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COURT REPORTING

Transcript of Stephen B. Kahl, Ph.D.

September 14, 2016

Coalition for Affordable Drugs X LLC v. Anacor Pharmaceuticals, Inc.

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1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

3
4 COALITION FOR AFFORDABLE DRUGS X LLC,
5 Petitioner,

6 v.

7 ANACOR PHARMACEUTICALS, INC.,
8 Patent Owner.

9
10 Case No. IPR2015-01776
11 U.S. Patent No. 7,582,621
12 Case No. IPR2015-01780
13 U.S. Patent No. 7,767,657
14 Case No. IPR2015-01785
15 U.S. Patent No. 7,767,567

16
17 DEPOSITION OF STEPHEN B. KAHL, Ph.D.

18
19 Taken at the instance of the Patent Owner at
20 Covington & Burling, One Front Street, 35th Floor, San
21 Francisco, California, on Wednesday, September 14,
22 2016, beginning at 8:58 a.m.

23
24 Reported by: Diane S. Martin, CSR 6464, CCRR

25

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2

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- 1 PREVIOUSLY MARKED EXHIBITS
- 2 EXHIBIT 1002: International Application WO 95/33754
- 3 EXHIBIT 1028: International Journal of Pharmaceutics
- 4 "Drug delivery to the nail following
- 5 topical application"
- 6 EXHIBIT 1039: Supplemental Declaration of Stephen
- 7 Kahl, Ph.D. In Support of Petitioner's
- 8 Supplemental Evidence and Response to
- 9 Patent Owner's Objections to the
- 10 Petition Evidence Pursuant to 37 CFR
- 11 42.62
- 12 EXHIBIT 1043: Support of Petition for Inter Partes
- 13 Review of Patent No. 7,582,621
- 14 EXHIBIT 1049: Progress in Heterocyclic Chemistry
- 15 EXHIBIT 1050: In Vivo Percutaneous Absorption of Boric
- 16 Acid, Borax, and Disodium Octaborate
- 17 Tetrahydrate in Humans Compared to In
- 18 Vitro Absorption in Human Skin from
- 19 Infinite and Finite Doses
- 20 EXHIBIT 1054: Biological Trace Element Research
- 21 EXHIBIT 1055: U.S. Patent 7,465,836
- 22 EXHIBIT 1056: Therapeutic potential of
- 23 boron-containing compounds
- 24
- 25

1 PREVIOUSLY MARKED EXHIBITS (Continued)

2 EXHIBIT 1059: Boron-containing inhibitors of

3 synthetases

4 EXHIBIT 1061: Biological Trace Element Research

5 EXHIBIT 1069-1: Declaration of Stephen Kahl, Ph.D. In

6 Support of First Petition for Inter

7 Partes Review of Patent No. 7,767,657

8 EXHIBIT 1069-2: Declaration of Stephen Kahl, Ph.D. In

9 Support of Second Petition for Inter

10 Partes Review of Patent No. 7,767,657

11 EXHIBIT 1072: Tissue uptake of BSH in patients with

12 glioblastoma in the EORTC 11961 phase I

13 BNCT trial

14 EXHIBIT 1073: Boron neutron capture therapy of brain

15 tumors: Clinical trials at the Finnish

16 facility using boronophenylalanine

17 EXHIBIT 1074: Boron neutron capture therapy (BNCT) for

18 glioblastoma multiforme: A phase II

19 study evaluating a prolonged high-dose

20 of boronophenylalanine (BPA)

21

22

23

24

25

1 WEDNESDAY, SEPTEMBER 14, 2016, 8:58 A.M.

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

3 --oOo--

4 (ANACOR EXHIBITS 79-81 WERE MARKED.)

5 STEPHEN B. KAHL, Ph.D.,

6 called as a witness, after having been duly sworn by
7 the Certified Shorthand Reporter to tell the truth, the
8 whole truth, and nothing but the truth, testified as
9 follows:

10 EXAMINATION

11 BY MR. EPPICH:

12 Q. Good morning, Dr. Kahl.

13 A. Good morning.

14 Q. My name is Chris Eppich. I represent the
15 patent owner, Anacor Pharmaceuticals, in these
16 proceedings.

17 Before we get started, is there any reason
18 that you cannot testify truthfully today?

19 A. No.

20 Q. Are you on any medication that would inhibit
21 your ability to testify truthfully today?

22 A. No.

23 Q. I know you've been deposed at least once
24 before, but I'd like to cover a few of the ground
25 rules.

1 I'll be asking you a few questions, and you'll
2 respond to those questions. Your counsel may object,
3 as he did the last time we were together, but you still
4 will need to answer those questions unless he instructs
5 you not to and you follow that instruction.

6 It's important that we try not to talk over
7 each other so that we can make the transcript clear.
8 And I'll endeavor to make my questions clear. But if
9 you have any questions about my questions, if I'm vague
10 in any way, just ask me to clarify, and I'll gladly do
11 so.

12 If you need to take a break, you know, just
13 ask, and we'll get to get a break for you. I'd just
14 ask that if a question is pending, you answer the
15 question before we break.

16 A. Sure.

17 Q. Do you understand these rules today?

18 A. Yes.

19 Q. Great.

20 Now, your last deposition in this matter was
21 in April, on April 8th, 2016; correct?

22 A. That's correct.

23 Q. Have you been deposed in any other matter
24 since that deposition?

25 A. No.

1 Q. Have you provided testimony at trial or any
2 hearing in any matter since that deposition?

3 A. No.

4 Q. Since your last deposition in April, have you
5 received any documents from your counsel in this case?

6 A. Yes.

7 Q. Which documents has your counsel provided you?

8 A. Oh, there's a fairly lengthy list. I can't --
9 I couldn't possibly sum it all.

10 Q. Do you log the documents in some kind of a
11 list that you receive from your counsel?

12 A. No.

13 Q. Have you cited to all of these documents in
14 your recent reply declaration?

15 A. I've used all of the documents to construct
16 the declaration, yes, or to inform my statements in the
17 declaration, yes.

18 Q. Were there any documents that your counsel
19 provided you that you did not cite to in your reply
20 declaration?

21 A. I don't believe so.

22 Q. I see that you have some materials in front of
23 you in a folder today.

24 A. Mm-hm.

25 Q. What materials did you bring with you to the

1 deposition?

2 A. I have a copy of my declaration. I have a
3 copy of Dr. Reider's deposition -- declaration, sorry.

4 I have a copy of the Baker review paper. Both
5 of the Baker review papers. And I have notes that
6 we -- that I had at our last deposition on Austin,
7 Freeman and Brehove. Just these are my notes that you
8 all xeroxed last time.

9 I have one additional sheet, which basically
10 has references to neutron capture therapy papers on it.

11 Q. Okay. Thank you, Dr. Kahl.

12 A. Okay.

13 Q. We'll set those aside for now and come back to
14 them later in the deposition.

15 A. Okay.

16 Q. We'll probably -- we'll get some copies at a
17 break, like we did in the last deposition.

18 A. Mm-hm.

19 Q. Let me hand you what has been marked as
20 Exhibit Number 79. Exhibit 79 is Anacor
21 Pharmaceuticals' notice of deposition of Stephen B.
22 Kahl in IPR2015-01776.

23 Dr. Kahl, have you seen this document before?

24 A. I believe I have. I think I saw it yesterday
25 when we were prepping for this.

1 Q. Okay. Let me hand you what has been marked as
2 Exhibit 80. Exhibit 80 is Anacor Pharmaceuticals'
3 notice of deposition of Stephen B. Kahl in
4 IPR2015-01780.

5 Dr. Kahl, have you seen this document before?

6 A. I believe, yes.

7 Q. And let me mark finally, the last of the
8 notices, Exhibit 81. This is Anacor Pharmaceuticals'
9 notice of deposition of Stephen B. Kahl in
10 IPR2015-01785.

11 And, Dr. Kahl, have you seen this document
12 before?

13 A. I believe I have.

14 Q. Are you -- you're appearing today in response
15 to these notices?

16 A. Yes.

17 Q. And you -- just for confirmation, you're
18 appearing on behalf of the Coalition for Affordable
19 Drugs X LLC?

20 A. Correct.

21 Q. What did you do to prepare for the deposition
22 today?

23 A. I reviewed my declaration with counsel. I
24 also reviewed a number of -- re-reviewed a number of
25 the papers that I referred to, the Baker papers in

1 particular. And some of my BNCT notes, boron neutron
2 capture therapy. Sorry for the acronym.

3 Q. When you say your declaration, are you
4 referring to your second declaration that you
5 submitted --

6 A. Yes.

7 Q. -- with a reply?

8 A. Yes.

9 Q. Thank you.

10 In addition to the Baker articles and your
11 notes on -- on boron neutron therapy, did you -- did
12 you review any other documents?

13 A. I reviewed other doc -- other papers that were
14 provided to me by counsel.

15 Q. Do you remember what papers counsel provided
16 to you that you reviewed yesterday?

17 A. As I said, I have quite a -- I received a -- a
18 significant number of literature papers. The Groziak
19 papers, both the Groziak papers; Dr. Reider's
20 declaration.

21 I know there were others, but I can't recall
22 exactly the names of them.

23 Q. Do you remember if all of the papers that you
24 reviewed yesterday were cited in your reply
25 declaration?

1 A. By "cited," do you mean specifically cited
2 with the reference?

3 Q. Yes, sir.

4 A. No, I don't believe so. These were -- well,
5 let me check my declaration again.

6 Yes. They -- I believe they all would have
7 been cited.

8 Q. Thank you, Dr. Kahl.

9 A. Mm-hm.

10 Q. With whom did you meet yesterday?

11 A. Ryan, and Peter Gergely.

12 Q. Other than your meeting with counsel
13 yesterday, did you have any other meetings with counsel
14 to prepare for today's deposition?

15 A. No.

16 Q. For how long did you meet with Mr. Fletcher
17 and Mr. Gergely yesterday?

18 A. Approximately five hours.

19 Q. What did you discuss?

20 A. We discussed this deposition.

21 Q. Did you discuss any of the references that you
22 cited specifically?

23 A. Yes.

24 Q. Did you take any notes from your meeting
25 yesterday?

1 A. No.

2 Q. During your meetings with counsel yesterday,
3 did counsel give you any documents during that session?

4 A. By new -- do you mean new documents? Or do
5 you mean documents that I either already had but didn't
6 bring to the session or --

7 Q. Let's start with the broader, all documents,
8 and then narrow it down.

9 A. I don't -- I don't think so. I don't think he
10 did give me any new documents or any documents.

11 Q. You'd seen all the documents that you guys
12 reviewed yesterday?

13 A. Oh, yes. Yes. Yes.

14 Q. Okay.

15 A. Yeah.

16 If I carried around all the documents that I
17 have with respect to this case, I would have -- have to
18 have somebody help me. As would you.

19 Q. Did you talk to anyone else in preparation for
20 your deposition today, other than Mr. Gergely and
21 Mr. Fletcher?

22 A. Yes, I talked to my wife.

23 Q. Now, since you signed the reply declaration,
24 has counsel for CFAD provided you with any additional
25 documents?

1 A. I don't believe so, no.

2 Q. Did you perform any literature searching in
3 preparation of your reply declaration?

4 A. No.

5 Q. Did you perform any literature searching in
6 preparation for your deposition today?

7 A. No.

8 Q. Have you performed any literature searching in
9 preparation of your first declaration in this matter?

10 MR. FLETCHER: Objection. Scope.

11 THE WITNESS: I believe I did, but that was
12 long enough ago that I -- I can't be certain.

13 BY MR. EPPICH:

14 Q. I'm handing you what has been previously
15 marked CFAD Exhibit 1043 in IPR2015-01776.

16 Do you recognize Exhibit 1043?

17 A. Yes, I do.

18 Q. And what is Exhibit 1043?

19 A. This is my declaration. Let's call it my
20 second declaration.

21 Q. You submitted Exhibit 1043, your second
22 declaration, in support of the petitioner's reply
23 brief?

24 A. Yes.

25 Q. Can we turn to page 18 of Exhibit 1043. The

1 last page.

2 A. Mm-hm.

3 Q. On the bottom of the last page, page 18, is
4 that your signature?

5 A. Yes, it is.

6 Q. And when did you sign this document?

7 A. It's dated the 22nd of August of 2016.

8 Q. And when you signed this declaration, did you
9 understand that you were attesting that everything in
10 the declaration is true and correct under the penalty
11 of perjury?

12 A. Yes.

13 Q. And do you understand that today you're
14 testifying under the penalty of perjury?

15 A. Yes.

16 Q. Is everything in your declaration Exhibit 1043
17 true and correct?

18 A. To the best of my knowledge, yes.

19 Q. Are there any corrections to the declaration
20 that you'd like to make at this time?

21 A. No.

22 Q. Any errors of which you're aware?

23 A. There are a couple -- there's a word
24 capitalized that doesn't need to be, but we don't need
25 to get it today.

1 Q. Okay. We'll let that one go.

2 A. Okay. I'm a perfectionist.

3 Q. So during the preparation of Exhibit 1043,
4 your second reply declaration, did CFAD's counsel
5 provide you with a draft of the declaration for you to
6 review?

7 MR. FLETCHER: Objection. I think -- you can
8 answer, but objection.

9 I think discovery re the draft declaration is
10 protected by Rule 26.

11 But go ahead.

12 THE WITNESS: We jointly discussed all of the
13 things that were in the declaration, and this is the
14 document that came out of that.

15 BY MR. EPPICH:

16 Q. Did counsel draft a declaration that counsel
17 handed to you for discussion?

18 A. We both -- we both worked on the dec -- on the
19 draft.

20 Q. Did you write the declaration together,
21 paragraph by paragraph?

22 A. I wouldn't -- we talked about it, and they put
23 it into -- they added my suggestions. I discussed
24 their suggestions. We came up with a draft. I looked
25 it over, found it acceptable and agreeable, and that's

1 what I signed.

2 Q. So just so I understand, you talked with
3 counsel for CFAD. CFAD's attorneys prepared a draft.
4 You reviewed the draft, added any edits to the draft,
5 provided those comments to CFAD's counsel, who then
6 provided you with another draft of the declaration; is
7 that correct?

8 MR. FLETCHER: Objection. Misstates the
9 witness's testimony. Objection. Asked and answered.

10 THE WITNESS: Please repeat the question. I
11 want to be sure I understand you exactly.

12 BY MR. EPPICH:

13 Q. Absolutely.

14 In preparing the draft of the declaration
15 Exhibit 1043, did you first meet with counsel to
16 discuss the draft of the declaration?

17 A. We did not meet in person. We did this over
18 the phone.

19 Q. And what happened after your telephone
20 conference with counsel?

21 A. As I said, we came up with a draft, which I
22 then approved, and signed.

23 Q. Did they provide you with a copy of the draft
24 declaration after your phone call?

25 MR. FLETCHER: Objection. Asked and answered.

1 THE WITNESS: I think I did answer that.

2 BY MR. EPPICH:

3 Q. I may have just not understood, sir.

4 Did you physically type the draft declaration
5 or did counsel for CFAD?

6 A. Did I physically type it? No.

7 Q. So counsel for CFAD provided you with a draft
8 declaration?

9 A. Yes.

10 Q. And what did you --

11 A. We --

12 Q. -- do with the declaration once you received
13 the draft declaration?

14 MR. FLETCHER: Can you let him finish and
15 answer that?

16 MR. EPPICH: Of course.

17 THE WITNESS: I then reviewed it to make sure
18 that it was -- it was correct. I added -- changed
19 things, added things, the way any document that one is
20 going to sign, particularly a legal document. And sent
21 it back and signed it.

22 BY MR. EPPICH:

23 Q. Do you recall how many drafts you sent to and
24 from with counsel for CFAD?

25 A. No, I don't.

1 Q. Was it more than one?

2 MR. FLETCHER: Objection. Protected by Rule
3 26.

4 THE WITNESS: I honestly do not remember
5 whether it was more than one or more than two or
6 whatever. I was actually on vacation when I did this,
7 so ...

8 BY MR. EPPICH:

9 Q. So how did you correspond with counsel for
10 CFAD? By e-mail? Fax?

11 A. E-mail and telephone.

12 Q. And do you have copies of those e-mails with
13 the drafts attached?

14 MR. FLETCHER: Objection. Protected by Rule
15 26.

16 THE WITNESS: I don't believe that I do.

17 BY MR. EPPICH:

18 Q. You haven't saved --

19 A. I don't have them with me, that's for sure.

20 Q. Are they in your computer in your home or
21 office?

22 MR. FLETCHER: Objection. Rule 26.

23 THE WITNESS: That's where they would be if I
24 have them, yes.

25 MR. EPPICH: So Counsel, I'm requesting that

1 CFAD would immediately produce copies of the drafts and
2 communications going back and forth with Dr. Kahl,
3 regarding the preparation of this reply declaration.

4 MR. FLETCHER: We have your request. We
5 believe it's protected by Rule 26.

6 BY MR. EPPICH:

7 Q. And just to be clear, Dr. Kahl, you did not
8 write the first draft of the declaration yourself;
9 correct?

10 MR. FLETCHER: Objection. Misstates the
11 witness's testimony. Objection. Asked and answered.

12 THE WITNESS: I did not physically write it.
13 Not the -- no.

14 BY MR. EPPICH:

15 Q. Dr. Kahl, did you review and understand all of
16 the paragraphs in sections of the reply declaration
17 before you signed it?

18 A. Yes.

19 Q. Did you have any questions that you discussed
20 with counsel about any of the paragraphs?

21 MR. FLETCHER: Objection. Protected by Rule
22 26.

23 THE WITNESS: We -- we probably -- we may
24 have. I don't recall.

25 BY MR. EPPICH:

1 Q. Do you recall any of the changes you made, for
2 example to paragraph 1 of your declaration?

3 MR. FLETCHER: Objection. Protected by --
4 objection. Protected by Rule 26.

5 THE WITNESS: To paragraph 1? No.

6 BY MR. EPPICH:

7 Q. You had no changes to paragraph number 1?

8 MR. FLETCHER: Objection. Misstates the
9 witness's testimony. Objection. Protected by Rule 26.

10 THE WITNESS: No.

11 BY MR. EPPICH:

12 Q. Do you remember if you had any changes to
13 paragraph number 2?

14 MR. FLETCHER: Objection. Protected by Rule
15 26.

16 THE WITNESS: I don't recall. I doubt it.
17 It's pretty much boilerplate.

18 BY MR. EPPICH:

19 Q. How about paragraph number 3?

20 MR. FLETCHER: Objection. Protected by Rule
21 26.

22 THE WITNESS: Similarly.

23 BY MR. EPPICH:

24 Q. And any changes to paragraph number 4?

25 MR. FLETCHER: Objection. Protected by Rule

1 26.

2 THE WITNESS: I don't think so. Boilerplate
3 again.

4 BY MR. EPPICH:

5 Q. Did you make any changes to paragraph number
6 5?

7 MR. FLETCHER: Objection. Protected by Rule
8 26.

9 THE WITNESS: I don't believe so.

10 BY MR. EPPICH:

11 Q. Did you make any changes to paragraph number
12 6?

13 MR. FLETCHER: Objection. Protected by Rule
14 26.

15 THE WITNESS: No, it accurately reflects that
16 I read the -- Reider's declaration.

17 BY MR. EPPICH:

18 Q. Did you make any changes to paragraph number
19 7?

20 A. I don't know.

21 MR. FLETCHER: Objection. Protected by Rule
22 26.

23 THE WITNESS: I don't recall.

24 BY MR. EPPICH:

25 Q. Do you recall any other changes that you made

1 to any of the paragraphs in your declaration?

2 MR. FLETCHER: Objection. Protected by Rule
3 26.

4 THE WITNESS: Not specifically, no.

5 As I said, we jointly put this together, and
6 it represents my input as well as their input, and
7 accurately reflects my positions.

8 BY MR. EPPICH:

9 Q. Approximately how many hours did you spend
10 working on the draft of your second reply declaration?

11 A. I have no idea.

12 Q. Was it 15 hours?

13 A. At least.

14 Q. It was more than 15?

15 A. I -- honestly, I really don't recall.

16 Q. In paragraph 1 of your declaration, it states
17 that you're providing your expert opinions in support
18 of petitioner's petition for inter partes review of
19 Patent Number 7,582,621, the '621 patent, and in reply
20 to patent owner's response pursuant to 37 CFR 42.120?

21 A. Mm-hm. I'm sorry, yes.

22 Q. And you're referring to CFAD's reply brief
23 there; correct?

24 A. Yes.

25 Q. Did you review any drafts of the reply brief

1 that CFAD submitted in this action?

2 MR. FLETCHER: Objection. Protected by Rule
3 26.

4 THE WITNESS: I may have. I don't recall.

5 BY MR. EPPICH:

6 Q. Do you remember when you remember seeing a
7 reply brief?

8 A. I -- I -- no, I do not.

9 Q. Do you remember making any markups or changes
10 to the reply brief after you read it?

11 MR. FLETCHER: Objection. Protected by Rule
12 26.

13 THE WITNESS: To the reply brief. No, I don't
14 recall.

15 BY MR. EPPICH:

16 Q. Did you have any communications with counsel
17 for CFAD regarding the reply brief?

18 MR. FLETCHER: Objection. Protected by Rule
19 26.

20 THE WITNESS: I don't believe so.

21 BY MR. EPPICH:

22 Q. So I'm handing you what has been previously
23 marked as CFAD Exhibit 1069 in IPR2015-01780.

24 Do you recognize this document?

25 A. Yes. It appears to be my declaration.

1 Q. And this is the second declaration you
2 submitted for the inter partes review of U.S. Patent
3 Number 7,767,657; correct?

4 A. Correct.

5 Q. Now, can we -- we do agree we could refer to
6 this declaration as Exhibit 1069-1 because there are
7 two exhibits 1069, as you'll see in a second.

8 A. Okay.

9 BY MR. EPPICH:

10 Q. So let's -- let's go ahead and mark this one
11 as Exhibit 1069-1.

12 Please turn to page 18 of Exhibit 1069-1.

13 On the bottom of page 18, Dr. Kahl, is that
14 your signature?

15 A. It is.

16 Q. And when did you sign this document?

17 A. August 22nd.

18 Q. And again, like Exhibit 1043, when you signed
19 this document, did you understand you were attesting
20 that everything is true and correct under penalty of
21 perjury?

22 A. Yes.

23 Q. Is everything in your declaration Exhibit
24 1069-1 true and correct?

25 A. To the best of my knowledge, yes.

1 Q. Are there any corrections that need to be made
2 to your declaration today?

3 A. I'm not aware of any.

4 Q. How did you prepare the declaration -- the
5 second declaration, Exhibit 1069-1?

6 MR. FLETCHER: Objection. Protected by Rule
7 26.

8 THE WITNESS: I -- in the same manner that I
9 prepared Exhibit 1043.

10 BY MR. EPPICH:

11 Q. You received a draft of the declaration that's
12 Exhibit 1069-1 from counsel for CFAD?

13 MR. FLETCHER: Objection. Asked and answered.
14 Objection. Misstates the witness's testimony.

15 THE WITNESS: After discussing the matter, it
16 was the same procedure as the 1043, yes.

17 BY MR. EPPICH:

18 Q. Let me hand you what has been previously
19 marked as CFAD Exhibit 1069 in IPR2015-0185.

20 Do you recognize this document, Dr. Kahl?

21 A. I believe you meant 01785.

22 Q. You're right. Thank you.

23 A. I -- yes, I -- well, yes.

24 Q. This is the second declaration that you
25 submitted for inter partes review of the second

1 petition of the '657 patent; correct?

2 A. I believe so, yes.

3 Q. And again, because the exhibit shows the same
4 Exhibit 1069, let's refer to this declaration as
5 Exhibit 1069-2.

6 A. Okay.

7 Q. And again, let's turn to page 18 of Exhibit
8 1069-2.

9 And at the bottom of page 18 of Exhibit
10 1069-2, is that your signature, Dr. Kahl?

11 A. It is.

12 Q. And when did you sign this document?

13 A. August 22nd, 2016.

14 Q. And when you signed this, did you understand
15 that you were attesting that everything in this
16 declaration is true and correct under penalty of
17 perjury?

18 A. To the best of my knowledge, yes.

19 Q. Are there any corrections to your declaration
20 that you'd like to make today?

21 A. Not that I'm aware of.

22 Q. Any errors you're aware?

23 A. No.

24 Q. Could you explain to me how you prepared this
25 reply declaration?

1 A. In the same -- it was prepared in the same
2 manner as 1069-1 and 1043.

3 Q. And that's to say that your counsel provided
4 you with a draft of Exhibit 1069-2?

5 A. I think what I said was that we discussed all
6 of the issues involved, and then the -- then counsel
7 provided me with a draft, and then I had my remaining
8 input.

9 Q. Thank you.

10 I'd like you to look at the second
11 declarations that you submitted in the three IPR cases
12 here, Exhibit 1043, 1069-1 and 1069-2.

13 Dr. Kahl, as we go through the declarations,
14 is it accurate to say that each of the paragraphs in
15 Exhibit 1043 are the same as the corresponding
16 paragraphs in Exhibits 1069-1 and 2, with the exception
17 of case caption, patent numbers and some of the exhibit
18 numbers?

19 A. Yes, I believe that's true. I haven't looked
20 at every single one, but they certainly do appear to be
21 the same.

22 Q. And during the drafting process of these reply
23 declarations, did you suggest changes to the draft or
24 one of the declarations that were applied to all three
25 declarations? Or did you write changes in each of the

1 drafts of the three separate declarations?

2 MR. FLETCHER: Objection. Asked and answered.

3 Objection. Protected by Rule 26.

4 THE WITNESS: I think I -- I -- excuse me.

5 What -- since the -- the paragraphs in all
6 three declarations are the same, whatever I suggested
7 would have been applied to all three, yes.

8 BY MR. EPPICH:

9 Q. Was there one declaration that -- draft
10 declaration that you were provided with first?

11 MR. FLETCHER: Objection.

12 BY MR. EPPICH:

13 Q. Or were you provided with copies of all three
14 declarations at the same time?

15 A. I don't recall.

16 Q. You'd agree that if I ask you a question with
17 respect to paragraph 7, for example, in Exhibit 1043
18 for the 1776 case, would you agree that your answers
19 would be the same as they would be for questions
20 relating to paragraph 7 in either Exhibit 1069-1 or
21 Exhibit 1069-2?

22 A. Yes.

23 Q. So for purposes of today's deposition, let's
24 just refer to the 1776 declaration for convenience.
25 But you'll agree that your testimony for the 1776

1 declaration will equally apply to the 1780 and 85
2 cases?

3 A. If -- if we stipulate that the declarations
4 are all the same, yes.

5 Q. Okay. And are they all the same, sir?

6 A. They do appear to me to be the same.

7 Q. Okay. And thank you.

8 And we'll also refer to the exhibit numbers in
9 the 1776 declaration, but will you also agree that your
10 testimony relating to those exhibits applies to the
11 same exhibits?

12 A. Yes.

13 Q. Thank you.

14 Do you recall where you were on August 22nd,
15 2016?

16 A. I was at my home in Portola Valley,
17 California.

18 Q. Do you remember what you were doing on August
19 22nd, 2016?

20 MR. FLETCHER: Objection. Relevance.

21 THE WITNESS: What I was doing. I was
22 probably unpacking from my -- my vacation.

23 BY MR. EPPICH:

24 Q. Do you have a computer in your home, sir?

25 A. Yes.

1 MR. FLETCHER: Objection. Relevance.

2 BY MR. EPPICH:

3 Q. Do you have access to a scanner in your home?

4 MR. FLETCHER: Objection. Relevance.

5 THE WITNESS: Yes.

6 BY MR. EPPICH:

7 Q. Let's turn to Exhibit 1043 and back to page 18
8 of that exhibit.

9 Now, you confirmed earlier that this is your
10 signature on the bottom of page 18; correct?

11 A. Mm-hm. Electronic, yes. That is my
12 signature.

13 Q. What do you mean by "electronic"?

14 A. This is -- I think you know what I mean by
15 "electronic." It's -- I have made -- I have made this
16 signature so that I can apply it to documents such as
17 this.

18 Q. And how did you make this signature?

19 A. I used Adobe software, whatever the
20 appropriate software is.

21 Q. Did you sign a piece of paper and then scan it
22 into Adobe?

23 A. Boy, I don't recall. It's been a long time
24 since I made the signature. I don't think that's how
25 Adobe does it, but --

1 Q. Okay.

2 A. I think you actually use your finger to
3 approximately write -- obviously, if I were to sign, my
4 signature would look a little different than what this
5 looks like.

6 Q. But the signature we see on page 18 of Exhibit
7 1043 is not a handwritten signature; correct?

8 A. Yes, it is.

9 Q. It is a handwritten signature?

10 A. It's -- I handwrote the Adobe facsimile. This
11 is not -- of course not. This is -- what would you
12 call it? An electronic version of my signature.

13 Q. Did you insert this electronic version of your
14 signature? Or did your counsel insert the electronic
15 signature into Exhibit 1043?

16 A. I inserted it.

17 Q. Do you remember when you inserted your
18 signature, your electronic signature into Exhibit 1043?

19 A. August 22nd.

20 Q. Did any earlier drafts of your reply
21 declaration include your electronic signature?

22 A. No.

23 Q. Do you recall if there were any changes made
24 to Exhibit 1043 after you inserted your electronic
25 signature?

1 A. There were no changes made to it after I
2 inserted my signature.

3 Q. Why didn't you submit your declaration with a
4 handwritten signature as you did your first declaration
5 submitted with the petition?

6 A. This was simply more convenient. And I
7 believe that there was also a time issue because I had
8 been away, and we needed to get the signature quickly.
9 This is simply much more convenient.

10 I believe this is standard procedure these
11 days in legal documents. Correct me if I'm wrong.

12 Q. You'd agree, sir, that you didn't sign your
13 reply declaration by hand; correct?

14 MR. FLETCHER: Objection. Asked and answered.
15 Objection. Argumentative. Objection. Relevance.

16 THE WITNESS: I think I said how I signed it.

17 BY MR. EPPICH:

18 Q. And that was electronically; correct?

19 A. Yeah. Yes.

20 Q. And you'd agree that your electronic signature
21 is not surrounded with forward slashes; correct?

22 A. It is not.

23 Q. Turning to your other reply declarations,
24 Exhibits 1069-1 and 1069-2, how did you sign those
25 declarations?

1 A. Similarly.

2 Q. What do you mean by "similarly"?

3 A. I think we've discussed how I signed 1043. I
4 think "similarly" is pretty self-explanatory.

5 Q. You used an electronic signature to sign both
6 Exhibits 1069-1 --

7 A. Yes.

8 Q. -- and 2?

9 A. Yes.

10 Q. Looking at pages 18 from Exhibit 1043, 1069-1
11 and 1069-2, why do these signatures look identical?

12 A. Well, I think that's what an electronic
13 signature looks like. When you use it, each time you
14 use it, it looks just like the last time.

15 Q. So do you maintain an electronic signature
16 file that you then insert into each of the documents
17 that you electronically sign? Is that how it works?

18 A. I believe that's how Adobe works. I'm not a
19 computer expert, but I presume that that's what
20 happens, yes.

21 Q. And you inserted your electronic signature
22 into each of these three declarations; correct?

23 MR. FLETCHER: Objection. Asked and answered.

24 THE WITNESS: I believe that's what I said,
25 yes.

1 MR. EPPICH: Let's go ahead and take a
2 five-minute break.

3 (Recess taken.)

4 MR. EPPICH: All right. Let's get back on the
5 record, then, if you're ready, sir.

6 THE WITNESS: Okay.

7 BY MR. EPPICH:

8 Q. I'm handing you what has been marked as CFAD
9 Exhibit 1039.

10 Have you seen Exhibit 1039 before, Dr. Kahl?

11 A. I don't remember. I believe I have. But I
12 honestly don't recall. The date is April 1st, which
13 would have been just prior to my deposition last time.
14 So I believe I have -- I believe I have seen it, but
15 that's the best I can do.

16 Q. Thank you.

17 Please turn to the last page, page 3 of
18 Exhibit 1039.

19 And is that your signature in the bottom left
20 corner of page 3?

21 A. It is.

22 Q. Is this -- how was this document signed,
23 Exhibit 1039?

24 MR. FLETCHER: Objection. Scope. Relevance.

25 Go ahead.

1 THE WITNESS: This was signed electronically
2 in the same manner that 1043 and 1069-1 and 2 were
3 signed.

4 BY MR. EPPICH:

5 Q. And is this signature, electronic signature in
6 Exhibit 1039, the same electronic signature that we see
7 in Exhibits 1043, 1069-1 and 1069-2?

8 A. I believe it is, yes.

9 Q. Do you remember when you created this
10 electronic signature?

11 A. No, I don't.

12 Q. Was it before you became involved as an expert
13 for CFAD in this matter?

14 MR. FLETCHER: Objection. Relevance.

15 THE WITNESS: I don't recall.

16 BY MR. EPPICH:

17 Q. If we could return to Exhibit 1043 for a
18 moment.

19 And this is your declaration, your second
20 reply declaration in the 1776 case?

21 A. Mm-hm.

22 Q. Now, could we turn to paragraph number 8 of
23 Exhibit 1043.

24 Dr. Kahl, do you recall any changes or
25 revisions you made to paragraph 8 --

1 MR. FLETCHER: Objection. Asked and answered.

2 BY MR. EPPICH:

3 Q. -- in preparation of this declaration?

4 MR. FLETCHER: Objection. Asked and answered.

5 THE WITNESS: I don't recall.

6 BY MR. EPPICH:

7 Q. Do you remember making any changes or
8 revisions to paragraph number 9 of Exhibit 1043?

9 MR. FLETCHER: Objection. Asked and answered.

10 THE WITNESS: I don't recall.

11 BY MR. EPPICH:

12 Q. Do you remember making any revisions or
13 changes to paragraph 10 of Exhibit 1043?

14 MR. FLETCHER: Objection. Asked and answered.

15 THE WITNESS: I don't recall.

16 BY MR. EPPICH:

17 Q. Do you remember making any revisions or
18 changes to paragraph 11 of Exhibit 1043?

19 MR. FLETCHER: Objection. Asked and answered.

20 THE WITNESS: I don't recall.

21 BY MR. EPPICH:

22 Q. Do you remember making any changes or
23 revisions to paragraph 12 of Exhibit 1043?

24 MR. FLETCHER: Objection. Asked and answered.

25 THE WITNESS: I do not recall.

1 BY MR. EPPICH:

2 Q. Do you remember making any changes or
3 revisions to paragraph 13 of Exhibit 1043?

4 MR. FLETCHER: Objection. Asked and answered.

5 THE WITNESS: I don't recall.

6 BY MR. EPPICH:

7 Q. Do you remember making any changes or
8 revisions to paragraph 14 of Exhibit 1043?

9 MR. FLETCHER: Objection. Asked and answered.

10 THE WITNESS: I don't recall.

11 BY MR. EPPICH:

12 Q. Do you remember making any changes or
13 revisions to paragraph 15 of Exhibit 1043?

14 MR. FLETCHER: Objection. Asked and answered.

15 THE WITNESS: I do not recall.

16 BY MR. EPPICH:

17 Q. Do you recall making any changes or revisions
18 to paragraph 16 of Exhibit 1043?

19 MR. FLETCHER: Objection. Asked and answered.

20 THE WITNESS: I don't recall.

21 BY MR. EPPICH:

22 Q. Do you recall making any changes to paragraph
23 17 of Exhibit 1043?

24 MR. FLETCHER: Objection. Asked and answered.

25 THE WITNESS: I don't recall.

1 BY MR. EPPICH:

2 Q. Do you remember making any changes or
3 revisions to paragraph 18 of Exhibit 1043?

4 MR. FLETCHER: Objection. Asked and answered.

5 THE WITNESS: I don't recall.

6 BY MR. EPPICH:

7 Q. Do you remember making any changes or
8 revisions to paragraph 19 of Exhibit 1043?

9 MR. FLETCHER: Objection. Asked and answered.

10 THE WITNESS: I don't recall.

11 BY MR. EPPICH:

12 Q. Do you recall making any changes or revisions
13 to paragraph 20 of Exhibit 1043?

14 MR. FLETCHER: Objection. Asked and answered.

15 THE WITNESS: Don't recall.

16 BY MR. EPPICH:

17 Q. Do you remember making any changes or
18 revisions to paragraph 21 of Exhibit 1043?

19 MR. FLETCHER: Objection. Asked and answered.

20 THE WITNESS: I do not recall.

21 BY MR. EPPICH:

22 Q. Do you remember making any changes or
23 revisions to paragraph 22 of Exhibit 1043?

24 MR. FLETCHER: Objection. Asked and answered.

25 THE WITNESS: I don't recall.

1 BY MR. EPPICH:

2 Q. Do you remember making any changes or
3 revisions to paragraph 23 of Exhibit 1043?

4 MR. FLETCHER: Objection. Asked and answered.

5 THE WITNESS: I don't recall.

6 BY MR. EPPICH:

7 Q. Do you remember making any changes or
8 revisions to paragraph 24 of Exhibit 1043?

9 MR. FLETCHER: Objection. Asked and answered.

10 THE WITNESS: I don't recall.

11 BY MR. EPPICH:

12 Q. Do you remember making any changes or
13 revisions to paragraph 25 of Exhibit 1043?

14 MR. FLETCHER: Objection. Asked and answered.

15 THE WITNESS: I don't recall.

16 BY MR. EPPICH:

17 Q. Do you remember making any changes or
18 revisions to paragraph 26 of Exhibit 1043?

19 MR. FLETCHER: Objection. Asked and answered.

20 THE WITNESS: I don't recall.

21 BY MR. EPPICH:

22 Q. Do you remember making any changes or
23 revisions to paragraph 27 of Exhibit 1043?

24 MR. FLETCHER: Objection. Asked and answered.

25 THE WITNESS: I don't recall.

1 BY MR. EPPICH:

2 Q. Do you remember making any changes or
3 revisions to paragraph 28 of Exhibit 1043?

4 MR. FLETCHER: Objection. Asked and answered.

5 THE WITNESS: I do not recall.

6 BY MR. EPPICH:

7 Q. Do you remember making any changes or
8 revisions to paragraph 29 of Exhibit 1043?

9 MR. FLETCHER: Objection. Asked and answered.

10 THE WITNESS: I do not recall.

11 BY MR. EPPICH:

12 Q. Do you remember making any changes or
13 revisions to paragraph 30 of Exhibit 1043?

14 MR. FLETCHER: Objection. Asked and answered.

15 THE WITNESS: I don't recall.

16 BY MR. EPPICH:

17 Q. Do you remember making any changes or
18 revisions to paragraph 31 of Exhibit 1043?

19 MR. FLETCHER: Objection. Asked and answered.

20 THE WITNESS: I don't recall.

21 BY MR. EPPICH:

22 Q. And do you remember making any changes or
23 revisions to paragraph 32 of Exhibit 1043?

24 MR. FLETCHER: Objection. Asked and answered.

25 THE WITNESS: I don't recall.

1 MR. EPPICH: Counsel, to the extent I didn't
2 previously request it, I am requesting that CFAD
3 immediately produce copies of the drafts and
4 communications going back and forth with Dr. Kahl
5 regarding the preparation of declarations 1069-1 and
6 1069-2 in addition to Exhibit 1043.

7 MR. FLETCHER: We have your request.
8 Protected under Rule 26.

9 MR. EPPICH: Thank you.

10 BY MR. EPPICH:

11 Q. I'm handing you what has previously been
12 marked as CFAD Exhibit 1056.

13 Do you recognize this document, Dr. Kahl?

14 A. Yes, I do.

15 Q. What is Exhibit 1056?

16 A. This is a review paper authored by Baker et
17 al. The authors are all associated with Anacor
18 Pharmaceuticals. And it appeared in Future Medicinal
19 Chemistry in 2009.

20 Q. When did you first review Exhibit 1056?

21 A. I -- it would have -- I believe it would have
22 been in August of this year. I was not aware of it
23 prior to that time.

24 Q. How did you locate a copy of Exhibit 1056?

25 A. It was provided to me by Mr. Fletcher and his

1 office.

2 Q. Did you review the '621 patent before you
3 reviewed Exhibit 1056?

4 A. Yes, I did.

5 Q. Did you review the '657 patent before you
6 reviewed Exhibit 1056?

7 A. Yes.

8 Q. Did you review the declaration of Paul Reider
9 before you reviewed Exhibit 1056?

10 A. I think they would have been just about
11 simultaneous.

12 Q. Did you review the patent owner's response
13 brief?

14 A. I don't think I have. Do you have a copy of
15 that? I can tell you whether I did or not. But -- if
16 you can show me a copy. I have reviewed a great many
17 documents in this case.

18 Q. We'll come back to that.

19 You may have mentioned this, and I apologize.
20 But did you review Exhibit 1056 after you submitted
21 your first declaration with the petition?

22 A. Yes.

23 Q. And you didn't have a copy of Exhibit 1056
24 before your counsel gave it to you?

25 A. I did not. I was unaware of its existence.

1 Q. Do you remember when CFAD's counsel gave you a
2 copy of Exhibit 1056?

3 MR. FLETCHER: Objection. Asked and answered.

4 THE WITNESS: I believe it was in August of
5 this year.

6 BY MR. EPPICH:

7 Q. Thank you. I'm sorry, I do remember you
8 saying that earlier.

9 A. Couldn't give you the exact date, but it would
10 have been in August.

11 Q. I'm handing you now what has been previously
12 marked as CFAD Exhibit 1072.

13 Do you recognize Exhibit 1072?

14 A. Yes, I do.

15 Q. What is Exhibit 1072?

16 A. This is a paper that appeared in the Journal
17 of Neuro-Oncology in 2003, authored by a group in the
18 EU, summarizing clinical trials that they had
19 undertaken using the boron compound commonly known as
20 BSH in the treatment of glioblastoma with boron neutron
21 capture therapy.

22 Q. When did you first review Exhibit 1072?

23 A. It appeared in 2003. I may have seen it
24 before that, but I would have reviewed it approximately
25 in 2003 or '4.

1 This is a paper that is directly in my area of
2 interest and expertise. I know most of the authors
3 personally. So I knew it was coming. I don't think
4 I -- I don't think I reviewed it before publication,
5 though. In fact, I'm sure I didn't.

6 Q. How did you locate a copy of Exhibit 1072?

7 A. I've had a copy of this paper in my
8 professional files since roughly 2003 or 2004. It's a
9 fairly significant paper in the field.

10 Q. And did your counsel for CFAD also provide you
11 with a copy of Exhibit 1072 in this case?

12 A. I'm not sure. I believe they did.

13 Q. Do you remember when they provided you with a
14 copy?

15 A. It would have been in August. As I said, I
16 had -- was aware and had read this paper, oh, as I
17 said, in about 2003 or '4.

18 Q. Before August of 2016, when was the last time
19 you remember reviewing a copy of Exhibit 1072?

20 A. Well, the paper was published, what, 13 years
21 ago. I probably reviewed this paper the last time I
22 had an NIH application to go in, which would have been
23 six years ago. Something like that.

24 Q. So between the years of approximately 2010 and
25 August of 2016, you hadn't reviewed Exhibit 1072?

1 A. I'm not -- I don't recall specifically, but --
2 I quite likely would have reviewed this, or at least
3 looked at the paper this spring, because we were
4 talking about the issues of toxicity of boron
5 compounds, and so I probably -- I don't recall
6 specifically, but I probably did review it in the
7 spring of this year. Because I was -- this is a very
8 good resource for looking at the results of this
9 clinical trial with BSH.

10 Q. And would you have reviewed Exhibit 1072
11 before or after preparing your declaration that was
12 submitted with the petition?

13 MR. FLETCHER: Objection. Vague. What
14 declaration are you referring to?

15 THE WITNESS: Which declaration? Are you
16 talking about declaration number 2?

17 BY MR. EPPICH:

18 Q. The first declaration submitted with the
19 petition.

20 A. Oh, the first one.

21 I don't recall specifically, but I probably
22 did.

23 Q. You probably reviewed it before preparing your
24 first declaration?

25 A. I think I probably did because I -- yes. But

1 I -- as I said, I reviewed a great many papers. I
2 can't specifically tell you that I reviewed this paper.
3 Probably.

4 Q. Let me hand you what has been marked as CFAD
5 Exhibit 1073.

6 Do you recognize Exhibit 1073, Dr. Kahl?

7 A. Yes, I do.

8 Q. What is Exhibit 1073?

9 A. 1073 is a paper that also appeared in the
10 Journal of Neuro-Oncology at the same time as the
11 earlier paper. This is a -- results of a clinical
12 trial by a group of authors in Finland using a
13 different compound, paraboronophenylalanine, in
14 clinical trials of glioblastoma patients.

15 I was actually involved with the genesis of
16 the boron neutron capture therapy program in Finland.
17 So it was of some interest to me. And again, I know --
18 personally know probably at least half of these
19 authors.

20 Q. Do you remember when you first reviewed
21 Exhibit 1073?

22 A. You know, similar to the prior -- I forget the
23 exhibit number, the paper we were just talking about,
24 they both came out at the same time. So I would have
25 reviewed it at roughly that -- that time, time frame.

1 Q. And prior to your involvement in this case,
2 when was the last time you reviewed Exhibit 1073?

3 A. Again, it probably would have been a few --
4 the last time I was preparing an NIH application.
5 Because again, like the earlier one, this is an
6 important paper in clinical trial literature in boron
7 neutron capture therapy.

8 Q. I believe you said that was about six years
9 ago, in 2010?

10 A. Approximately. Approximately, yeah.

11 Q. Between that period, that six-year -- six
12 years ago or 2010, had you reviewed Exhibit 1073 before
13 receiving it -- before reviewing it for the purposes of
14 this second reply declaration?

15 A. Yeah, I probably would have at the same time,
16 the spring, again, because I -- I know personally that
17 BPA has been found to be nontoxic in human patients.
18 And this is the data that backs up that statement. So
19 I probably would have done it -- seen it this spring in
20 my reviews.

21 MR. FLETCHER: While you're looking for the
22 document, can we take a two-minute break?

23 MR. EPPICH: Yes. Let's go off the record.

24 (Recess taken.)

25 MR. EPPICH: All right. So we're back on.

1 BY MR. EPPICH:

2 Q. Before the break, Dr. Kahl, we were discussing
3 Exhibit 1073.

4 A. Yes. That was the Finnish paper.

5 Q. Correct.

6 A. Right.

7 Q. And did your counsel from CFAD provide you
8 with a copy of Exhibit 1073 for this matter?

9 A. I believe they did. I don't think they knew
10 that I already had copies of both of these papers.

11 Q. Do you recall when counsel provided you with a
12 copy of Exhibit 1073?

13 A. It would have been August of this year.

14 Q. And had you reviewed Exhibit 1073 for purposes
15 of this case before August?

16 A. Yes. I believe so.

17 Q. And my apologies. It was in the spring of
18 2016?

19 A. It would have been in the spring, yeah.

20 Q. And so you reviewed Exhibit 1073 after you
21 submitted your first declaration in support of the
22 petitioner's petition?

23 A. I reviewed it -- well, I reviewed it in the
24 spring. So that would tell you. At least reviewed it
25 before then.

1 Q. You -- my apologies. I may have caused some
2 confusion.

3 You reviewed it in the spring?

4 A. I reviewed it before my deposition last time.

5 Q. I see.

6 A. I --

7 Q. So in the spring of 2016, you reviewed Exhibit
8 1073?

9 A. Yeah.

10 Q. And had you reviewed the '621 patent before
11 you reviewed Exhibit 1073 for purposes of this case?

12 A. I believe so, yes.

13 Q. And did you review the '657 patent before you
14 reviewed Exhibit 1073 for purposes of this case?

15 A. Yes, I believe so.

16 Q. And is the same true for Exhibit 1072, you
17 reviewed Exhibit -- excuse me, you reviewed the '621
18 patent before you reviewed Exhibit 1072 for purposes of
19 this case?

20 A. Yes, I believe so.

21 Q. And you reviewed Exhibit 1072 -- strike that.

22 And you reviewed the '657 patent before you
23 reviewed Exhibit 1072 for purposes of this case;
24 correct?

25 A. I believe so.

1 Q. Let me hand you a document that has been
2 marked CFAD Exhibit 1074.

3 Do you recognize Exhibit 1074, Dr. Kahl?

4 A. Yes, I do.

5 Q. And what is it?

6 A. This is a paper that appeared in Radiotherapy
7 & Oncology in 2008, by a group of Swedish -- mostly
8 Swedish authors, of work done in Sweden that again is a
9 paper on the clinical results obtained using
10 paraboronophenylalanine in boron neutron capture
11 therapy.

12 And as with the other papers, I am personally
13 familiar with at least half of the authors.

14 Q. And when did you first review Exhibit 1074?

15 A. Again, being a paper in my area of expertise,
16 it appeared in 2008. So probably in 2008 I would have
17 been aware of this paper. I was aware of the work
18 prior to that, but let's say when it appeared in the
19 literature, that's when I would have seen it.

20 Q. And did the counsel at CFAD provide you with a
21 copy of Exhibit 1074?

22 A. Yes, they did.

23 Q. Do you recall when?

24 A. In August of this year.

25 Q. Do you remember when you reviewed Exhibit 1074

1 for the purposes of this case?

2 A. Again, it probably would have been in the
3 spring of this year.

4 What's -- what's significant about this paper
5 is the -- the dose of the boron agent that the Swedish
6 workers were using. It was significantly higher than
7 what had been used prior to this. They were -- they
8 were basically trying to push the dose to see if they
9 could get it even higher.

10 Q. Had you reviewed the '621 patent and the '657
11 patent before you reviewed Exhibit 1074?

12 A. For purposes of this case, yes. I would have
13 read 1074 quite a good many years before that, though.

14 Q. But for purposes of this case, you reviewed
15 Exhibit 1074 after you submitted your first declaration
16 with the petition?

17 A. I think I reviewed it prior to submitting the
18 first declaration. This -- oh, wait. The first
19 declaration. No. The first declaration would have
20 been in what, 2015; right?

21 Q. That's correct, in June 2015.

22 A. Okay. So, you know, I honestly don't remember
23 when I last reviewed this. Or when I -- with respect
24 to this case when I first reviewed it.

25 Q. Handing you what has been marked as Exhibit --

1 CFAD Exhibit 1059 in this case.

2 Do you recognize Exhibit 1059?

3 A. I do.

4 Q. What is it?

5 A. This is a -- another review paper by some of
6 the same authors of the earlier review paper that we
7 discussed, which would have been Exhibit 1056. It's a
8 later paper. It's dated 2011. It's in Chemical
9 Society, which is a British journal, Chemical Society
10 Reviews.

11 The first author is the same as in the prior
12 review article, Steven Baker, who at that time was
13 associated with Anacor.

14 Q. And when did you first review Exhibit 1059?

15 A. I was unaware of this paper until August of
16 this year.

17 Q. And how did you locate a copy of Exhibit 1059?

18 A. A copy of Exhibit 1059 was provided to me by
19 the Merchant & Gould folks.

20 Q. Did you review the '621 and '657 patents
21 before you reviewed Exhibit 1059?

22 A. Yes.

23 Q. Did you review Exhibit 1059 after submitting
24 your first declaration with the petition?

25 A. Yes.

1 Q. Did you review the declaration of Paul Reider
2 before you reviewed Exhibit 1059?

3 A. I don't recall. Again, I think it would have
4 been pretty much simultaneous with reviewing the Reider
5 declaration. It would have been again in August of
6 this year.

7 Q. I'm handing you what has been marked CFAD
8 Exhibit 1050.

9 Do you recognize Exhibit 1050, Dr. Kahl?

10 A. Yes, I do.

11 Q. What is it?

12 A. This is the results of the study on the
13 in vivo skin absorption, percutaneous absorption of
14 some boron compounds, specifically boric acid and some
15 other oxoboron compounds in humans. Coauthored by,
16 among others, Howard Maibach, who is at UCSF, who was
17 the chairman of oncology for many years, who I believe
18 is currently retired, although still active.

19 Q. When did you first review Exhibit 1050?

20 A. In August of this year.

21 Q. And how did you locate a copy of Exhibit 1050?

22 A. It was provided to me by Merchant & Gould.

23 Q. You didn't have a copy before Merchant & Gould
24 gave it to you?

25 A. I did not. This was -- is not an area that is

1 of great interest to me professionally. So I did not,
2 no.

3 Q. And Merchant & Gould provided you with a copy
4 of Exhibit 1050 in August of 2016?

5 A. Yes.

6 Q. Did you review the '621 and '657 patents
7 before you reviewed Exhibit 1050?

8 A. Yes.

9 Q. Did you review Exhibit 1050 after you
10 submitted your first declaration with the petition?

11 A. Yes.

12 Q. Did you review the declaration of Paul Reider
13 before you reviewed Exhibit 1050?

14 A. Again, I think it would have been more or less
15 simultaneous, but I believe that I had reviewed
16 Reider's declaration before I reviewed this.

17 Q. Handing you what has been marked as CFAD 1061.
18 Do you recognize Exhibit 1061?

19 A. Yes, I do.

20 Q. And what is Exhibit 1061?

21 A. This is a chapter in a proceedings --
22 Proceedings of the Second International Symposium on
23 Health Effects of Boron and Its Compounds. Its other
24 title is "Biological Trace Element Research."

25 Q. And if you turn to page 8 of Exhibit 1061, is

1 this an article by Ronald Wester et al. titled "In Vivo
2 Percutaneous Absorption of Boron as Boric Acid, Borax,
3 and Disodium Octaborate, Tetrahydrate in Humans"?

4 A. It is.

5 Q. When did you first review Exhibit 1061?

6 A. In August of this year.

7 Q. How did you locate a copy of Exhibit 1061?

8 A. This was provided to me by Merchant & Gould.

9 Q. And when was it provided?

10 A. August of this year.

11 Q. Did you review the '621 and '657 patents
12 before you reviewed Exhibit 1061?

13 A. Yes.

14 Q. And did you review Exhibit 1061 after
15 submitting your first declaration with the petition?

16 A. Yes.

17 Q. Did you review the declaration of Paul Reider
18 before you reviewed Exhibit 1061?

19 A. It was at approximately the same time, but I
20 believe that that is the case, yes.

21 Q. You didn't have a copy of Exhibit 1061 before
22 your counsel gave it to you?

23 A. No.

24 Q. I'm handing you what has been previously
25 marked CFAD Exhibit 1054.

1 Do you recognize Exhibit 1054, Dr. Kahl?

2 A. Let's see.

3 I believe I do.

4 Q. What is Exhibit 1054?

5 A. 1054 is -- I'm just checking here to be
6 sure -- many of the same pages as 1061. Let's see.
7 Some of the pages are clearly different.

8 Q. Maybe I could turn your attention to page 8 of
9 Exhibit 1054.

10 A. 1054. Page 8?

11 Q. Yes, sir.

12 A. Okay.

13 Q. Is Exhibit 1054 an article by Susan Hubbard
14 titled "Comparative Toxicology of Borates"?

15 A. Yes, it is.

16 Q. Have you seen Exhibit 1054 before?

17 A. I have seen this before.

18 Q. When did you first review Exhibit 1054?

19 A. In August of this year.

20 Q. And how did you locate a copy of Exhibit 1054?

21 A. It was provided to me by Merchant & Gould.

22 Q. And when was it provided to you?

23 A. In August of this year.

24 Q. Had you reviewed Exhibit 1054 before August of
25 2016?

1 A. No.

2 Q. Did you review the '621 and '657 patents
3 before you reviewed Exhibit 1054?

4 A. Yes.

5 Q. Did you review Exhibit 1054 after submitting
6 your first declaration with the petition?

7 A. Yes.

8 Q. Did you review the declaration of Paul Reider
9 before you reviewed Exhibit 1054?

10 A. It would have been about the same time. I
11 believe I did review Reider's declaration before I
12 reviewed 1054, but I can't be certain.

13 Q. And you didn't have a copy of Exhibit 1054
14 before CFAD's counsel provided it to you?

15 A. I did not.

16 Q. I'm handing you what has been marked as
17 Exhibit 1049. And I believe this is CFAD Exhibit 1049.

18 Dr. Kahl, do you recognize Exhibit 1049?

19 A. Yes, I do.

20 Q. What is it?

21 A. This is a review article, "Progress in
22 Heterocyclic Chemistry." And dated 1998, I believe.

23 Q. If I could call your attention to page 11 --

24 A. Okay.

25 Q. -- which is chapter 1.

1 A. This is -- right. This is -- okay.

2 Q. So you'd agree that Exhibit 1049 is chapter 1
3 by Michael Groziak?

4 A. Yes.

5 Q. And this is titled "Boron Heterocycles as
6 Platforms For Building New Bioactive Agents"?

7 A. That's the title, yes.

8 Q. And have you reviewed CFAD Exhibit 1049?

9 A. I have.

10 Q. When did you first review Exhibit 1049?

11 A. In August of this year.

12 Q. How did you locate a copy of Exhibit 1049?

13 A. It was provided to me by Merchant & Gould.

14 Q. When did counsel for CFAD provide you with a
15 copy of Exhibit 1049?

16 A. August of this year.

17 Q. Did you review the '621 and '657 patents
18 before you reviewed Exhibit 1049?

19 A. Yes.

20 Q. Did you review Exhibit 1049 after submitting
21 your first declaration with the petition?

22 A. Yes.

23 Q. Did you review Exhibit -- did you -- strike
24 that.

25 Did you review the declaration of Paul Reider

1 before you reviewed Exhibit 1049?

2 A. I believe I did.

3 Q. And you didn't have a copy of Exhibit 1049
4 before counsel for CFAD provided it to you?

5 A. I did not.

6 Q. Handing you what's been marked as CFAD Exhibit
7 1028.

8 Do you recognize Exhibit 1028?

9 A. I do.

10 Q. What is Exhibit 1028?

11 A. This is a review paper by a person named --
12 whose last name is Murdan, "Drug Delivery to the Nail
13 Following Topical Application," published in 2002.

14 Q. And have you read Exhibit 1028?

15 A. I have not. I've seen it, but I have not
16 carefully reviewed it. This is rather outside my area
17 of expertise.

18 Q. When did you first see Exhibit 1028?

19 A. In August of this year.

20 Q. And how did you locate a copy of Exhibit 1029?

21 A. It was provided to me by Merchant & Gould.

22 Q. How did you locate a copy of Exhibit 1028?

23 A. I think I answered that.

24 Q. Yes, I -- I apologize. I made an error when I
25 said the exhibit number. So let's strike this and

1 start over.

2 A. Okay.

3 Q. How did you locate a copy of Exhibit 1028?

4 A. 28. It was provided to me by Merchant &
5 Gould.

6 Q. When did counsel for CFAD provide you with a
7 copy of Exhibit 1028?

8 A. August of this year.

9 Q. Did you review the '621 and '657 patents
10 before you reviewed Exhibit 1028?

11 A. Yes.

12 Q. Did you review Exhibit 1028 after submitting
13 your first declaration with the petition?

14 A. I haven't actually reviewed this paper so
15 that's a little difficult to answer. I've looked at
16 the abstract and found it sufficiently outside my area
17 of expertise as to be not worth reading further.

18 Q. What type of expertise would you need to
19 review or understand Exhibit 1028?

20 MR. FLETCHER: Objection. Calls for
21 speculation.

22 THE WITNESS: Well, since I don't know what
23 the total contents are, I think it's -- it would be
24 speculative of me to say. It's clear -- it is a drug
25 delivery paper in the title. So presumably one would

1 need expertise in -- in drug delivery. But beyond
2 that, I -- I wouldn't want to speculate.

3 BY MR. EPPICH:

4 Q. You didn't have a copy of Exhibit 1028 in your
5 files before your counsel gave it to you?

6 A. No.

7 Q. I'm handing you what has been marked CFAD
8 Exhibit 1055.

9 Do you recognize Exhibit 1055?

10 A. I do. It's a -- it's a U.S. patent,
11 "Hydrolytically-Resistant Boron-Containing Therapeutics
12 and Methods of Use."

13 Q. Exhibit 1055 is U.S. Patent Number 7,465,836;
14 correct?

15 A. Yes.

16 Q. And have you reviewed Exhibit 1055 before?

17 A. I don't believe so.

18 Q. Do you know if Exhibit 1055 is in your files?

19 A. I don't think so.

20 Q. Do you know if Exhibit 1028 is in your files?

21 A. No, it would not be in my files.

22 Q. Had you ever received a copy of Exhibit 1055?

23 A. Not that I'm aware of. I may have, but I -- I
24 don't recall.

25 MR. EPPICH: Let's go off the record and take

1 a break.

2 (Recess taken.)

3 MR. EPPICH: All right. Let's go back on the
4 record then.

5 Q. Dr. Kahl, are you familiar with the Austin
6 reference?

7 A. Yes.

8 Q. Would you agree that Austin reported very low
9 minimum inhibitory concentration values for the low
10 molecular weight anti-fungal compound tavaborole?

11 A. I would agree.

12 Can I have my -- my file back?

13 MR. MILLER: Yes. Yes.

14 MR. EPPICH: Certainly.

15 THE WITNESS: Thanks.

16 MR. MILLER: You're welcome.

17 THE WITNESS: Yes. Of the compounds that
18 he -- that they tested, they did have that compound and
19 a couple of others did have a very -- fairly low
20 values.

21 BY MR. EPPICH:

22 Q. Would you agree that Austin reported that
23 tavaborole had the lowest MIC value against candida
24 albicans?

25 A. I would have to look at the paper to confirm

1 that. Off the top of my head ...

2 Q. Let me hand you what has been marked CFAD
3 Exhibit 1002.

4 A. Is that Austin?

5 Yes. Table 9, I think, is the one you're
6 referring to. The 5-fluoro, which is compound 64,
7 which is tavaborole, as well as the 5-chloro, compound
8 66. And to a lesser extent the 5-bromo. Perhaps not
9 surprisingly because they're in the order of fluoro,
10 chloro and bromo.

11 Q. So you'd agree that Austin reported the
12 tavaborole, in addition to the chloro and bromo, had
13 the lowest MIC values against *C albicans*?

14 A. Yes. If you were to look at this strictly
15 speaking, the fluoro and chloro compounds would be,
16 according to table 9, would be identical. At least to
17 the extent to which they -- in other words, they didn't
18 go to -- they just did -- if you look at the
19 concentrations they used, five I believe was the lowest
20 of the three concentrations they used. In other words,
21 they did not go any lower than five. So there was no
22 discrimination between the fluoro and chloro.

23 Q. And would you agree that *candida albicans* was
24 a known cause of onychomycosis in 2005?

25 A. Yes.

1 Q. Would you agree that a person of skill in the
2 art would have had a reasonable expectation of
3 successfully treating onychomycosis based on the
4 disclosure of Austin alone?

5 MR. FLETCHER: Objection. Scope.

6 THE WITNESS: Yes.

7 MR. EPPICH: Let me just have one more break.
8 So can we go off the record?

9 (Recess taken.)

10 MR. EPPICH: All right. Let's go back on the
11 record.

12 Dr. Kahl, thank you for your time today. We
13 have no further questions.

14 THE WITNESS: Thank you.

15 MR. FLETCHER: Give us -- give us about 20
16 minutes to meet. And then we'll come back and I do
17 have just a couple questions.

18 MR. EPPICH: No problem.

19 MR. FLETCHER: Thank you. So you're closing
20 your examination?

21 MR. EPPICH: Yes, sir.

22 MR. FLETCHER: All right. Thank you.

23 (Recess taken.)

24 EXAMINATION

25 BY MR. FLETCHER:

1 Q. Dr. Kahl, do you remember discussing Exhibit
2 1028 with opposing counsel earlier today?

3 A. I do.

4 Q. When was the -- have you ever seen Exhibit
5 1028 before?

6 A. I have seen it before. It was --

7 Q. Go ahead.

8 A. I was going to say it was among the materials
9 that -- that you sent me in August.

10 Q. Was that before you prepared your declaration
11 in this case?

12 A. Yes.

13 MR. EPPICH: Objection. Vague.

14 BY MR. FLETCHER:

15 Q. Was that before you prepared your declaration
16 you submitted in support of petitioner's reply?

17 A. Yes.

18 Q. Did you rely on Exhibit 1028 while preparing
19 your declaration?

20 MR. EPPICH: Objection. Leading.

21 THE WITNESS: 1028 is -- the subject matter of
22 1028 is not directly related to my expertise in boron.
23 So -- but I did -- I did review the abstract and
24 introduction to it. I did not review the entire
25 document in detail after that.

1 BY MR. FLETCHER:

2 Q. Dr. Kahl, have you seen Exhibit 1055 before?

3 A. Yes.

4 Q. And when did you see Exhibit 1055 for the
5 first time?

6 A. It was again in the materials that I was
7 provided in mid August, I think.

8 Q. Was that before you signed your declaration?

9 A. Yes.

10 Q. Did you rely --

11 MR. EPPICH: Objection. Vague.

12 BY MR. FLETCHER:

13 Q. Was that before you signed your declaration
14 that you prepared in support of petitioner's reply?

15 A. Yes.

16 Q. Did you rely on Exhibit 1055 in your
17 preparation of your declaration filed in support of
18 petitioner's reply?

19 MR. EPPICH: Objection. Leading.

20 THE WITNESS: Yes, I did.

21 MR. FLETCHER: I have no further questions.

22 MR. EPPICH: We'd like to take just a quick
23 five-minute break.

24 MR. FLETCHER: Yes.

25 MR. EPPICH: Thank you. Let's go off the

1 record.

2 (Recess taken.)

3 BY MR. EPPICH:

4 Q. Okay. Let's go back on the record.

5 BY MR. EPPICH:

6 Q. Dr. Kahl, you testified that CFAD's counsel
7 provided you a copy of Exhibit 1028 in August 2016; is
8 that correct?

9 A. That's correct.

10 Q. Did you have a copy of Exhibit 1028 before you
11 received it from CFAD's counsel?

12 A. No.

13 Q. The first time you saw a copy of Exhibit 1028
14 was after you submitted your first declaration with
15 this petition?

16 A. After the first declaration, yes.

17 Q. Dr. Kahl, you testified that CFAD's counsel
18 provided you with a copy of Exhibit 1055 in August
19 2016; correct?

20 A. Correct.

21 Q. And you didn't have a copy of Exhibit 1055
22 before CFAD's counsel gave it to you?

23 A. That's correct.

24 Q. The first time you saw a copy of Exhibit 1055
25 was after you submitted your first declaration with

1 CFAD's petition?

2 A. Correct.

3 Q. During the break today, did you discuss with
4 your counsel when you received a copy of Exhibit 1028?

5 MR. FLETCHER: Objection. Attorney-client
6 privilege. Sorry, objection Rule 26, not discoverable.

7 MR. EPPICH: Are you instructing your
8 counsel -- your client not to -- are you instructing
9 Dr. Kahl not to answer?

10 MR. FLETCHER: You can answer.

11 THE WITNESS: Which break, the one that we
12 just took after you --

13 MR. FLETCHER: Yeah, objection, vague, too.

14 THE WITNESS: Which --

15 MR. FLETCHER: Yeah.

16 THE WITNESS: Which break are you asking
17 about?

18 BY MR. EPPICH:

19 Q. Following my cross-examination after I closed?

20 A. Yes, we did discuss it.

21 Q. And what did you discuss?

22 A. We just -- we discussed whether I had, in
23 fact, looked at it or not while I was in Hawaii.

24 Q. And during the same break did you discuss when
25 you received a copy of Exhibit 1055 with CFAD's

1 counsel?

2 A. We did.

3 Q. And what did you discuss?

4 A. We discussed, again, that I had, in fact,
5 gotten it and had seen it in -- while I was in Hawaii.
6 There were a large number of materials that were sent
7 to me at that point. And I looked at all of them. I
8 had forgotten, frankly, that I had looked at those two
9 because, as I said, at the time I was trying to be as
10 forthright as I could be. And I frankly simply forgot
11 that I had -- I had not reviewed either one in great
12 depth, which is basically why I forgot.

13 MR. EPPICH: Thank you, Dr. Kahl. I have no
14 further questions.

15 MR. FLETCHER: Good. We're off record.

16 MR. EPPICH: We're off the record.

17 (The deposition of STEPHEN B. KAHL, Ph.D.
18 was adjourned at 12:04 p.m. this date.)

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1 Notice Date: September 15, 2016
2 Deposition Date: September 14, 2016
3 Deponent: Stephen B. Kahl, Ph.D.
4 Case Name: Coalition for Affordable Drugs X LLC v.
5 Anacor Pharmaceuticals, Inc.

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CERTIFICATE OF DEPONENT

I hereby certify that I have read and examined the foregoing transcript, and the same is a true and accurate record of the testimony given by me. Any additions or corrections that I feel are necessary, I will attach on a separate sheet of paper to the original transcript.

Signature of Deponent

I hereby certify that the individual representing himself/herself to be the above-named individual, appeared before me this ____ day of _____, 2016, and executed the above certificate in my presence.

NOTARY PUBLIC IN AND FOR

County Name

MY COMMISSION EXPIRES:

1 STATE OF CALIFORNIA)
) ss
2 COUNTY OF SANTA CLARA)

3 CERTIFICATION OF DEPOSITION OFFICER

4 I, DIANE S. MARTIN, CSR, duly authorized to
5 administer oaths pursuant to Section 2093(b) of the
6 California Code of Civil Procedure, do hereby
7 certify that the witness in the foregoing
8 deposition was by me sworn to testify to the truth,
9 the whole truth and nothing but the truth in the
10 within-entitled cause; that said deposition was
11 taken at the time and place therein stated; that
12 the testimony of the said witness was thereafter
13 transcribed under my direction into typewriting;
14 that the foregoing is a complete and accurate
15 record of said testimony; and that the witness was
16 given an opportunity to read and correct said
17 deposition and to subscribe the same.

18 I further certify that I am not of counsel
19 nor attorney for any of the parties in the
20 foregoing deposition and caption named nor in any
21 way interested in the outcome of the cause named in
22 said caption.

23

24

25

Diane S. Martin
DIANE S. MARTIN, CSR NO. 6464