yes. 10:36:17

A. -- of my declaration? 10:36:19
Q. Yes. 10:36:20
A. Sorry. I didn't mean to speak over you. 10:36:20
Yes. Page 34. What I was referring to 10:36:22
is the patent as a whole, the amended claims as a 10:36:25
whole. I wasn't specifically pointing out a 10:36:29
particular limitation. 10:36:32
Q. Well, you were -- okay. In that same 10:36:38
sentence, beginning with "instead," you mention 10:36:41
the word, "additional limitations not at issue in 10:36:42
the '013 patent claims here." 10:36:45
Which limitations added to the '463 10:36:47
patent are not at issue in the '013 patent claims? 10:36:52
MR. PAUL: Objection, asked and 10:36:56
answered. 10:36:56
A. Well, if you'd like, we can go through 10:37:04
the rest of the claims and compare against the 10:37:06
'013 claims and I can try to give you more detail, 10:37:10
if that's what you'd like. 10:37:16
Q. Let's look at -- in claim 1 of the 10:37:24
amended claim on page 31 of the '463 file history. 10:37:29
A. Okay. 10:37:41

Q. If we look at the -- the window limitation that was added, "a window that extends from the exterior surface into optical communication with the sealed interior cavity proximate the closed proximal end of the sealed window cavity." 10:37:42 10:37:44 10:37:48 10:37:51 10:37:55 10:37:58

Did I read that correctly? 10:38:00

A. Yes. 10:38:01

Q. Is that limitation found in the '013 patent, claim 1? 10:38:01 10:38:04

A. Yes. 10:38:06

Q. Do you believe, based on your statement, that this limitation that was added to claim 1 was a reason that the examiner allowed the '463 patent? 10:38:14 10:38:17 10:38:22 10:38:25

MR. PAUL: Objection, asked and answered. 10:38:26 10:38:27

A. I don't know exactly what limitation changes were the reasons for allowing it. I can't tell you that. 10:38:38 10:38:42 10:38:47

Q. Well, with respect to claim 1, would it have been one of the limitations that added to 10:38:47 10:38:50

claim 1, at least one of them? 10:38:53

MR. PAUL: Objection, form, asked and 10:38:55

answered. 10:38:56

A. There are many changes -- many 10:38:58

amendments to claim 1. And some combination of 10:39:00

all of them led -- or part of them -- I guess all 10:39:07

of them, probably, helped the examiner to 10:39:08

determine whether or not to allow that claim. 10:39:12

That's all I know. 10:39:14

Q. So at least -- is it your understanding 10:39:28

that at least one of them allowed the examiner -- 10:39:30

or convinced the examiner to allow claim 1? 10:39:32

MR. PAUL: Objection, form. 10:39:36

A. I don't know what the examiner's 10:39:41

decision process was for making that 10:39:43

determination. 10:39:45

Q. Would you agree that at least -- do you 10:39:47

agree that the amendments were the reason for 10:39:49

allowance for claim 1? 10:39:51

MR. PAUL: Objection, form. 10:39:55

A. All I know is what this Response to 10:39:56

Nonfinal Office Action states. So this is the 10:40:02

attorneys working for the applicant summarizing -- 10:40:08
well, showing the changes to the claims and then 10:40:12
summarizing where we started on page 36 of 225. 10:40:15
And I know what their position is. I don't know 10:40:21
what the examiner's thought process was. 10:40:25
Q. Well, in your declaration, you're -- you 10:40:34
made a definitive statement that, "...the Patent 10:40:37
Owner succeeded in overcoming the Examiner's 10:40:39
rejections, and eventually secured allowance of 10:40:42
the claims of the '463 and '529 Patents by 10:40:45
amending the pending claims to require additional 10:40:45
limitations not at issue in the '013 Patent claims 10:40:48
here." 10:40:52
You just mentioned that you were unsure 10:40:53
of why the examiner allowed the -- the '463 10:40:57
patent. And my question is -- there's no 10:41:00
uncertainty in your statement, and I'm trying to 10:41:03
rectify the two. 10:41:09
A. Yes. 10:41:11
Q. Go ahead. 10:41:12
MR. PAUL: Objection, 10:41:12
mischaracterization. 10:41:13

A. The statement on page 34 of my declaration is a general statement. By amending claims, the -- these two patents were allowed -- the claims in those patents were allowed. It's a very general statement. 10:41:15 10:41:17 10:41:22 10:41:27 10:41:30

What you're asking me is very specific to claim 1. I did not make any specific statements about claim 1 in my declaration. 10:41:32 10:41:34 10:41:36

Q. All right. Let's turn to paragraph 101 in your declaration. 10:41:59 10:42:07

A. Okay. I'm there. 10:42:30

Q. All right. You reference a selectively -- a "selectively sealed interior cavity" in the first sentence of paragraph 101. 10:42:37 10:42:40 10:42:44

What does "selectively sealed" mean in this context? 10:42:47 10:42:50

MR. PAUL: Objection to form. 10:42:54

A. It means a cavity that can be likely sealed, meaning it can either be made to seal or not, it could be unsealed. 10:42:55 10:43:00 10:43:04

Q. If we turn to page 57, which is the next page, is this an annotated version of Fig. 2 of 10:43:14 10:43:16

Beach dash -- or Beach-127 reference, as you refer to in your declaration? 10:43:21 10:43:26

A. Yes. 10:43:28

Q. And -- and just to be clear, the Beach-127 reference is -- has been previously marked as Exhibit 1003, which is International Publication Number WO-2008-113127. 10:43:31 10:43:33 10:43:46 10:43:51

A. That's right. 10:44:01

Q. So going back to your declaration, Fig. 2 on page 57, who made these annotations? 10:44:10 10:44:11

MR. PAUL: Objection to form. 10:44:23

A. I worked with the law firm on the graphics. I don't recall that it was I that actually did the coloring in of the figure. I think someone on the law firm's side did the coloring of the figures. 10:44:24 10:44:25 10:44:33 10:44:36 10:44:38

Q. But who decided how to label the annotations in Fig. 2? 10:44:43 10:44:48

MR. PAUL: Objection, calls for privileged information. 10:44:51 10:44:52

A. I worked with the attorneys on these figures. I reviewed all the figures. I -- I 10:44:55 10:44:57

stand by the markings in the figures. 10:45:01

Q. Can you walk me through these 10:45:04

annotations? 10:45:06

A. Sure. I'm going to go right to left. 10:45:10

So in the green, we have a first 10:45:14

interior cavity. And then moving to the left, we 10:45:17

have a closed proximal end. And then we have a 10:45:21

selectively sealed interior cavity in red. 10:45:28

Q. What is element 18 in Fig. 2? 10:45:36

A. One moment. Boy, this print is pretty 10:45:40

fine, font size. 10:45:54

It's in my report core tube cap 18. 10:46:10

Q. What is element 10 in Fig. 2? 10:46:13

A. It's referred to as the tool end. 10:46:16

Q. And same question referring to 10:46:23

element 16? 10:46:25

A. Adapter 16. 10:46:28

Q. Are these separate elements in Beach's 10:46:32

tool? 10:46:36

MR. PAUL: Objection to form. 10:46:38

A. Well, it's not clear what the extent is 10:46:47

just by reading the labels on these. Without 10:46:49

reading how Beach describes it, I don't know the extent. Some -- some of them are clear, but others may not. Like 10 tool, I'm not quite sure what the extent of that is. 10:46:53 10:46:56 10:46:58 10:47:01

Q. How is -- how is the interior cavity that you've marked "selectively sealed interior cavity" -- how is that cavity selectively sealed? 10:47:02 10:47:08 10:47:12

A. It has a threadable or a threadably-engaged cap where the two parts screw together and make a sealed cavity inside. 10:47:15 10:47:20 10:47:26

Q. So is it accurate that cap 16 can be uncoupled from tool -- tool 10? 10:47:32 10:47:35

MR. PAUL: Objection to form. 10:47:39

A. It's -- correction, core tube cap 18 can be unscrewed from the rest of the assembly. 10:47:39 10:47:44

I don't exactly know what 10 refers to at this moment without looking more closely. 10:47:46 10:47:49

Q. So -- so cap 18 can be uncoupled from 10? 10:47:53 10:47:56

MR. PAUL: Objection to form, mischaracterization. 10:47:58 10:47:59

A. What I'm saying is: I don't know what 10:48:01

"10" refers to without reading a little bit more to make sure I'm answering that question correctly. 10:48:03 10:48:06 10:48:08

Q. Well, you don't -- I -- I noticed in paragraph 103 below the figure, you refer to "tool 10." 10:48:08 10:48:12 10:48:15

So is 10 a tool? 10:48:16

A. I need to refer to Beach to make sure I'm answering that question accurately. 10:48:21 10:48:24

Q. Are -- are you not sure that your words in paragraph 103 are not accurate? 10:48:26 10:48:28

MR. PAUL: Objection, mischaracterization. 10:48:32 10:48:32

A. I don't have a problem with the words in 103; but to answer your question, I want to make sure I answer it as accurately as possible. 10:48:33 10:48:36 10:48:39

Q. Sure. We can go to Beach. 10:48:42

A. All right. 10:48:44

Okay. So, yes, tool 10 is in between cap 18 and adapter 16. The cap 18 is threaded on through that distal end of tool 10, as it's described. 10:50:10 10:50:13 10:50:21 10:50:25

Q. And so cap 18 -- is it -- is it accurate that cap 18 can be uncoupled from tool 10? 10:50:26 10:50:28

MR. PAUL: Objection, form. 10:50:34

A. Well, I'll -- I'll state again that tool 10 is pretty broadly used here in Beach. So I'm going to say, in general, tool 10 is that middle section where all the electronics are housed, even though there could be a -- a welded connection there with two parts coming together; but regardless, cap 18 threads on and makes a seal with that tool 10 in the middle. 10:50:34 10:50:39 10:50:44 10:50:47 10:50:49 10:50:52 10:50:54 10:51:00

Q. And when you say it can be threaded on, do you mean that it can be threaded on and then disconnected at a later time? 10:51:03 10:51:08 10:51:10

A. That's right. The way cap 18 is designed is it has a thread in the seal to engage. And, you know, you can thread it on, and you can thread it off; therefore, making it selectively sealable. 10:51:12 10:51:16 10:51:21 10:51:26 10:51:29

Q. What do you mean by the annotation "a closed proximal end"? Going back to your declaration, paragraph -- or page 57, Fig. 2. 10:51:34 10:51:36 10:51:39

A. That's just showing the end of the selectively sealed interior cavity, which is on the proximal end. So it's the -- the closed proximal end just using the terminology from the patent. 10:51:47 10:51:50 10:51:53 10:51:55 10:51:58

Q. Is it closed only when adapter 16 is coupled to 10? 10:52:00 10:52:06

MR. PAUL: Objection, speculation. 10:52:09

A. That's not something I specifically analyzed. I -- I -- I don't -- I can't answer that question without, you know, further analysis. 10:52:10 10:52:31 10:52:37

Q. Okay. So my question really is: Why do you consider that end closed? 10:52:44 10:52:46

A. Well, it's -- it's closed because it's an end to the interior volume highlighted in red. That volume ends where adapter 16 has a solid structure leaving a partition, if you will, between first interior cavity in green and selectively sealed interior cavity in red. 10:52:48 10:52:50 10:52:53 10:52:59 10:53:05 10:53:08

There's a -- you know, a solid barrier in between. So that's why that -- that is labeled a closed proximal end. 10:53:12 10:53:14 10:53:18

Q. And if we now look at the other end of the cavity shown in red, would you consider that the distal end? 10:53:24 10:53:26 10:53:33

A. Yes. 10:53:36

Q. Is -- the distal end of the interior cavity shown in red, is that sealed? 10:53:39 10:53:41

A. Yes. 10:53:48

Q. And so the -- the -- so the distal end is also closed and not open? 10:53:51 10:53:52

A. Well, yes. To be a closed -- to be a selectively sealed interior cavity, everything has to be closed or it wouldn't be sealed. So it -- it's -- it's defining the closed volume from end to end there. 10:53:56 10:54:02 10:54:04 10:54:07 10:54:10

Q. All right. 10:54:16

MR. JARRATT: I think we've been going about an hour. Let's take about a ten-minute break or so. 10:54:18 10:54:19 10:54:21

THE WITNESS: Sounds good. 10:54:24

THE VIDEOGRAPHER: We're going off the record. The time is 10:54 a.m. 10:54:26 10:54:27

(Recess in proceedings.) 11:06:58

THE VIDEOGRAPHER: We're back on the record at 11:07 a.m. 11:07:04 11:07:05

BY MR. JARRATT:

Q. Dr. Rodgers, during the break, did you speak with petitioner's counsel about the substance of your testimony? 11:07:07 11:07:10 11:07:12

A. No. 11:07:13

Q. All right. Let's go back to your declaration, to paragraph 78. 11:07:13 11:07:18

A. All right. 11:07:29

Q. It's -- so the first sentence of paragraph 78 says, "Wiese describes known issues with transmitting data recorded by downhole drilling tools." 11:07:51 11:07:53 11:07:56 11:08:00

What were -- what were those known issues that Wiese describes? 11:08:01 11:08:03

MR. PAUL: Objection, form. 11:08:07

A. Well, as I described, the first one is the time it takes to access and download data. That's a known issue because it's a potential risk for contamination and damage to the tools. Because historically, the tools would have to be 11:08:13 11:08:15 11:08:20 11:08:24 11:08:26

opened up to plug in a cable to make the connection to transfer the data from the downhole tool to a surface computer. 11:08:30 11:08:33 11:08:35

Q. So is it correct that one known issue is having to open a tool to access the data? 11:08:43 11:08:45

A. That's right, to open a tool. There are different variations on that, but yes. 11:08:48 11:08:57

Q. If we now turn to paragraph 73. 11:09:02

A. All right. 11:09:12

Q. Look -- if we look at the third sentence, starting with the word "further." 11:09:12 11:09:15

Do you see that? 11:09:18

A. I do. 11:09:19

Q. Can you read that sentence into the record. 11:09:20 11:09:21

A. Sure. 11:09:22

"Further, '[t]he system 20 comprises multiple sensors and transducers for sensing various events and orientation data of the tool 10 and core drill.'" 11:09:25 11:09:29 11:09:32 11:09:37

Q. What is the difference between sensors and transducers? 11:09:39 11:09:43

A. The paragraph 73 is Beach, just feeding -- get it straight in my own head. 11:09:45 11:09:54

Q. Correct. 11:09:58

A. Well, technically, a transducer, it could have two-way performance; meaning, it could transmit and receive, whereas the sensor is usually meaning one way. You're collecting and you're receiving. Put it that way. 11:10:09 11:10:12 11:10:16 11:10:21 11:10:23

Q. And this sen- -- this sentence also references orientation data of the tool. What does that orientation data include? 11:10:28 11:10:30 11:10:34

A. The -- the primary interest for Beach in -- in this application is inclination or dip, so the angle with respect to horizontal that is the orientation, the -- I am trying to use a different word, but, yeah, the orientation of the tool with respect to horizontal. 11:10:37 11:10:46 11:10:50 11:10:54 11:11:02 11:11:05

Q. And if we move now to paragraph 74, the first sentence -- can you read that first sentence of paragraph 74. 11:11:08 11:11:10 11:11:14

A. "Beach-127 discloses that '[t]he orientation system 20 may further comprise a 11:11:16 11:11:20

transceiver 28 coupled to an antenna 30 to communicate with a hand-held" -- commuter -- "computer or other like device.'" 11:11:24 11:11:32 11:11:33

Q. And this sentence references the antenna 30 communicating with the hand-held computer. What data is being communicated between those two elements? 11:11:39 11:11:42 11:11:44 11:11:47

MR. PAUL: Objection to form. 11:11:49

A. Well, it's -- it's some -- something related to the orientation data that's collected by the downhole tool, gets communicated to the hand-held device so that the user can view it on the hand-held device. 11:11:51 11:12:10 11:12:14 11:12:17 11:12:19

Q. And in the last sentence of this paragraph the quote references "wireless communications." 11:12:21 11:12:22 11:12:26

Do you see that? 11:12:27

A. Yes. 11:12:28

Q. Does Beach provide any details about types of wireless communications utilized in its system? 11:12:30 11:12:33 11:12:36

MR. PAUL: Objection, form. 11:12:37

A. I don't recall. 11:12:38

Q. Does Beach limit the wireless 11:12:53

communication to one specific type? 11:12:55

A. I don't recall without looking. 11:12:59

Q. From -- did you analyze Beach from the 11:13:07

point of view of a POSITA, Dr. Rodgers? 11:13:10

A. Yes. 11:13:14

Q. A POSITA reading this sentence from 11:13:17

Beach, what are some examples that a POSITA might 11:13:19

expect Beach -- type -- examples of types of 11:13:25

wireless communications that Beach may use? 11:13:28

MR. PAUL: Objection to form. 11:13:32

A. A POSITA would be familiar with 11:13:32

infrared, optical, you know, radio wave, you know, 11:13:38

electric -- different parts of the electromagnetic 11:13:43

spectrum essentially or even acoustic is another 11:13:47

type of wave that could be used to transfer 11:13:50

wirelessly. 11:13:52

Q. Could radio frequency communications, RF 11:13:56

communications, be used to communicate between the 11:13:59

transceiver and the hand-held computer in Beach? 11:14:04

MR. PAUL: Objection, form. 11:14:07

A. I do not know if there are any limitations in Beach that would preclude the use of RF. 11:14:08 11:14:14 11:14:18

Q. So it's possible that Beach could utilize RF communications in its system? 11:14:23 11:14:25

A. Well, without re- -- reviewing Beach more specifically, I cannot answer, one way or the other, on any specific, you know, type of wireless communication. 11:14:29 11:14:31 11:14:33 11:14:39

Q. You're welcome to go to Beach and -- and determine which types of communications Beach uses, if you'd like to do that. 11:14:43 11:14:45 11:14:48

A. Well, if that's what you'd like to know, I'd be happy to. 11:14:51 11:14:53

Q. Yes, let's -- let's do that now. 11:14:55

A. Okay. 11:14:57

Q. We're turning back to Exhibit 1003. 11:14:58

A. Thank you. 11:15:03

Q. And -- and so let me restate my question. 11:15:12 11:15:14

Which types of wireless communications does Beach use for communications between the 11:15:14 11:15:17

transceiver and the hand-held computer? 11:15:21

MR. PAUL: Objection, form. 11:15:25

A. Well, I found on page 17 what seems to be the more detailed discussion of the hand-held computer interface described as "wireless communication," on line 34. 11:15:26 11:19:32 11:19:35 11:19:40

I haven't gone past page 18 yet to see if there's any more detail, but that's as far as I've made. So I'm happy to keep going; but if you -- if you know there's nothing further, I'm happy to stop there. 11:19:44 11:19:47 11:19:50 11:19:52 11:19:56

Q. So I think you've mentioned a POSITA reading the -- that Beach uses wireless communications would understand those communications could be optical, infrared or radio wave; is that correct? 11:20:00 11:20:04 11:20:08 11:20:10 11:20:13

A. Or acoustic. I would add that as the fourth. 11:20:15 11:20:18

Q. Great. 11:20:19

Any others? 11:20:19

A. Well, it's -- it's a wide electromagnetic spectrum. So, you know, anything 11:20:20 11:20:22

in the electromagnetic spectrum is possible wireless communication and we add acoustic on top of that as kind of different physics. 11:20:25 11:20:27 11:20:30

Q. Okay. Let's go back to paragraph 75 in your declaration. 11:20:32 11:20:36

A. Okay. 11:20:43

Q. Can you read that first sentence of paragraph 75. 11:20:43 11:20:45

A. "A POSITA would have understood Beach-127's disclosures of 'an electronic core orientation device or system 20' that 'is housed within a body 22,' but that can still communicate wirelessly with a remote device by way of a transceiver, as indicating that the body 22, contains a window that is transmissive to the communication signal." 11:20:48 11:20:51 11:20:58 11:21:04 11:21:09 11:21:13 11:21:17 11:21:21

Q. So does Beach-127 use the term "window" or is that your word? 11:21:26 11:21:29

MR. PAUL: Objection to form. 11:21:37

A. Beach is kind of long for me to read and look for the word -- word "window." I don't know if the word "window" is used in Beach somewhere 11:21:39 11:21:42 11:21:47

unless I've noted it in my declaration. 11:21:50

Q. So let me phrase it a little 11:21:58

differently. Why did you -- why did you choose to 11:22:00

use the word "window" in this sentence? 11:22:02

MR. PAUL: Objection to form. 11:22:07

A. The window -- what that word means, it's 11:22:10

a -- it's a barrier that allows for the 11:22:12

transmission of the wireless communication through 11:22:18

the wall of the downhole tool. 11:22:22

So it's a common terminology to have a 11:22:24

window in a downhole tool for communicating some 11:22:26

sort of -- any type of communication across that 11:22:32

window. 11:22:35

Q. So in your opinion, the alleged window 11:22:37

is a solid material? 11:22:40

MR. PAUL: Objection to form. 11:22:44

A. The window, as -- as is defined by 11:22:47

the -- the patent at issue is a material that has 11:22:51

some thickness to it, has some radial extent. 11:22:54

So -- and it's also a -- a barrier to one more 11:22:58

fluid. So in that way, it is -- it is solid. I 11:23:03

don't think it's described in exactly that way. 11:23:06

Q. Does the win- -- does the window that you point to in Beach contain an aperture? 11:23:09 11:23:11

MR. PAUL: Objection to form. 11:23:14

A. I don't -- is there -- I don't know if there's any statement in my declaration you can point me to. I'm not familiar with considering an aperture with respect to Beach. 11:23:22 11:23:23 11:23:26 11:23:29

Q. But you just testified that the window is a solid material and that, to me, is the opposite of an aperture. 11:23:37 11:23:38 11:23:43

So is the window a solid material or is it an aperture? 11:23:44 11:23:47

MR. PAUL: Objection, asked and answered. 11:23:51 11:23:52

A. Those aren't opposites. They're -- they're not mutually exclusive as you're defining them. 11:23:54 11:23:56 11:23:59

Q. What is an aperture? 11:24:02

A. An aperture to me is -- if you point me to a specific reference, I'll look at it in context; but in general, it's a smaller region that is designed for the passage of something. 11:24:03 11:24:10 11:24:12 11:24:15

In this case, we might be talking about wireless -- some sort of communication means through an aperture, but it doesn't mean it's not a solid material. 11:24:18 11:24:20 11:24:23 11:24:28

Q. So in your opinion, an aperture can contain a solid material? 11:24:30 11:24:33

MR. PAUL: Objection to form. 11:24:40

A. Well, yeah. That -- that's exactly my opinion. I can give you an example, if you'd like. 11:24:40 11:24:43 11:24:45

Q. Sure. Please. 11:24:46

A. For example, a window passing through a steel housing of a downhole tool, that window could be an aperture that provides for the transmission of the wireless signals through the -- through the aperture. 11:24:47 11:24:51 11:24:54 11:24:57 11:25:01

Q. Does Beach provide any details as to the type of materials the alleged window could be? 11:25:19 11:25:22

MR. PAUL: Objection to form. 11:25:30

A. I don't recall. 11:25:31

Q. In your opinion, as -- as a POSITA, what types of material could Beach's alleged -- alleged 11:25:33 11:25:35

window be constructed of? 11:25:40

MR. PAUL: Objection to form. 11:25:42

A. Any material that allows for the transmission of wireless signals. 11:25:43 11:25:44

Q. So is it fair to say that the signals from the antenna 30 are transmitted through the window to the hand-held computer? 11:25:51 11:25:53 11:25:57

A. Yes. 11:26:07

Q. And -- and then the example with the wireless signals are RF signals. The RF signals pass through the window that's a solid material; is that correct? 11:26:07 11:26:08 11:26:12 11:26:16

MR. PAUL: Objection to form. 11:26:21

A. Which example of RF are you referring to? Are you quoting something? 11:26:22 11:26:25

Q. I -- I'm using the example that you provided, that the wireless communications in Beach in one example could be RF signals. 11:26:27 11:26:29 11:26:31

A. Oh. 11:26:35

Q. So to that example, would they pass through the window that's a solid material? 11:26:35 11:26:36

A. Yes. That's right. 11:26:39

Q. At what point in Beach's methodology is this orientation data, that you say is transmitted, is it transmitted to the remote device? 11:26:49 11:26:54 11:26:56 11:26:59

MR. PAUL: Objection to form. 11:27:00

Q. And let -- let me clarify that. 11:27:05

Is the data that's transmitted through the window, is it transmitted while Beach's downhole tool is in the hole or is it when the tool is at the surface? 11:27:07 11:27:09 11:27:12 11:27:16

MR. PAUL: Objection to form. 11:27:19

A. It's when the tool is at the surface. 11:27:20

Q. And after the assembly is brought to the surface, can orientation data be transmitted while the assembly is still assembled? 11:27:27 11:27:29 11:27:32

MR. PAUL: Objection to form. 11:27:35

A. I don't recall. 11:27:45

Q. Does Beach's device need to be disassembled prior to obtaining the orientation data through the window? 11:27:50 11:27:52 11:27:56

MR. PAUL: Objection to form, speculation. 11:27:57 11:27:59

A. I don't recall. 11:27:59

Q. Do you need to re- -- review the Beach reference to refresh your recollection? 11:28:14 11:28:16

A. I'd be happy to try. That's not something I recall looking at in the past. 11:28:19 11:28:21

Q. Why don't we do that now. And -- and -- and let me know if you find something in Beach that references that. 11:28:30 11:28:32 11:28:35

A. Okay. 11:28:44

MR. PAUL: Objection to form. 11:28:45

A. I don't recall seeing anything -- I wasn't looking for that before, but I don't recall seeing anything up to page 17. So I'm going to move forward from there, but please do let me know if you know of a certain area I should be looking. That would save us a little time. 11:28:53 11:28:54 11:28:57 11:29:00 11:29:02 11:29:05

I've read -- or skimmed through the back and -- or to the end of the specification and I don't see any reference to the process for disassembly of the tool or operational steps related to any steps that might be taken before the data might be transmitted by the antenna to 11:34:18 11:34:20 11:34:23 11:34:28 11:34:31 11:34:35

the remote device. 11:34:39

Q. So in your opinion, based on your knowledge of Beach and the data to be transmitted out of the window without the tool being disassembled? 11:34:44 11:34:46 11:34:52 11:34:54

MR. PAUL: Objection, speculation. 11:34:55

A. Yeah, I don't know the op- -- as I said, I don't know the operational procedures required. 11:34:59 11:35:01

Just looking at -- a POSITA looking at a window would -- would understand that transmission of data could occur through that window as long as the window has been exposed and has a line of sight -- well, not -- not even a line of sight for some forms of wireless communication to the remote device. So it's at the surface, it's not downhole. 11:35:04 11:35:06 11:35:07 11:35:10 11:35:13 11:35:16 11:35:20 11:35:22

But beyond that, I have not seen in -- in my scan of pages 18 through the end of the specification any details on the operational steps there. 11:35:23 11:35:24 11:35:29 11:35:32

Q. What is the purpose of the window in Beach? 11:35:35 11:35:37

MR. PAUL: Objection, form. 11:35:40

A. The window provides a transmissive structure that the wireless communication can pass through from the antenna on the inside to the receiver or hand-held device on the outside. 11:35:41 11:35:47 11:35:51 11:35:55

At the same time, that -- that window is a solid structure that's providing a barrier between wellbore fluid on the outside and the protected space on the inside when the tool is in a downhole environment. 11:35:59 11:36:01 11:36:04 11:36:06 11:36:10

Q. Let's turn to the Wiese reference itself, which has been previously marked 1004. And that's U.S. Patent application -- publication US 2008-0001775. 11:36:35 11:36:37 11:36:44 11:36:45

A. Got it. 11:36:54

Q. Are you okay if we refer to this reference as the "Wiese" reference? 11:36:57 11:37:00

A. Yes. 11:37:02

Q. What is the problem that Wiese is attempting to solve? 11:37:06 11:37:08

MR. PAUL: Objection to form. 11:37:13

A. It's trying to download data from a 11:37:14

downhole tool to a surface computer in an efficient -- time efficient manner, a reliable manner. 11:37:23 11:37:26 11:37:30

Q. Turning to Fig. 1 of Wiese, can you describe element 26 in Fig. 1? 11:37:31 11:37:41

A. Fig. 26 is a -- a transceiver. 11:37:45

Q. What type of transceivers does Wiese describe in association with element 26. 11:37:48 11:37:52

MR. PAUL: Objection to form. 11:37:54

A. Fig. 1 notes it's a "transceiver (internal)." 11:37:55 11:38:02

Q. Does Wiese -- does Wiese describe any specific types of transceivers? 11:38:05 11:38:08

A. Oh. I misunderstood. I'm sorry. Give me a minute. 11:38:11 11:38:13

I'm not seeing any transceiver description in Wiese. 11:38:51 11:38:53

Q. If we turn to paragraph 15 of Wiese -- 11:39:18

A. Yes. 11:39:23

Q. -- does paragraph 15 describe any different -- or any types of wireless signals that transceiver 26 might utilize? 11:39:23 11:39:25 11:39:29

A. Well, the transceiver is just sending a signal -- electrical signal to the antenna. The transceiver itself is not creating, transmitting or receiving wireless signals itself. 11:39:32 11:39:39 11:39:42 11:39:47

Q. Correct. 11:39:50

What type of wireless signal does the antenna transmit? 11:39:53 11:39:55

MR. PAUL: Objection to form. 11:40:00

A. Reading paragraph 15 again of Wiese, includes not only electromagnetic signal propagation. For example, infrared could be a signal type. LED, the light-emitting diode, that's an infrared LED. 11:40:01 11:40:14 11:40:17 11:40:23 11:40:30

Further down paragraph 15, for example, the signal type is electromagnetic, or EM wave. Infrared again. Acoustic. 11:40:46 11:40:50 11:40:57

Ultrasonic is kind of a part of acoustic. 11:41:09 11:41:11

Those seem to be the examples that I found in paragraph 15 now. I -- correction, paragraph 14. I didn't look up. 11:41:56 11:41:58 11:42:03

My connections might involve electrical 11:42:08

signal, optical signal, hydraulic signal, acoustic signal, as appropriate, and that would apply to the connections to the antenna as well. I mean, the connections from antenna to antenna going through the window. 11:42:12 11:42:16 11:42:18 11:42:21 11:42:24

Q. Does Wiese indicate a preference for any of those examples of wireless communications? 11:42:30 11:42:33

MR. PAUL: Objection to form. 11:42:36

A. I don't recall. 11:42:39

Q. All right. Let's turn now back to your declaration, paragraph 126. 11:42:49 11:42:52

A. Okay. 11:43:11

Q. Why did you include this paragraph in your declaration? 11:43:13 11:43:14

A. Give me a moment and I'll read. 11:43:15

Paragraph 126 is addressing obviousness based on Beach-127 in view of Wiese. 11:43:55 11:43:59

So to the extent that Beach-127 were interpreted not necessarily disclosing a window for optical communication, a POSITA would understand that optical is an option, part of electromagnetic spectrum, something that would be 11:44:02 11:44:05 11:44:09 11:44:12 11:44:16

considered by Wiese that a POSITA would be aware of anyway. 11:44:19 11:44:22

Q. Can you read the last sentence into the record. 11:44:26 11:44:28

MR. PAUL: Objection. 11:44:30

A. "A POSITA would have appreciated that these known advantages would have yielded benefits when applied to downhole systems." 11:44:32 11:44:34 11:44:38

Q. Did you consider any disadvantages of using optical communication in forming your opinion? 11:44:45 11:44:47 11:44:50

MR. PAUL: Objection, foundation. 11:44:56

A. Well, my -- my objective wasn't to design a downhole tool myself. I'm just analyzing what's in the art. So I looked at why a POSITA would consider optical as a consideration among other candidates when a POSITA was developing a downhole tool. 11:44:58 11:45:00 11:45:03 11:45:07 11:45:12 11:45:18

Q. So is it -- so are you saying you did not consider this -- the disadvantages of optical communication when forming your opinion? 11:45:20 11:45:25 11:45:33

MR. PAUL: Objection, form. 11:45:34

A. My objective wasn't to consider disadvantages. My objective was to say these are all the candidates that a POSITA might consider. My objective wasn't to do a full design analysis and actually design a downhole tool, is what I meant. 11:45:35 11:45:37 11:45:40 11:45:43 11:45:47 11:45:50

Q. So did you consider any disadvantages? 11:45:57

MR. PAUL: Objection, asked and answered, form. 11:46:03 11:46:04

A. I'm certainly aware, as a POSITA would be, that every type of communication has its advantages and disadvantages. And a POSITA would be in a position to decide for themselves which -- which communication means was best for their application. 11:46:07 11:46:09 11:46:12 11:46:15 11:46:19 11:46:22

I didn't -- I don't know if I mentioned disadvantages in here or not. I'm certainly familiar, and a POSITA would be familiar, with advantages and disadvantages of each. 11:46:23 11:46:26 11:46:28 11:46:30

Q. In your modification of Beach that utilizes optical communication, did you consider the effect of the propagation path on the optical 11:46:36 11:46:41 11:46:45

carrier wave? 11:46:48

MR. PAUL: Objection, form. 11:46:49

A. As I've said, I wasn't trying to do a complete design of a downhole tool. I was analyzing what a POSITA might consider. And certainly an optical is something a POSITA might consider because of the high data rates you can receive with optical. 11:46:50 11:47:01 11:47:03 11:47:09 11:47:12 11:47:14

So if you have a lot of data, optical is a good option for transferring a lot of data. Or if you have a receiver on the outside, such as a human eyeball, optical's nice to use because you can actually see it. So there's advantages for using optical. 11:47:15 11:47:17 11:47:21 11:47:23 11:47:27 11:47:30

Q. In paragraph 126, you cite to Exhibit 1021. Let's go to that now. 11:47:34 11:47:36

A. Which one is that? 11:47:43

Q. That is Exhibit 1021, titled "Optical Communications." 11:47:45 11:47:50

A. Okay. 11:47:57

Q. What is this document generally? 11:48:27

MR. PAUL: Objection to form. 11:48:35

A. This is -- I believe it's just Chapter 1 of a textbook called Optical Communications. 11:48:36 11:48:53

Q. Is it safe to say that a POSITA would have been aware of the information in Exhibit 1021? 11:49:00 11:49:02 11:49:04

A. Yes, it seems like pretty general information. 11:49:07 11:49:09

Q. All right. Can we turn to page -- PDF page 5 of this -- of 1021, which is the Bates-labeled page 5. 11:49:12 11:49:19 11:49:27

A. Okay. Got it. 11:49:31

Q. On this -- can you read the first sentence of the second full paragraph beginning with, "Another drawback..." 11:49:40 11:49:42 11:49:45

A. "Another drawback to optical communications is the detrimental effect of the propagation path on the optical carrier wave." 11:49:50 11:49:52 11:49:57

Q. Did you consider this drawback that's known by POSITAs in forming your opinion? 11:50:03 11:50:05

A. Same answer as I had before, which is that my objective was to show that there were different options available for a POSITA to 11:50:08 11:50:13 11:50:15

consider, and it would be up to the POSITA to consider the advantages and disadvantages, depending on what was needed for the particular application that they were designing for. 11:50:17 11:50:19 11:50:20 11:50:24

Q. When deciding -- so -- scratch that. 11:50:30

It's your opinion that a POSITA would have been motivated to modify Beach to include optical communication; is that correct? 11:50:36 11:50:38 11:50:43

A. Yes. 11:50:44

Q. And in forming your opinion that a POSITA would have been motivated, did you consider both advantages and disadvantages? 11:50:48 11:50:50 11:50:53

MR. PAUL: Objection, asked and answered. 11:50:58 11:50:58

A. Same answer. A POSITA would be motivated to look at all these options that I just explained. And it would be up to the POSITA, depending on exactly what they wanted to do with that transmission, you know, to choose based on their requirements and -- and their objectives. 11:51:01 11:51:02 11:51:05 11:51:08 11:51:10 11:51:14

Q. Can you read the second sentence of this same second paragraph starting with, "This is..." 11:51:23 11:51:27

A. "This is because optical wavelengths are commensurate with molecule and particle sizes and propagation effects are generated that are uncommon to radio and microwave frequencies." 11:51:34 11:51:37 11:51:42 11:51:45

Q. So is it accurate to say that radio waves propagate differently than optical waves? 11:51:51 11:51:52

A. Yes. 11:51:57

Q. So if a POSITA modifies Beach to utilize optical communications instead of RF waves, the optical waves would propagate differently within Beach's tool than the radio waves; is that correct? 11:51:59 11:52:03 11:52:07 11:52:11 11:52:12

MR. PAUL: Objection to form, foundation. 11:52:14 11:52:16

A. Every type of wave -- wavelength, depending on the physics, will propagate differently. And so that's something the POSITA would need to consider in their design. 11:52:17 11:52:25 11:52:28 11:52:30

Q. Did you account for that in your analysis? 11:52:33 11:52:34

A. As I've said, my analysis was to consider what options a POSITA would have 11:52:35 11:52:39

available. And a POSITA would consider optical as an option because of the reasons -- the advantages I've stated. It would be up to the POSITA to decide whether or not there were disadvantages that -- excuse me, that outweighed the advantages. 11:52:42 11:52:45 11:52:47 11:52:50 11:52:54

Q. So I understand a POSITA would have to weigh the advantages and disadvantages. 11:53:01 11:53:02

Would -- your position is that a POSITA would, in fact, be motivated to make this combination. Does that imply that the advantages outweigh the disadvantages? 11:53:08 11:53:13 11:53:15 11:53:19

MR. PAUL: Objection to form. 11:53:22

A. I believe a POSITA would be motivated to look at optical because it can provide a high data rate and you can see with a human eye. Those are two advantages of optical as opposed to other forms of wireless, which might not have the bandwidth and wouldn't be visible to a human eye. So that's why I recommended that -- or, you know, I recommended that as a -- used that as an example. 11:53:25 11:53:27 11:53:31 11:53:34 11:53:37 11:53:40 11:53:44 11:53:48 11:53:51

Q. Can you read the next sentence beginning 11:53:53

with "Furthermore..." 11:53:56

A. "Furthermore, these effects tend to be stochastic and time varying in nature, which hinders accurate propagation modeling." 11:54:01 11:54:04 11:54:07

Q. Is it accurate to say accurate propagation path modeling is important when using optical communications? 11:54:12 11:54:16 11:54:19

A. I generally -- 11:54:21

MR. PAUL: Objection to form. 11:54:23

A. I don't know that that's relevant to this application. 11:54:24 11:54:26

Q. When a POSITA's using optical communications, can they expect to be successful if they don't understand the propagation path? 11:54:27 11:54:33 11:54:35

A. It will depend on what they're trying to transmit through that path and how they're trying to transmit it. 11:54:39 11:54:42 11:54:46

Q. When analyzing Beach, did you model the propagation path within Beach's tool? 11:54:50 11:54:53

A. I did not. 11:54:57

Q. Why not? 11:54:59

A. Because it wasn't necessary. I knew 11:55:00

that optical would be an option for a POSITA to consider for designing this tool for the reasons -- for the advantages stated. 11:55:04 11:55:07 11:55:13

Q. All right. 11:55:18

MR. JARRATT: Let's take another ten-minute break. 11:55:18 11:55:19

THE VIDEOGRAPHER: We're going off the record. The time is 11:55 a.m. 11:55:23 11:55:24

(Recess in proceedings.) 12:41:48

THE VIDEOGRAPHER: I'm sorry. We're back on the record at 12:41 p.m. 12:41:51 12:41:52

BY MR. JARRATT: 12:41:55

Q. Dr. Rodgers, during the break did you speak with petitioner's counsel about the substance of your testimony? 12:41:56 12:41:58 12:42:00

A. No. 12:42:01

Q. All right. Let's -- let's turn back to your declaration on paragraph 120. 12:42:02 12:42:05

A. Okay. 12:42:16

Q. Can you read the last sentence into the record. 12:42:16 12:42:22

A. "With such a through hole, a POSITA 12:42:31

would have understood that the communication link could take the form of a wire, such as copper, a fiberoptic cable or" other -- excuse me, "or various forms of wireless communication, such as RF or optical signals." 12:42:34 12:42:36 12:42:41 12:42:45 12:42:49

Q. Does the Beach reference itself describe a through hole in body 22? 12:42:53 12:42:56

A. It does not specifically describe a through hole. 12:43:01 12:43:04

Q. So let's discuss this communication link you reference in this last sentence between transceiver 28 and antenna 30. 12:43:07 12:43:10 12:43:14

When this communication link is a wire, as you note, can you explain what the through hole in the body 22 would have looked like to accommodate this wire? 12:43:19 12:43:22 12:43:25 12:43:28

MR. PAUL: Objection to form. 12:43:30

A. A POSITA would understand that the antenna has to have a connection to the transceiver, antenna 30, the transceiver 28. And the most likely way to accomplish that is with a wire connecting the two because the antenna needs 12:43:31 12:43:33 12:43:36 12:43:40 12:43:44

power and the data communication from the transceiver. So a POSITA would understand that the through hole was the most likely way that that would be accomplished in a downhole tool environment. 12:43:47 12:43:50 12:43:54 12:43:57 12:43:59

Q. My question's more about what would -- the configuration of this through hole to accommodate the wire. Did you analyze what the configuration would look like? 12:44:01 12:44:03 12:44:06 12:44:09

MR. PAUL: Objection, speculation. 12:44:11

A. What I did is I gave a couple of examples of what a through hole might look like in a downhole tool. That's -- that's what's included in my declaration. 12:44:15 12:44:17 12:44:21 12:44:26

Q. You also mentioned that the communication link between the transceiver 28 and the antenna 30 could take the form of an RF wireless communication. 12:44:32 12:44:34 12:44:38 12:44:42

When the communication link is an RF wireless signal, does the through hole in body 22 need to be present? 12:44:45 12:44:47 12:44:53

A. It becomes very difficult or impossible 12:44:54

to pass a signal through a -- a pressure housing, an actual structural steel part of a downhole tool. So the likely way to accomplish that transmission would be through a hole of some sort. 12:45:02 12:45:06 12:45:10 12:45:13

Q. You testified earlier that RF signals can pass through solid materials. Why is this case different? 12:45:22 12:45:24 12:45:29

Why is a through hole needed here and not in earlier cases that you testified to? 12:45:30 12:45:33

MR. PAUL: Objection, foundation, form. 12:45:36

A. The through hole is through the primary structure of this downhole tool string; whereas, the window is not part of the primary structure, it's just a transmission path from the antenna to the outside world. But because this is primary structure, the downhole tool needs that primary structure to be strong enough to do the -- to carry the loads it needs in operation in the downhole environment. That's why you can't just make the whole tool, say, out of translucent material. You want the primary structure to be steel to survive in the operating environment. 12:45:40 12:45:43 12:45:48 12:45:54 12:45:58 12:46:01 12:46:06 12:46:08 12:46:11 12:46:13 12:46:16 12:46:21

Q. Does Beach describe what body 22 is constructed of, what material? 12:46:26 12:46:31

A. I don't recall. 12:46:33

Q. Do you mind -- if you don't mind, let's turn to Beach. And I'd like you to review Beach and determine if Beach explains what body 22 is made of. And please let me know if you find a reference for that. 12:46:46 12:46:49 12:46:54 12:46:56 12:46:59

A. Okay. 12:47:11

I have not found anything in the specification that I can see that relates to a material selection for -- what was it? I already forgot the number -- 182, was it? Body 22. 12:50:03 12:50:05 12:50:07 12:50:13

Q. Does the selection of a material for body 22 affect whether RF signals can pass through body 22? 12:50:23 12:50:24 12:50:33

MR. PAUL: Objection to form. 12:50:34

A. Yeah, something a POSITA would be familiar with is how to select material appropriately for designing a downhole tool, and selecting it, as needed, for whatever function it is to provide. So that could include 12:50:36 12:50:38 12:50:40 12:50:43 12:50:45

transmissibility, if that was a goal. 12:50:49

Q. If Beach doesn't explain what body 22 is constructed of, how can you be sure a through hole is needed? 12:50:56 12:50:59 12:51:02

MR. PAUL: Objection, form, speculation. 12:51:03

A. Because a POSITA would know it's very hard to transfer power to an antenna if you don't have a way of delivering power to the antenna from the transceiver. So trying to go through a downhole tool that's, you know, typically made of steel would be probably impossible to -- to get that power and data across to the antenna without having a hole. 12:51:10 12:51:12 12:51:15 12:51:20 12:51:23 12:51:26 12:51:31 12:51:37

Q. You testified earlier that body 22 is the primary structure of the downhole tool string and it is to carry the loads in operation in the downhole environment. 12:51:53 12:51:55 12:52:01 12:52:04

Would you typically -- would a POSITA typically create a hole in the primary structure of the downhole tool? 12:52:07 12:52:11 12:52:18

MR. PAUL: Objection, hypothetical. 12:52:24

A. A POSITA would know that, yes, that this 12:52:25

is possible. There are design calculations that are performed to ensure that the structure has sufficient strength to accommodate the hole of a certain dimension. 12:52:27 12:52:30 12:52:33 12:52:37

Q. Can you think of any instances where a through hole would not be needed in body 22? 12:52:53 12:52:54

MR. PAUL: Objection, form, speculation. 12:53:00

A. No. I'm not -- I can't think of any. 12:53:02

Q. All right. Let's turn to page 66 of your declaration. 12:53:30 12:53:33

A. Okay. 12:53:41

Q. In Section F, in bold, recites the window limitation. Are you okay with me referring to this as the "window limitation"? 12:53:43 12:53:48 12:53:52

A. Sure. 12:53:55

Q. If we turn now to paragraph 15 directly below, what's the purpose of this paragraph? 12:53:56 12:54:00

MR. PAUL: Objection, form. 12:54:08

A. It's just an introductory paragraph to this section of my declaration. 12:54:09 12:54:24

Q. Is it your opinion that Beach alone discloses the window limitation? 12:54:29 12:54:31

A. Yes. 12:54:35

Q. What's the basis for your opinion that 12:54:42

Beach alone discloses the window limitation? 12:54:44

MR. PAUL: Objection, form. 12:54:48

A. Oh. Just based on the description as 12:54:49

I've written in paragraph 116, that "[t]he tool 10 12:55:24

comprises an electronic core orientation device or 12:55:28

system 20 housed within a body 22 that is coupled 12:55:32

to and between the core tube cap and the adaptor 12:55:35

16." 12:55:40

And that includes a transceiver, an 12:55:41

antenna to communicate with a hand-held device. 12:55:43

The antenna shown in figure -- Fig. 2 has to 12:55:47

communicate with this external hand-held device. 12:55:55

I know that a POSITA reading this patent 12:56:04

knows that that has to be a window, that the outer 12:56:07

structure around the antenna has to be a window 12:56:11

for communicating -- for allowing that 12:56:14

transmission to occur. 12:56:19

Q. When you say "that transmission," are 12:56:21

you referring to an optical communication? 12:56:23

A. Referring to whatever form of 12:56:25

communication -- whatever form the communication takes. That antenna is going to send a signal through that window to get to the hand-held computer or other like device. 12:56:30 12:56:33 12:56:37 12:56:40

Q. Are you aware that the window limitation requires optical communication? 12:56:43 12:56:45

A. I'm aware. 12:56:49

Q. What's your basis that Beach alone teaches optical communication? 12:56:52 12:56:54

MR. PAUL: Objection, form. 12:56:57

A. Well, optical is a form of wireless communication and Beach teaches wireless communication. So being that I know that, there are many options for what wireless communication could take -- what form it could take. 12:56:58 12:57:07 12:57:10 12:57:14 12:57:17

Q. Do you point to any portions of Beach that explicitly disclose optical communication? 12:57:26 12:57:29

A. I don't believe I do. 12:57:33

Q. Why not? 12:57:35

A. Because I don't think the word "optical" appears specifically in Beach. In -- Beach refers to wireless communication in general. 12:57:36 12:57:41 12:57:45

Q. So does Beach disclose -- disclose optical communication or does it render obvious optical communication? 12:57:51 12:57:54 12:57:57

A. I think it's implied as a form of wireless communications in Beach alone. And then, of course, it's obvious -- would be an obvious extension that optical could be used as well. 12:58:02 12:58:04 12:58:08 12:58:12

So I think both are -- both are true. 12:58:15

Q. Return to page 70 of your declaration. 12:58:22

A. Okay. 12:58:33

Q. On the figure on the left, I believe this is Beach Fig. 2, an annotated version, what element is denoted by the orange shading? 12:58:34 12:58:40 12:58:47

A. That's antenna 30. 12:58:52

Q. And the antenna appears to be in contact with the window; is that correct? 12:58:55 12:58:57

A. There's not enough resolution in this image to say, one way or the other. 12:59:01 12:59:03

Q. Can you determine whether the window extends to the sealed interior cavity, even though it's a lower resolution image? 12:59:10 12:59:12 12:59:16

MR. PAUL: Objection, form. 12:59:20

A. Yes. 12:59:21

Q. So you can determine whether the window extends to the sealed interior cavity, but you cannot determine whether the antenna is in contact with the window? 12:59:29 12:59:31 12:59:34 12:59:38

A. Yes. 12:59:39

MR. PAUL: Objection, form. 12:59:39

THE WITNESS: Sorry. 12:59:41

Q. Does Beach explain why the antenna is positioned where it is in this device as opposed to other positions? 12:59:44 12:59:47 12:59:52

MR. PAUL: Objection, form. 01:00:01

A. I'm trying to recall. I've seen that. 01:00:04

I don't recall. 01:00:22

I would just comment that a POSITA would understand that the antenna needs to be near the exterior surface to get the best transmission. That's one reason you would put it on the outside of a -- or toward the outer perimeter of a downhole tool. 01:00:23 01:00:25 01:00:28 01:00:32 01:00:34 01:00:37

Q. Turning to page 81. There's a -- in the figure labeled the "Beach Wiese modification 2" on 01:00:41 01:00:57

page 81, did you make the modifications to Beach that are shown in this figure? 01:01:01 01:01:05

A. Yes. 01:01:06

Q. Which -- what specific modification did you make to the original Beach Fig. 2? 01:01:09 01:01:11

MR. PAUL: Objection to form. 01:01:15

A. In this case, the hole in the -- in the structure is larger and the antenna is moved from being in the outer region under the window, it's moved to be wrapped around the transceiver. 01:01:16 01:01:20 01:01:26 01:01:31

Q. When you say the hole -- "the hole in the structure is larger," the structure you're referring to is body 22; is that correct? 01:01:45 01:01:47 01:01:53

A. I don't know that -- body 22 is pointing to -- in this figure, it's pointing further to the left. I'm struggling. 01:01:56 01:02:09 01:02:12

What I'm referring to is the hole under the window, between the transceiver and the windows. Between the blue and the orange, there's a hole cut in the gray structure. That's the structure that I'm referring to. 01:02:20 01:02:24 01:02:26 01:02:29 01:02:34

Q. Did you make any alterations to the 01:02:35

window that you labeled here? 01:02:37

MR. PAUL: Objection to form. 01:02:39

A. Other than coloring it blue, I do not believe so. 01:02:42 01:02:46

Q. Did you -- did you change the window to be optically transmissive in your modification? 01:02:52 01:03:01

MR. PAUL: Objection to form. 01:03:05

A. Yes. As an example of optical communication, the window would be optically transmissive to allow that optical light to pass through. 01:03:06 01:03:11 01:03:13 01:03:20

Q. Can you describe how a POSITA would create that type of window in Beach's tool, an optically transmissive window? 01:03:24 01:03:27 01:03:32

MR. PAUL: Objection, foundation, speculation. 01:03:35 01:03:36

A. A POSITA would be familiar with different materials and construction methods for making a cylindrical shell that is optically transparent and strong enough to meet the requirements of the application. 01:03:38 01:03:40 01:03:43 01:03:48 01:03:57

Q. In this modification in which the window 01:04:01

is optically transmissive, is it of a different material than the remainder of Beach's exterior surface? 01:04:04 01:04:08 01:04:11

A. Well, yeah. In -- in any -- for any type of electromagnetic transmission, that window is going to be a special material that's different than the rest of the downhole tool structure, a POSITA would understand that. 01:04:12 01:04:16 01:04:20 01:04:24 01:04:28

Q. So -- so if there's two types of materials on the exterior surface of Beach's tool, would there be some sort of seam between the two types of material? 01:04:36 01:04:38 01:04:41 01:04:44

MR. PAUL: Objection, form, hypothetical. 01:04:45 01:04:47

A. There would be -- there would be a point where those two materials meet, if that's what you mean. 01:04:49 01:04:52 01:04:55

Q. Are there any disadvantages to creating a seam on the exterior of a downhole tool? 01:04:59 01:05:01

MR. PAUL: Objection to form, foundation. 01:05:07 01:05:08

A. No. It's -- it's quite common to have 01:05:09

seams or connection points on the surface of a downhole tool. 01:05:12 01:05:16

Q. Did you consider any of those disadvantages in or -- scratch that. 01:05:22 01:05:23

How much pressure, in your estimation as a POSITA, would Beach's downhole tool be subject to when it is in the hole and in operation? 01:05:30 01:05:34 01:05:38

MR. PAUL: Objection, speculation. 01:05:43

A. It would depend on the application you were designing for. 01:05:44 01:05:46

So every job has a requirement for a certain depth and pressure and temperature. And so the POSITA would design that structure and the connections and the interfaces to meet whatever the pressure and temperature requirements are, just as you do with any downhole tool. 01:05:47 01:05:50 01:05:53 01:05:58 01:06:00 01:06:03

Q. Another modification you mention is you combine the antenna as shown in orange with the transceiver shown in yellow. Did you consider any disadvantages on making that combination, in your opinion? 01:06:24 01:06:27 01:06:32 01:06:37 01:06:39

MR. PAUL: Objection, foundation. 01:06:46

A. It's just a second way that a POSITA could consider. You could either have the antenna closer to the outer -- to the window or you could have it closer to the transceiver. 01:06:47 01:06:48 01:06:51 01:06:56

There are advantages to having it closer to the transceiver. There might be advantages to keeping it closer to the window. You know, there's -- there are tradeoffs to any design. 01:06:58 01:06:59 01:07:02 01:07:05

Q. What are the disadvantages of moving the antenna farther away from the exterior surface? 01:07:08 01:07:10

MR. PAUL: Objection, foundation. 01:07:13

A. A -- a POSITA would consider the -- the transmission path. You know, obviously, it's a little bit further away, but that's a pretty tiny difference in distance compared to, you know, say, the distance to a remote unit on the outside. So it -- it doesn't seem to be consequential. 01:07:15 01:07:18 01:07:21 01:07:24 01:07:28 01:07:31

MR. JARRATT: All right. Let's take a five-minute break. I think I may be wrapping up. 01:07:41 01:07:42 01:07:45

THE VIDEOGRAPHER: Okay. Going off the record. The time is 1:07 p.m. 01:07:47 01:07:48

(Recess in proceedings.) 01:13:35
THE VIDEOGRAPHER: We're back on the record at 1:13 p.m. 01:13:40
MR. JARRATT: That is all the questions Patent Owner has. I'll turn it over to counsel for petitioner. 01:13:46
MR. PAUL: Just a couple of follow-up questions. 01:13:55
EXAMINATION 01:13:56
BY MR. PAUL: 01:14:03
Q. Dr. Rodgers, do you recall being asked questions today about your understanding of the term "window" in the context of the '013 patent? 01:14:03
A. Yes. 01:14:15
Q. And do you recall providing your opinions on the term "window" in the context of the '013 patent? 01:14:16
A. Yes. 01:14:27
Q. Okay. If I can direct your attention to your declaration at page 36. And there's section F on claim construction. 01:14:27
A. Yes. 01:14:46

Q. And is this where you rendered opinions regarding the term "window" in this context? 01:14:49 01:14:51

A. Yes. 01:14:54

Q. I'm going to read the -- a couple of sentences and then ask you a follow-up question. 01:15:00 01:15:02

According to paragraph 63, the second sentence -- or -- or -- the last sentence, rather, reads, "A POSITA would understand that in the context of the '013 patent, the term 'window' should be construed to require a solid material that is" transive -- "transmissive to a communication signal." 01:15:05 01:15:11 01:15:13 01:15:16 01:15:20 01:15:23 01:15:25

Did I read that accurately? 01:15:27

A. Yes. 01:15:29

Q. And was that your opinion regarding the meaning of the term "window" in the context of the '013 patent? 01:15:29 01:15:32 01:15:35

A. Yes, it is. 01:15:37

Q. Okay. And going further, the next sentence -- first sentence of paragraph 64 -- or second sentence, rather, says, "For example, the specification consistently uses the term 'port' 01:15:38 01:15:39 01:15:48 01:15:51

to...refer to an open void or aperture on the exterior of the core barrel head assembly, that may permit fluid passage into an interior cavity." 01:15:54 01:15:57 01:16:00

Did I read that correctly? 01:16:07

A. Yes. 01:16:09

Q. And then if I can -- if you can flip the page, it's paragraph 66. The second sentence says, "Specifically, dependent claim 2 specifies, 'a port...extending from the exterior surface into fluid communication with the first interior cavity, which further suggests that the term 'window' recited in claim 1 refers to something structurally different." 01:16:14 01:16:17 01:16:21 01:16:25 01:16:30 01:16:34 01:16:36 01:16:40

A. Yes, I agree with that. 01:16:42

Q. Okay. And can you explain what you meant when you -- when you wrote that the window was referring to something "structurally different"? 01:16:43 01:16:45 01:16:50 01:16:53

A. Sure. 01:16:53

A port is a hole through which you can flow fluid, for example; and that's how it's used in the patent. Whereas, a window is only 01:16:56 01:16:59 01:17:03

transmissive to wireless communication signals. It's not something a fluid would flow through. It provides a barrier. And as described, it provides a -- a -- you know, pressure -- a pressure barrier. 01:17:06 01:17:11 01:17:14 01:17:17 01:17:20

So fluid from, say, the wellbore on the outside can't leak into the tool. That's why it's significantly different, a difference between a window and a port. 01:17:21 01:17:24 01:17:27 01:17:31

Q. Okay. And referring to paragraph 65, second sentence, you mention that during prosecution of the '463 patent, which you understand is parent to you, and "therefore shares the same specification as the '013 Patent, Patent Owner amended this portion of the specification to specify that" data -- "such data transmitting is through a window, replacing the word 'aperture.'" 01:17:34 01:17:37 01:17:41 01:17:47 01:17:50 01:17:53 01:17:56 01:17:58

Did I read that accurately? 01:18:02

A. Yes, I see that. 01:18:04

I agree with that. 01:18:05

Q. Is it your understanding that this suggests a -- a structurally different meaning to 01:18:06 01:18:10

the term "window" as opposed to the term "aperture" in the context of the '013 patent? 01:18:14 01:18:16

A. Yes. That's what this would suggest. 01:18:20

Q. And is that your understanding, as well? 01:18:23

A. That is my understanding. 01:18:25

Q. You were asked questions earlier today regarding the parent patent to the '013 patent, the '463 patent. Do you recall -- 01:18:29 01:18:32 01:18:37

A. Yes. 01:18:39

Q. -- those questions? 01:18:39

And do you also recall being asked questions regarding the prosecution of the '463 patent? 01:18:40 01:18:43 01:18:49

A. I do. 01:18:49

Q. As part of your work in connection with this matter, were you asked to provide an evaluation as to the validity of the '463 parent patent claims? 01:18:51 01:18:53 01:18:55 01:18:59

A. I was not. 01:19:01

Q. Do you recall being asked questions regarding the option of using optical communication as the form of communication in -- 01:19:14 01:19:16 01:19:26

in the Beach Fig. 2 assembly? 01:19:29

A. Yes. 01:19:33

Q. If I can direct your attention to paragraph 139. 01:19:33

A. Okay. 01:19:56

Q. And is this paragraph relating to your motivation to apply the teachings of Wiese to the assembly of Beach-127? 01:19:58

A. It is. 01:20:07

Q. And if I can direct your attention to the middle of the paragraph starting with the word "moreover..." The sentence there. 01:20:11

A. Yes. 01:20:14

Q. It reads, "Moreover, the choice of an optical signal, as opposed to other segments of the" elec- -- "electromagnetic spectrum -- in addition to being particularly advantageous for the reasons I describe above -- also would have been obvious to try as one of a limited number of solutions for transmitting signals from the downhole assembly wirelessly." 01:20:15

Did I read that accurately? 01:20:16 01:20:21 01:20:24 01:20:25 01:20:28 01:20:31 01:20:35 01:20:38 01:20:40 01:20:44 01:20:48 01:20:51

A. You did.

I -- and I agree with it. And that's what I intended to convey in our discussions today.

Q. And so what -- what did you mean by -- by this statement?

A. There are only so many options. So you're going to -- a POSITA is going to know you're going to pick and look amongst the op- -- the very limited options for commonly used wireless communication signals. That's -- that's what I'm suggesting here. A POSITA is going to try one of those known solutions, pick the one that they would like to use.

Q. What portion of the electromagnetic spectrum that you referenced here does the optical spectrum consist of?

A. Well, it's visible light.

Q. Okay. Would it also include spectrum other than visible light?

A. I'm trying to remember the definition of optical exactly, the technical definition.

Yeah. "Optical" means visual light in general. I can't recall if it extends beyond -- as -- as part of the electrical -- electromagnetic spectrum. 01:22:09 01:22:12 01:22:15 01:22:17

Q. Okay. And if we go to paragraph 126. 01:22:17

A. Okay. 01:22:29

Q. First -- the first sentence there reads, "As a preliminary matter, a POSITA would have appreciated that optical communication techniques -- for example, infrared (IR) or visible light -- were, at the time of the '013 Patent priority data, common and straightforward methods for transferring data from downhole equipment to surface equipment." 01:22:30 01:22:31 01:22:34 01:22:36 01:22:40 01:22:43 01:22:47 01:22:52

A. Yes. 01:22:54

And that's what I was failing to remember, that optical does include a broader range besides just visible light. The definition of "optical" includes IR and visible. 01:22:55 01:22:56 01:22:59 01:23:01

Q. And IR and visible are portions of the electromagnetic spectrum that you referenced in paragraph 139? 01:23:04 01:23:05 01:23:09

A. That's right. 01:23:10

MR. PAUL: I don't have any other 01:23:13

questions. 01:23:13

MR. JARRATT: No more questions for 01:23:16

Patent Owner either. 01:23:17

THE VIDEOGRAPHER: This marks the end of 01:23:20

the deposition of John Rodgers, Ph.D, P.E. 01:23:20

We're going off the record at 1:23 p.m. 01:23:25

(Discussion off the record.) 01:23:28

THE COURT REPORTER: All right. Go 01:23:50

ahead and let me know. 01:23:51

MR. JARRATT: So we would like a rough 01:23:53

draft and then -- what's your standard time 01:23:56

for standard delivery? 01:24:04

THE COURT REPORTER: It is ten business 01:24:05

days. 01:24:05

MR. JARRATT: All right. What's your 01:24:05

rush time? 01:24:05

THE COURT REPORTER: You can have it as 01:24:05

soon as tomorrow and the cost goes down -- 01:24:05

the additional cost goes down every day past 01:24:05

tomorrow; Thursday, Friday. 01:24:05

MR. JARRATT: I think by the middle of next week would be an appropriate time. 01:24:22 01:24:24

THE COURT REPORTER: Okay. Happy to. 01:24:32

AND FURTHER THIS DEPONENT SAITH NOT.

SIGNATURE RIGHTS RESERVED.

(Videotaped Deposition concluded at 1:24 p.m.)

* * * * *

CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

I, April Reid, Registered Professional Reporter, Certified Realtime Reporter and Notary Public within and for the State of North Carolina do hereby certify:

That JOHN P. RODGERS, Ph.D., P.E., the witness whose deposition is hereinbefore set forth, was duly sworn by me before the commencement of such deposition and that such deposition was taken before me and is a true record of the testimony given by such witness.

I further certify that the adverse party, REFLEX USA, LLC, was represented by counsel at the deposition.

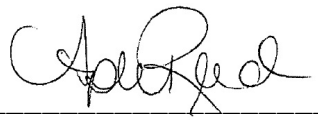
I further certify that the deposition of JOHN P. RODGERS, Ph.D., P.E. occurred remotely via Zoom on TUESDAY, DECEMBER 5, 2023, from 10:05 a.m. Eastern Standard Time to 1:24 p.m. Eastern Standard Time.

I further certify that I am not related to any of the parties to this action by blood or marriage, I am not employed by or an attorney to

any of the parties to this action, and that I am in no way interested, financially or otherwise, in the outcome of this matter.

IN THE WITNESS WHEREOF, I have hereunto set my hand this 7th day of December, 2023.

My commission expires: March 4, 2025.



APRIL REID, NOTARY PUBLIC IN AND FOR THE STATE OF NORTH CAROLINA, MECKLENBURG COUNTY.

Notary Registration No. 20012210079

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