Page 2255

IN THE MATTER OF AN ARBITRATION
BETWEEN

LANCE ARMSTRONG and §
TAILWIND SPORTS, INC. §
§
Claimants, § ARBITRATION BEFORE THE
§ HONORABLE RICHARD
VS. § FAULKNER, RICHARD
§ CHERNICK AND TED LYON
SCA PROMOTIONS, INC. and §
HAMMAN INSURANCE SERVICES, §
INC. §
§
Respondents.

ARBITRATION
TRANSCRIPT OF PROCEEDINGS
JANUARY 18, 2006
VOLUME 11
CONFIDENTIAL

On 18th day of January, 2006, at 9:07 a.m., the arbitration in the above proceedings came on before Arbitrators Richard Faulkner, Richard Chernick and Ted Lyon, at the offices of Richard Faulkner, 12655 North Central Expressway, Suite 810, in the City of Dallas, County of Dallas, State of Texas.

Page 2256

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ALSO PRESENT:
Ms. Mariela Evora
Mr. Chris Compton
Mr. John Bandy
Mr. Robert Hamman
Mr. Michael Ashenden
Ms. Lynn G. Bone
Mr. Joe Longley
Mr. Lawrence Temple
Ms. Marianne Ross
Mr. Jeffrey Dorough
Mr. James Stray-Gundersen, M.D.

Page 2257

INDEX

WITNESS	PAGE
DR. MICHAEL ASHENDEN, PH.D.	
DIRECT EXAMINATION BY MR. TOWNS	2311
CROSS-EXAMINATION BY MR. LEVINSTEIN	2394

CLAIMANTS' EXHIBITS	IDENTIFIED
143 - Test Analyses	2359

RESPONDENTS' EXHIBITS	IDENTIFIED
104 - Article, "Level Ground and Uphill Cycling Ability in Professional Road Cycling"	2359

PREVIOUSLY MARKED RESPONDENTS' EXHIBITS	IDENTIFIED
118 - Economy Calculations - Men Cyclists Senior Camp, Hunt, Texas (Feb '91)	2366

PREVIOUSLY MARKED RESPONDENTS' EXHIBITS	IDENTIFIED
25 - Book excerpts	2406
33 - Article, "Improved Muscular Efficiency Displayed as Tour de France Champion Matures	2344
44 - Test Results	2376
53 - Letter from Bill Stapleton	2378
76 - Tour de France Stage Results	2387

Page 2258

PROCEEDINGS

ARBITRATOR CHERNICK: We are on the record for purposes of going off the record.

(Videotape deposition of Frankie Andreu was shown.)

ARBITRATOR CHERNICK: I have one question about the time. At 4:18:28 there was a reference to pills that apparently was part of a prior question that was not part of the transcript, and I don't know whether that was inadvertently cut out or whether the pill reference is of no consequence. I just couldn't -- couldn't tell.

MR. TILLOTSON: Just give me a second. I'll figure out what it is.

ARBITRATOR CHERNICK: 4:18:28 is the time reference on the video.

MR. HERMAN: I think the -- Mr. Armstrong was questioned about that and the caffeine issue but --

MR. TILLOTSON: Before you --

MR. HERMAN: Okay. Well, I -- but as I recall --

MR. TILLOTSON: The question picks up from page 48, line 24.

Question: Let's move away from the

Page 2259

hospital room. I want to focus on his career when he returned to professional cycling.
Answer: While he was racing, no. I do not have any knowledge of him using any drugs.
Question: Did Mr. Armstrong ever show you or point to anything you thought might be performance-enhancing drugs in his possession?
Answer: Not that I remember, but repeat the question.
Question: Did Mr. Armstrong ever show you anything that you thought might be a performance-enhancing drug?
Answer: There was one time I remember. He had pills that he had on the bed that he talked about, that he would take these at different parts during the race, like, 50 kilometers to the end, 30 kilometers to the end. I have absolutely no idea what they were, and that would be the only time I could think of that there, you know, may have been something where that could have been something, but I do not know what they were.
Question: Do you remember when that took place?
Answer: I would say, 1999. I want to say, it was a race in Spain, but I have no idea. I

Page 2260

couldn't even tell you what month.
Question: What did the pills look like? I mean, were they --
Answer: They were just an assortment of little round pills.
Question: And what is it he described to you about them.
Answer: That he would take them at different parts during the race, like, 100-K to go, 50-K to go. And then, like, you know, 10-K to go, something like that.
Question: Did he say where he got them from or who.
Answer: I don't remember.
Question: Who recommended them?
Answer: I don't remember them.
Question: Did he say what they were for?
Answer: Yeah. To take at different parts during the race.
Question: I mean, to --
Answer: I don't know what they did.
Question: Like, enhance endurance, to make him less tired?
Answer: I'm not sure. I don't know.
Question: How did this subject come up?

Page 2261

Why was he showing you this?
Answer: We were talking and getting ready for the race, and he was kind of joking around, saying, this is for -- this is for 100-K to go. This is for 50-K to go. Just in kind -- statements like that.
Question: Did he have anything like that where he showed you something he would take for his performance at a race ever happen again?
Answer: No. That was the only incident I remember.
That's the full.
ARBITRATOR FAULKNER: Thank you.
MR. TILLOTSON: I show it at page -- I'm not sure --
ARBITRATOR CHERNICK: Starting on 48, line 24.
MR. TILLOTSON: 48, line 24, and I read through 50, line 23.
ARBITRATOR FAULKNER: 50, line 23?
MR. TILLOTSON: Yes, yes.
ARBITRATOR CHERNICK: We're going to take a short break before we start.
ARBITRATOR FAULKNER: Hey, we -- let's take a quick break before we start with the next

Page 2262

witness.
ARBITRATOR LYON: Who is the next witness?
MR. TILLOTSON: If I could just lay out our layout for today to take us through the rest of the hearing. I would like to play the -- the tape of Stapleton, the entirety of the tape so the Panel hears it with the transcript.
I would look also to, then, offer excerpts from the -- the telephone tape of Stephanie McIlvain, which I'll try to work with Mr. Herman about what to do on that. Then we have a tape of Greg LeMond, and we're calling Mike Ashenden, and then either John Bandy, if we have time today, and then David Walsh tomorrow. Or if we don't, then we'll start with Mr. Walsh to ensure we get on, and then finish with Mr. Bandy.
ARBITRATOR LYON: You want to play the tape that we've already got a copy of?
MR. TILLOTSON: Yes. The reason why, Senator -- I'm not trying to -- to kill time. The reason why is because there are portions of the transcript which say inaudible, which I think you can actually hear what they're saying, and I want to -- I want to have at least one opportunity where that is

Page 2263

played -- I don't think it's terribly lengthy -- where that is played where the Panel sees and hears that.

ARBITRATOR CHERNICK: Oh, so when you said Stapleton, you're talking about the tape recording, not his deposition?

MR. TILLOTSON: The actual tape recording, not his deposition. The actual tape recording that we've been talking about. We've never really presented it, except questioning witnesses about it. And there are portions in there where it says, inaudible, but you can read it.

I think in fairness to -- to hearing what was being said, since there's a dispute between the witness about what was said, to hear that tape.

ARBITRATOR CHERNICK: Could I make a suggestion?

MR. TILLOTSON:

ARBITRATOR CHERNICK: We -- we have that tape in CD.

MR. TILLOTSON: That's correct.

MR. CHERNICK: From my perspective, I'd rather just take it someplace and play it myself, and I can run it back and run it forward and run it back and run it forward to be able to hear what I hear, rather than just playing it through here. I'm not

Page 2264

sure that this is the best place to do that.

MR. TILLOTSON: Well, what -- whatever the Panel pleases, in terms of the best way to hear. I mean --

ARBITRATOR LYON: Well, I think it's a waste of time to play it because we're all going to listen to it anyway.

ARBITRATOR FAULKNER: I'm going to be listening to it on my own computer and earphones, as well.

MR. TILLOTSON: Okay.

ARBITRATOR CHERNICK: I agree with your comment.

MR. TILLOTSON: The only problem I was trying to make is, in the transcript, there are a couple of key sections where it says, inaudible, where I think if you listened to the tape -- our position is, if you listen to the tape, it's pretty clear what he's saying, and that plays into a material dispute regarding Mr. Stapleton's testimony. I don't want to waste anyone's time, but that was the point in us trying to say we should play the tape.

ARBITRATOR FAULKNER: As long as all three of us listen to the tape that y'all have furnished to us on CD, does that satisfy your --

Page 2265

MR. TILLOTSON: I believe my point's been made with respect to that, so of course. Of course.

ARBITRATOR FAULKNER: Okay.

ARBITRATOR CHERNICK: And then you -- you know, you're free to argue at whatever point you want that the tape says something that you believe it says, and we'll -- we'll have to be the judge of that based on our playing individually.

MR. TILLOTSON: Fair enough. I appreciate that.

ARBITRATOR LYON: So then you're going to do what?

MR. TILLOTSON: I then want to offer certain excerpts from the tape between Greg LeMond and Stephanie McIlvain. The problem with that is that we've provided you -- been provided a tape that's on a cassette tape that we've have -- we haven't been able to slice it apart, so I would propose we have a transcript of either offering those portions of the transcript to the Panel or -- or reading them into the record, whatever the Panel pleases.

MR. HERMAN: Well, we -- we've got the same issue on -- on -- on that tape as we do otherwise. Mr. Tillotson and I talked about it, and I -- I had thought that we had worked out an agreement

Page 2266

on that, so before we get to that issue, perhaps Mr. Tillotson and I will have an opportunity to confer.

MR. TILLOTSON: I -- I've -- yes. We -- we can address it and take -- I've looked at the entire and read the entire tape. I've listened to the entire tape.

There are certain portions of the tape which I have tried to limit to the statements of Stephanie McIlvain which we believe are highly relevant to the testimony given here, and I have tried to -- to excerpt from the tape itself just those statements from Ms. McIlvain that contradict her deposition testimony that we played yesterday.

There's a lot of other statements on there from Ms. McIlvain and many statements from Mr. LeMond, which we don't intend to offer. I don't have any problem with the entire tape being presented to the Panel.

But in an effort to resolve some of the concerns that -- that Mr. Herman might have, I've tried not to include anything from Mr. LeMond that would be considered evidence, except as a predicate question that Ms. McIlvain answers or as he says, yeah or right or whatever.

So we're not offering the tape for any

Page 2267

evidence for Mr. LeMond as to things he saw or did or his opinions. Just simply testimony from -- from Stephanie McIlvain that contradicts her prior sworn testimony. I'll be happy to provide those excerpts for Mr. Herman and see if we can agree, that we can offer those excerpts, and I will propose just excerpting them out, literally retyping them and making that an exhibit and present it.

MR. HERMAN: That's fine, if you want to submit them to me. But, frankly, Ms. McIlvain's lawyer in California is aware that doing that tape constitutes a felony in California, making it, and he has indicated to me that he intends to take some action, which he's entitled to do either in the California courts or notify you-all.

But we -- we just now became aware that the tape existed, so I've tried to work out -- which I thought I had worked out -- an acceptable stipulation with Mr. Tillotson to avoid either having a collateral proceeding filed by -- either by Ms. McIlvain's attorney in California or the prosecutor in Minneapolis or the prosecutor in California.

So I just -- I think we ought to be given an opportunity to work out a stipulation before we get at lot of people in trouble.

Page 2268

ARBITRATOR FAULKNER: Why don't you two chat because this issue has come up --

ARBITRATOR LYON: There's plenty of time to do that over the lunch hour.

MR. HERMAN: Sure. Oh, yeah. Sure.

ARBITRATOR LYON: You've got other witnesses --

ARBITRATOR CHERNICK: Could I just ask one question? Mr. LeMond was in Minneapolis?

MR. HERMAN: Right.

ARBITRATOR CHERNICK: And in a telephone conversation with Ms. McIlvain, he taped her statements from California --

MR. HERMAN: Right.

ARBITRATOR CHERNICK: -- while he was sitting in Minneapolis?

MR. HERMAN: Right.

MR. BREEN: And indicated to her he wasn't taping her, and the case law that we have -- we'd be glad to provide to the Panel -- indicates that not only is that against the law in California but it doesn't matter that he's out of state. California law still applies to him when he does that, and we have cases that show that.

It also indicates that the tape is not

Page 2269

admissible for any purposes, other than a prosecution of statute and that Ms. McIlvain has the right to an injunction to prevent the dissemination of playing of the tape, which, of course, makes sense since it was made against the law.

So we have authority to obtain that, if the Panel want to see that.

MR. HERMAN: But the main thing is, is that here we are dealing with two people that aren't here, that there may be some -- you know, some really bad consequences for either or both of them, and both of them are represented by counsel, and the -- at least Ms. McIlvain's counsel has told me that he is going to do whatever he needs to do make sure that either Mr. LeMond's prosecuted and/or that, you know, he gets some sort of injunctive relief in California.

So I just think it's really improper for -- for either Mr. Tillotson or I to put those people at risk if we can work out a stipulation.

ARBITRATOR FAULKNER: Okay. Gentlemen, it was so much easier when I was a prosecutor and just had warrant to play with recording devices. Okay. Guys, y'all chat and see what you can work out, and then we'll deal with it, if we have to deal with it.

And it sounds, from what you're telling

Page 2270

me, that they've already got their own probably invitations to discussions with, you know, agencies of the state or federal government. That's their problem. We don't need to deal with it. If you guys can, work out a stipulation. If you can't, then we'll decide what is appropriate here. Any other issues before we take our break?

ARBITRATOR CHERNICK: Did the National Security Administration pick up this --

ARBITRATOR FAULKNER: Oh, hell, they probably did, but, you know, who knows. You know, that really stands for no such agency.

MR. TILLOTSON: Then in -- then I would like to, then, move on and play Greg LeMond's tape, and then we'd move to live witnesses.

ARBITRATOR CHERNICK: What, his deposition?

MR. TILLOTSON: His deposition, yes.

ARBITRATOR CHERNICK: And how long is that?

MR. TILLOTSON: Is it 30 minutes? It's not long. I'd like to get all the tapes out of the way and then get to live witnesses.

MS. EVORA: Forty minutes.

MR. TILLOTSON: Forty minutes to go.

Page 2271

MR. HERMAN: You've got my designations there, too? Okay.
MR. TILLOTSON: Just so that -- because my order's a little wacky, given the issues. We would normally, then, play the tape. We would want to offer Stephanie McIlvain and play Greg LeMond. That would conclude that block of witnesses on that subject. We'd then go to our expert, and then put Mr. Bandy -- but we'll -- we'll offer that evidence as we make the progress. But that was our thought in terms of the presentation of our case.
I think we're still well within the guidelines that I laid out for our day.
(Off-the-record discussion.)
(Videotape deposition of Greg LeMond was shown.)
ARBITRATOR FAULKNER: Is that the end of the deposition?
MS. BONE: It is.
ARBITRATOR FAULKNER: It's 11:30. What do you wish to do next, gentlemen?
MR. TILLOTSON: I'm not trying to influence you. Lunch is here, though.
ARBITRATOR FAULKNER: Oh, okay. That is influencing us. Okay. So we'll break for lunch?

Page 2272

MR. TILLOTSON: We're either prepared to start Mike Ashenden and go till noon, or break for lunch now and pick up at 12:30 or 12:45.
MR. HERMAN: I mean, if the -- you don't want to keep the guy hanging around here, so you might --
ARBITRATOR FAULKNER: Why don't we go ahead and --
MR. TILLOTSON: Let me just confirm that that's right. My secretary sent me an e-mail. He is here?
MR. TOWNS: Yeah.
MR. TILLOTSON: So we're prepared to start and do Mike.
ARBITRATOR FAULKNER: Why don't we break for lunch and start at 12:30 so we can, you know, move this along.
(Break from 11:34 a.m. to 12:34.)
MR. TILLOTSON: The Claimants have -- have given us the resume background information for rebuttal expert, Mr. Gundersen -- I think it's a hyphenated name, so I apologize -- who we object to his designation as rebuttal expert, and our basis for the objection to that designation is that we believe it was untimely, and we have been provided no fair

Page 2273

opportunity and neither been able to examine or deal with that expert.
And so the Panel knows, we did confirm that we designated our expert witness, Dr. Ashenden, first with a disclosure of his designation. That designation did include that he would testify regarding the L'Equipe article and test results.
After Dr. Ashenden was designated, Claimants then made their designations, and Mr. Gundersen was not one of those designations. And when the case was continued in December to the January setting, they redesignated, dropping Mr. Carmichael, and adding Mr. Kearney as an expert, which we did not object to.
We were able to depose both of their experts, Dr. Kearney and Dr. Carmichael, the Friday before the trial setting and Friday before we started, and they had deposed Dr. Ashenden before that, and at no time did they tell us that they needed or wanted a rebuttal expert.
And we were not notified that they planned on calling a rebuttal expert until the Monday before the trial commenced, at which point we were given a resume but still to this date have no designation even as to what their rebutted expert is

Page 2274

presumably going to say.
The reason I raise that now instead of when they call their rebuttal expert is their rebuttal expert is here. And if the Panel does not allow his testimony, I would ask that he not be allowed to participate in the proceedings and hear the testimony. And the reason why is because this particular individual is involved in connection with the representation of Tyler Hamilton and his opinion, and I believe it would be inappropriate if he's not going to testify in this proceeding.
He can, nevertheless, sit in here and hear and provide questioning or information that he could then ultimately use in the Tyler Hamilton proceeding. So I think this is an issue that needs to be raised with Mr. Gundersen and his ability to testify in this proceeding.
And as I've -- as I've told Mr. Chernick, in fairness, rebuttal experts -- of course, people have the opportunity to -- to rebut, but they got to designate after I told them what Dr. Ashenden was going to say. They also got to depose Dr. Ashenden, and at no time during any of that did they ever indicate that they were going to be using someone else on this particular subject matter.

Page 2275

And even today, although they've given me the guy's name and resume, they've never told me actually what he's going to say, so I have no ability to -- to -- to even know what it's about, other than it's on this documented L'Equipe article.

So we would object to the use of that expert and his designation, and we would ask that, if the Panel so inclined, to strike him and he not be allowed to be in these proceedings given his -- his role in the Tyler Hamilton matter.

ARBITRATOR FAULKNER: Would you tell me a little bit more about what -- what is the status of the Tyler Hamilton matter? I know who Tyler Hamilton is from earlier references. What is the status of that because you said the word "appeal."

MR. TILLOTSON: Well, he was found -- sanctioned for a doping offense, and he took that matter he appealed it to -- to CAS, Court of Arbitration for Sport, and there has been testimony and evidence received on that, and I believe -- is -- is it under submission at this time or the status --

MR. LEVINSTEIN: I can address that, if you'd like.

MR. TILLOTSON: Okay. Well, I mean, I -- but if you're involved, then sure, go ahead.

Page 2276

MR. LEVINSTEIN: I'm also counsel for the US Olympic Committee so --

ARBITRATOR FAULKNER: Okay. Would you go ahead and identify yourself for the record so --

MR. LEVINSTEIN: Mark Levinstein of the Law Firm of Williams and Connolly, L.L.P. from Washington D.C.

ARBITRATOR FAULKNER: All right.

MR. LEVINSTEIN: Tyler Hamilton initially had an appeal under the Ted Stephens Olympic and amateur Sports Act to the AAA with court of Arbitration for Sport Arbitrators serving as the Panel.

He was found guilty by two-to-one decision. It was then appealed to the Court of Arbitration for Sport itself out of Lausanne. The hearing was held last Tuesday, a week ago yesterday, eight days ago in Denver. The case is over, and within four weeks, there will be a decision. But there are no more proceedings in Tyler Hamilton. It's under submission to the Panel.

ARBITRATOR FAULKNER: Well, that's what I was trying to figure out, if there would be any further testimony in the case, when you said, appeal. Jeff, that's what I was wondering about.

Page 2277

MR. LEVINSTEIN: They have closed the record. They had closing arguments. They've made it clear. They'll issue their decision in maybe one or two weeks but, at most, four weeks, and the case is closed.

ARBITRATOR FAULKNER: Okay. Does that change any of y'all's position?

MR. TILLOTSON: I believe it's inappropriate for anyone to be in here listening to this testimony that is not going to be serving as a witness, and we believe any expert witnesses who are going to testify not hear the testimony.

ARBITRATOR CHERNICK: Well, this is wagging the tail by the dog. I mean, either he is or is not a rebuttal witness. If he's not a rebuttal witness, he shouldn't be here whether he's involved with Tyler Hamilton or not.

MR. TILLOTSON: Correct. The Claimants asked for that extremely -- what I view as an extremely restrictive protective order. The Panel granted it, and I believe if he's not an expert witness, then he should not be permitted to attend.

ARBITRATOR FAULKNER: We know what's in the order, and so we understand that. Do you guys want to -- anything else you fellows have to add?

Page 2278

MR. HERMAN: Yes, definitely. As to his substitution of attorney for Carmichael, that was required because we -- when Mr. Carmichael was made available for his deposition, Mr. Tillotson couldn't do it. And then when the -- then when SCA changed the day of the hearing, Mr. Carmichael's schedule kept him from being here, so Mr. Kearney who works with Mr. Carmichael -- or Dr. Kearney -- was -- stepped in to do -- to -- to provide the expert testimony.

As Mr. Tillotson said, that Dr. Stray-Gundersen is a rebuttal expert. We took Dr. Ashenden's deposition. We weren't even able to complete it, and it was never reconvened. We had no idea that Dr. Ashenden was going to somehow try to vouch for -- for lab results with which he has no connection, top side or bottom, and it was -- we didn't have until Mr. -- Dr. Ashenden's deposition, we didn't have the intention of -- or we didn't know that we would need a rebuttal expert.

But when we gave Mr. Tillotson his -- the -- the CV -- and we discussed this issue last week. We clearly indicated that we would make Dr. Stray-Gundersen available for his deposition at any time before and after business hours, on the weekend when -- under the circumstances that we

Page 2279

deposed Mr. Swart, who was the Respondents' witness who was here, and, you know, we were easily able to depose him and present his testimony to the Panel.

And -- and they've had adequate notice. They've had the opportunity to depose him, and we -- I mean, we've heard nothing from -- from the other side since -- well, for 10 days, since we -- since we firs -- or whenever it was that we -- we gave the -- we gave the CV out. I can't remember now. I don't know when it was but --

ARBITRATOR CHERNICK: So is there any indication with the subject matter of the expert's testimony?

MR. HERMAN: No. But we clearly made it -- we clearly made it clear that Dr. Stray-Gundersen was going to be a rebuttal expert to Dr. Ashenden. So, you know, his testimony would be confined to the subject matter that Dr. Ashenden is testifying to, but we'd be happy to -- to submit a designation. I mean, it's -- it's -- it's clear, though. I mean, it's clear by everyone's understanding that Dr. Ashenden's testimony is going to be the subject of Dr. Stray-Gundersen's testimony.

MR. BREEN: If I might add, too, procedurally what happened, too. These, quote/unquote

Page 2280

designations that we're talking about, as the Panel remembers -- as we were racing break-neck pace for the setting, the designations that we're talking about is two or three sentences at the most.

No detail in terms of substantive opinion. It's like a state court designation, as opposed to a federal. There's no reports which was done at the request of SCA. We agreed to do that. Let's designate in a general sense and have a deposition.

The Panel will recall, we were not even provided Dr. Ashenden's file literally till -- a portion of it -- three documents out of it -- the night before his deposition, and then the day of his deposition, we were given the quote/unquote 99 test documents. So we didn't even have those to know that -- what in any context Dr. Ashenden may be rendering an opinion on before literally his deposition started.

Then once his deposition started, it was clear that we still didn't have all his file, which has not been produced to date. His entire file has not been given us despite our request and a commitment in the deposition that it would be. So it's a little bit one-sided to argue that somehow this is an ambush

Page 2281

on our part to designate a rebuttal expert when we didn't even get his file or really his designation until right when his deposition began and then promptly had to move after that to try to find somebody who was going cover this, quote/unquote, 99 research which isn't even an area that Dr. Ashenden has expertise in.

ARBITRATOR CHERNICK: Are you prepared to limit in any way the scope of the rebuttal testimony, or are you simply offering him as a rebuttal expert to whatever Dr. Ashenden's is?

MR. BREEN: Well, we certainly don't need to respond to everything that Dr. Ashenden says, and obviously we'll be more than happy to limit it to the really material -- what we believe are the material issues to the case out of what Dr. Ashenden says.

So if your question to us, Mr. Chernick, is, are we just trying to bootstrap in another big general expert to come in, the answer to that is, no. He's clearly going to be confined to the scope of these issues that we really haven't, even today, had full knowledge about what Dr. Ashenden is going to testify to.

ARBITRATOR CHERNICK: No. My -- my -- my question, I think, was prompted by something

Page 2282

Mr. Tillotson said. It was at least his impression that the reason you were designating another expert was because you were surprised that Dr. Ashenden was going to be talking about the L'Equipe testing samples.

MR. BREEN: Well, I certainly understand that Mr. Tillotson making an argument of that. I mean, that's not --

ARBITRATOR CHERNICK: So you are -- what you're -- what you are going to do is -- to the extent necessary and to the extent you need to respond to anything that Dr. Ashenden says is offer your rebuttal expert for rebuttal on those subjects?

MR. BREEN: Correct.

MR. HERMAN: Well, and -- and -- and to that -- along those lines, we'll be happy to prepare a rebuttal expert designation and give it to Tillotson by the end of the day, so that's -- if that's a problem, that he doesn't know -- I mean, it's -- it's -- it's pretty clear, but I should also -- also mention that whether he was retained to testify as an expert or not, even if he was a consulting expert, he -- he would be entitled to listen to the testimony as a consulting expert.

MR. BREEN: He signed the order that the

Page 2283

Panel issued saying he has to keep the information confidential. We certainly have the right and obviously we believe we have the right to designate him as rebuttal expert. But even if the alternative position was that that weren't the case, he certainly has the right and we have the right to have a purely consulting expert in the case.

There's nothing -- I mean, for instance, Dr. Ashenden, I believe, testified in the Tyler Hampton case, so if we're going to argue that participation in the Tyler Hamilton case disqualifies you from here, then I suggest we look at goose V. gander.

ARBITRATOR FAULKNER: Okay. Is that a formal cite?

MR. TILLOTSON: If I could just clarify and put together time frame because this has been pushed together. We designated Dr. Ashenden before they designated their expert either at the end of November or the very first week of December. That designation -- which we had specifically mentioned among one of the top theories that he was going to be offering expert testimony about was the L'Equipe article and the test results in the L'Equipe article.

It's after that they got opportunity to

Page 2284

designate to counter whatever Dr. Ashenden was going to say, and they designated the two experts that they did. And Dr. Ashenden was deposed on 12/22, and he was questioned about these matters.

The deposition did not conclude because it was being videoed with -- with Mike Ashenden in Australia and then Connolly in Washington and us in Dallas and which he produced some materials. And then later he produced all of his file before the start of this proceeding, and he was tendered again for completion of his deposition on January 6th, after we completed the deposition of their experts. They elected not to ask him any questions at that time.

So that's the time frame, so they've known since the designation at the end of November or the first of December that he was going to talk about the L'Equipe story, and they deposed him and asked him about that -- specific questions about that on 12/22. We deposed their experts on 1/6. We tendered him again on 1/6. They asked no questions.

We show up here on 1/9, and they tell us we're very surprised. Here's our rebuttal expert. And at no time when I designated him, when he was deposed, or when we went down and took their experts and we tendered Dr. Ashenden for further questions did

Page 2285

they ever even say that we're contemplating getting a rebuttal expert because I would have treated it like -- exactly like I've treated their switching Carmichael for Kearney, okay.

I understand things are moving. I'll just deal with Kearney. Don't worry. And if I -- and I raise the Kearney issue not because I'm complaining about it but to show that we were worked within the bounds, the scheduling order, and the requirements of parties, and I didn't have any objection to them switching out experts based on schedules, on their topics so long as I had the opportunity to deal with it.

But showing up on the day of trial with a rebuttal expert, giving me the resume, and saying, we -- we -- we can cure everything if you come over on Saturday and take his deposition is fundamentally unfair, particularly when they got to designate after me. The one they were rebutting is themselves because they knew what my guy was going to say at the time that they designated him.

So I think it's materially unfair. It puts an enormous burden on us, and I don't think it's appropriate for that particular witness to testify in these proceedings, and if he's not testifying, then I

Page 2286

think he needs to be excused from these proceedings.

ARBITRATOR FAULKNER: Okay. Senator, you have a question?

ARBITRATOR LYON: They answered it. I wanted to know if he was going to testify about urine samples, and he is; right?

MR. TILLOTSON: He is. I have a copy of our designation, if you want to see it. I don't believe the Panel ruled on this issue.

ARBITRATOR CHERNICK: That was -- that was the issue of National --

ARBITRATOR LYON: No. It was -- they started passing around the resume of that doctor, Whoever he is.

(Break from 12:50 p.m. to 12:54 p.m.)

ARBITRATOR FAULKNER: All right. After listening to the argument from both of y'all and knowing what is in our own record, here is the decision. It's a two-to-one decision with Mr. Chernick dissenting. We will proceed with Dr. Ashenden. I hope I'm not mispronouncing your name. And we want a complete specification of the scope of the proposed testimony from Claimants' expert.

Mr. Tillotson --

MR. TILLOTSON: By the end of the day.

Page 2287

ARBITRATOR FAULKNER: -- by the end of the day -- end of the testimony.

Mr. Tillotson will have an opportunity to depose Dr. Gundersen at a mutually convenient time with counsel and the witness, and Dr. Gundersen will be staying for the testimony of Dr. Ashenden. Okay.

ARBITRATOR CHERNICK: And mutually convenient might mean something after this hearing --

ARBITRATOR FAULKNER: Yes.

ARBITRATOR CHERNICK: -- once we've concluded.

ARBITRATOR FAULKNER: You do not have to do it by the end of -- of Friday, gentlemen because we know we're going to be hearing other things. We'll have other evidence coming in later, so work out a time that's convenient for you-all. You don't have to kill yourself trying to getting it done.

Okay. Any other issues before we proceed?

MR. HERMAN: Yes. I -- I think that my -- it might be a good time to take this up. Are you calling Dr. Ashenden next?

MR. TILLOTSON: Yes, we are.

MR. HERMAN: Okay. Well, I think probably it'd be a good idea for us to address this

Page 2288

whole -- this whole issue of these alleged 99 samples because, I mean, I can solve a lot of the problems here.

What the Respondents have provided to us is a summary of -- of test results from these -- this research project that was undertaken in France. The -- under the fundamental rules of -- of evidence, there's a relaxation of the rules of -- of authentication and admissibility when you deal with summaries under Rule 1006, but as an absolute prerequisite for that, the underlying documents from -- which are summarized, have to be provided to the other party for review of cross-examination and so forth.

Now, what they're proposing to have Dr. Ashenden testify about is a summary sheet of this alleged test result which tests were conducted as part of a research project which is absolutely prohibited by the WADA Code, by the UCI, by -- and by USADA -- United States Antidoping Agency, as well as the World Antidoping Agency. And they have never presented to us the originals of or copies of the documents which their test results purport to summarize.

Now, I'm holding in my hand a document which is about 40 or -- 40 pages long. This is --

Page 2289

these are test results from one test -- one EPO test. There are 98 tests that are contained in this one page that Dr. Ashenden is going to purport to testify about, testify about the procedures and so forth.

He lives in Australia. The tests are in France. He's got no association with the lab in France. He's got no idea where these documents are or whether the summary even accurately reflects what the real documents show.

So in the first place, by definition, a summary cannot be considered for any purpose without a provision of the underlying documents. That's just a fundamental rule. The second thing is, is that these alleged test results were conducted in violation of -- of the WADA Code, and you saw the code which prohibits the use of any athletes' alleged samples without the athletes' expressed written consent. That's -- that's for starters.

The second thing is -- or -- or the second area of why these -- why these test results are completely inadmissible and cannot be considered for any purpose is they relate to '99 allegedly, which is two years before this company ever had anything to do with anything, before they took on any liability, and is far beyond the scope of the contract at issue.

Page 2290

As a matter of law and as confirmed by WADA and even L'Equipe, that the test results cannot be used for any purpose. They cannot be used for sanctioning the athlete. They cannot be used to strip his title. They can't be used for any punitive measure. They -- there is only the "B" sample that was tested under the WADA Code and under everything.

There is a very good reason why there is an "A" sample, a "B" sample. The "A" sample must be tested in accordance with protocol. If there is an adverse finding, then the athlete and his representative are notified and given the -- they are -- mandatorily must be provided access to the "B" sample and the -- and the -- and the testing of the "B" sample in their presence.

There's a really good reason for that, and these '99 test results illustrate the very best reason for it, which is that in a research project like this where they're spiking EPO samples in order to -- to construct a control group against which to measure other samples, the -- the -- the athlete has no way to defend himself because there is no sample left.

It's a violation of the fundamental process by the -- by the doping agencies, not to

Page 2291

mention that Dr. Ashenden has no personal knowledge nor are there any documents.

Now, this -- this document here contains about eight pages of --

ARBITRATOR CHERNICK: Can you tell us what we're looking at?

MR. TILLOTSON: What is this because I don't -- I have no idea what it is.

MR. HERMAN: This is -- this is the result -- these are the test results of an EPO test conducted at USADA, at -- at the University of California at Los Angeles. It's an -- it's an exemplar of -- but the point is, there are some seven or eight pages for this single sample that contain chain of custody documents.

Now, for the old PBS member here on the Panel, there is absolute requirement for internal chain of custody. Every time -- every time this particular sample was touched, it was required that whoever touched it reported the -- what they did with it, who touched it, and so forth.

Now, Dr. Ashenden -- and I think we'll all stipulate that, you know, in his deposition, how do you know that this is reliable? I had dinner with the guy from the French lab, and he told me everything

Page 2292

was up to snuff. And this is the point why the summary cannot be admissible without the underlying documents, just like you couldn't summarize a -- a -- a string of transactions in an accounting fraud suit or any other kind of suit without the underlying documents reflecting the transactions.

So leaving aside the fact that there is no err to dissemble, leaving aside the fact that there -- that by definition, these can't be used for any sanction, they cannot strip the title, and they don't even relate to the years in question anyway, that any proposed testimony by Dr. Ashenden or anyone, except somebody from that French lab who's in possession of the underlying documents is -- is fundamentally and -- fundamentally unfair, and it's -- if there was ever anything unduly prejudicial, this would have to be it.

So they cannot possibly lay the foundation or the predicate for the consideration of these testaments top side or bottom. Now, there are many other issues involved, but -- but -- but that's for starters.

So we -- we submit that any testimony by Dr. Ashenden or anyone else, other than some -- somebody who has some firsthand knowledge about the

Page 2293

processes that were involved, particularly given the highly prejudicial nature of what conclusions and inferences and deductions they're going to ask the Panel to draw is -- is just fundamentally unfair and prejudicial to the Claimants, and we submit it's far beyond the pale and far beyond the bounds of what any decision-maker would or could rely upon.

ARBITRATOR FAULKNER: Reply, Mr. Tillotson?

MR. TILLOTSON: Well, 98 percent of that, to me, sounded like it was cross-examination territory, not admissibility. First fact, obviously Mr. Armstrong and Mr. Stapleton attacked these test results, this information in their direct examination questioning brought out by Mr. Herman himself. So we are entitled to test that and put on counterevidence with respect to it.

Fact, we can't get the French lab or the information. They don't have it either, and we don't have it. All we have are summary sheets of the test results with which were reported in newspaper, along with the control forms that we've already questioned witnesses about.

ARBITRATOR LYON: May I stop you and ask a question?

Page 2294

MR. TILLOTSON: Yes.

ARBITRATOR LYON: The summary sheets that you have came from -- from the newspaper?

MR. TILLOTSON: No.

ARBITRATOR LYON: You don't have them from the lab?

MR. TILLOTSON: No. They were provided to us by our French counsel who got them from the report.

ARBITRATOR LYON: From the report?

MR. TILLOTSON: Yes, from the report.

ARBITRATOR FAULKNER: Well, who prepared the summary sheets?

MR. TILLOTSON: The laboratory did, did they not? Where's my expert?

ARBITRATOR FAULKNER: He just went out the door.

MR. TILLOTSON: Okay. But I'll defer to him as to the specifics. Hang on with me for a second on the -- we'll -- the best way to put on this testimony, in our mind, is through expert testimony, somebody who knows what they're talking about, to look at this and then explain what in his mind it means, assuming that those are accurately reflected test results and then also to talk about some of the

Page 2295

attacks thrown out by the other side as to what can possibly explain those test results, other than the use of EPO.

Now, they say a lot of things regarding attacking these tests for which they also don't have any testimony. This notion that someone's in the lab spiking EPO is an argument that they've made. No one is going to testify to that. No one is going to say that that's what the lab is doing.

So our expert has spoken to people at the lab, so WADA, an accredited lab, from whom at least some test results this side has put into evidence and sponsored as meaning something and talk about the various procedures that will be used, the distinction between the research test that was done that resulted in this and actual testing that might go on in connection with the particular races and explain the difference between those and why there is some credibility to what these results and the testing done.

Now, it is fair game for them to attack and say, you haven't seen the underlying documentation. You weren't there to see the lab guys do it; okay? And that wouldn't be uncommon in any proceeding where you bring in an expert to talk about

Page 2296

some results as being meaningful in some way. But an expert is entitled to rely on anything that in his professional judgment that he or others in the field would rely to reach a conclusion, and our expert is certainly going to testify that these document, he would rely on them to reach certain conclusions based upon his review of the information, his discussions with people at the lab, his analysis of results and the performance of Mr. Armstrong in the race, and then draw a conclusion from what that means and what these test results show, and they're entitled to cross-examine that in terms of any work he didn't do or any procedure he didn't follow or perceived failure of the lab.

But he's an expert witness. It's not being sponsored as fact-based testimony from a lab technician coming in, but this is expert testimony. It's occasioned by the difficulty with the evidence and our ability to obtain that evidence. Right now there's an ongoing investigation. I was prohibited from asking Mr. Stapleton questions about what they were doing in his deposition because they were investigating the possibility of a lawsuit.

So there have been a great hampering of at least our ability to obtain the this evidence, but

Page 2297

it is meaningful and relevant. It would be totally unfair to allow Mr. Stapleton and Armstrong to stand up, throw stones at the lab without any factual support and then disarm us from the ability from an expert who knows what he's talking about to put that evidence in context with the Panel.

ARBITRATOR CHERNICK: Are you going to offer into evidence these summaries or simply the opinion of Dr. Ashenden?

MR. TILLOTSON: Well, I think we're going to attempt to offer the summaries after we lay the foundation, and he can rely on them and if they're sufficient in what they are and that he's seen things like this before and can do it. But the Panel at that time can consider whether or not to formally receive the summary sheets and the control forms.

Even if the Panel doesn't, I think the reliability of his opinions would be -- would be -- would have to be considered by the Panel and that -- and the weight of the evidence of that testimony. We concede we don't have the stack of test documents or all the underlying paper from the French lab, but I don't believe that that would preclude Dr. Ashenden from offering a qualified expert opinion, that if certain things that he's seen are, in fact, true, this

Page 2298

is what it means, and they're entitled to say, look, for all we know, there was a French kid in the lab throwing EPO in various samples and whatever attack that they want to throw out.

But at the end of the day, the only evidence regarding the procedures of the lab and what these test results mean will come from our side, and dispersions of who knows what the French lab was doing, which is the argument, at the end of the day, I think this -- this is meaningful expert testimony, and the subject matter, it's before the Panel and attacked by the other side.

ARBITRATOR FAULKNER: Let me ask a quick question. Dr. Gundersen --

MR. STRAY-GUNDERSEN: Stray-Gunderson.

ARBITRATOR FAULKNER: -- is your expert prepared to address those issues as part of the rebuttal?

MR. LEVINSTEIN: Well, yeah, he is.

ARBITRATOR FAULKNER: I think your co-counsel wants to address it.

MR. HERMAN: And I think, if it pleases the Panel, it'd be better for you to hear from somebody who, in fact, knows something for a change.

MR. LEVINSTEIN: I don't agree with that

Page 2299

representation.
Some of the issues he will not -- there is no expert here on urine testing. There's no one here who is going to testify about -- Dr. Ashenden is a Ph.D. who's a physiologist has no expertise, he says, in urine testing. All he says is he's an expert, he can read the result. But he has no expertise in how the lab -- I asked him if he could explain the testing, how they do EPO testing. He said, not in detail.
Dr. Gundersen will respond to some of the follow-up conclusions that he draws from this, whether it makes sense that someone would use EPO in this pattern; whether it makes sense that these lab numbers could make sense if necessary. If the results were excluded, he'll not have to address those kind of issues, but there are a bunch of observations that -- without any basis, we believe that Mr. Ashenden will attempt -- in his deposition he attempts to draw from these, and we'll respond to those.
ARBITRATOR FAULKNER: Okay. So you will be able to respond to those or Dr. Gundersen.
MR. LEVINSTEIN: But not the urine testing itself and whether it was actually done and whether this accurately reflects -- the document here

Page 2300

which has numbers and so on -- is an attempt by an individual to look at an electropherogram, a picture, and draw conclusions on it. This entire document is a description of other documents. That's all it is.
There's nothing in here that reports results, other than an interpretation of an electrophoresis picture that -- that is --
ARBITRATOR LYON: Is that a subjective opinion?
MR. LEVINSTEIN: Well, some of it -- the first column in this whole thing is a subjective observation. That's chart one. It's a subjective observation of a technician as to whether he thinks the picture looks like it shows EPO. The second quantification numbers where they give you a percentage is simply taking these pictures that show and which bands are dark and which ones are not.
It's a mathematical quantification of how dark certain bands are compared to others. That's the entirety of what that number means. It's an analysis of a picture that looks like that. We don't have any of the pictures that this purports to analyze.
It's -- it's not even a summary that would say, here's what the accounting document numbers were. It -- I looked at the accounting documents, and

Page 2301

they look like fraud, to me. That's what Columns "A" and "B" are. So, again, he's not an expert on urine testing. He only knows about this testing based on a dinner conversation he had which none of the details were discussed, but the lab assured him the results were 100 percent accurate.
And if we have to get to cross, I'll ask him 50 or 100 questions about this document. He won't have any idea the answers to. But we shouldn't have to get there because, again, as a physiologist, he has no basis for introducing lab results summary of a urine test.
MR. HERMAN: Let me add something that is totally nonscientific here.
ARBITRATOR LYON: We expected that.
MR. HERMAN: Pardon me? You appreciate that?
ARBITRATOR LYON: No. We expected that.
MR. HERMAN: Oh, you expected it. Yes, all right. Well, with good reason.
But let's -- let's please keep our eyes, you know, on the ball. The issue is whether -- in this case is whether there's coverage for the claims for the occurrence; that is, whether Tailwind's got liability or not.

Page 2302

Now, I guess we're entitled to take SCA at their latest word, that the claim was denied in December of 2004. That's what they say. All of the law is that it doesn't make any difference what you discover after the claim is denied. You can't mend the hole. That -- that's been the law in -- in the United States since 1877, since the first -- since the First United States Supreme Court case was founded.
So that you can't, after the -- the -- in this case, the insured takes the position that as of December 20, we denied the claim. Now, they've judicially admitted that that's when they did it; although, they've also judicially admitted that they didn't earlier.
But in any event, their latest story is they denied it on -- in December of 2004.
MR. TILLOTSON: Can we stick to the facts, rather than attacking --
MR. HERMAN: Okay. All right. I'm just saying. Okay. December --
ARBITRATOR FAULKNER: Gentlemen, enough.
MR. HERMAN: Okay. All right. So they -- these 1999 test results or research summary is published in L'Equipe Newspaper in France in August of 2005 which is nine months after the die is cast in

Page 2303

this case. The question here -- there are two questions in this case. Is there coverage? Is there -- do they have a contractual obligation to pay?

And, secondly, if they do, does the denial or delay of the claim constitute bad faith on their part, and if that's the case, was it knowingly? So whatever happened, they can't bootstrap their case by something that they discovered nine months after they made their determination either, "A," that Mr. Armstrong cheated in 2001 through 2004, or "B," that there were misrepresentations made by -- by Tailwind with which there is no evidence at this point.

And, secondly, looking at 1999 does not advance the ball because it doesn't even touch their liability in 2001 through 2004. So I'm making a rather extensive issue of this because what we're talking about is protracting these proceedings and having, you know, high -- very expensive experts hang around and -- and offer testimony on an issue that does not make any difference regardless of whose position you take.

Whether -- whether you're taking SCA's position or Tailwind's position, it doesn't make any difference what they found out after they denied the

Page 2304

claim.

ARBITRATOR FAULKNER: Okay. Any short reply, Mr. Tillotson?

ARBITRATOR LYON: I have one.

Are Dr. Ashenden's opinions about this basing his opinion on a single test, "A" test -- is that the generally accepted methodology in the clinical drug testing lab?

MR. TILLOTSON: I'd have to -- well, I'd have to ask him that -- that question in that specific manner. If your question is, is that in accordance with regulatory rules that they would impose a sanction for a racer -- is no.

ARBITRATOR LYON: Just one test -- test in any scientific paper or anything like that?

MR. TILLOTSON: The way you phrase it in that way, I'll speak to Dr. Ashenden about it, but I'm not aware of any journal that says -- that says -- that is looked at, do you need a "B" sample confirmation because you're not sure about the "A." That, I don't know.

I mean, Dr. Ashenden's prepared to -- to explain the purpose behind that particular rule for sanctioning athletes and then compare that to a result -- a result -- a research project where you're

Page 2305

doing testing and is there any lack of competence in that test result without a subsequent confirmation of a "B" sample and -- and -- and whether or not the Panel should draw any negative inferences to the believability.

ARBITRATOR LYON: I want to be sure I'm not -- they do not use just one sample to -- by any -- any sanctioning body in the world in terms of urine testing?

MR. TILLOTSON: The answer is, I do not know the answer to that question without talking to my expert, and when you -- when you brought it to any sport at any time. I'd have to ask him that.

MR. LYON: Is there any known -- or is there a known error rate for using just one sample?

MR. TILLOTSON: Say that again. I'm sorry.

MR. LYON: Is there a known error rate for using one sample? Is that in the subject of any literature?

MR. TILLOTSON: I believe it is. I mean, the -- the -- the likelihood of false positives or false negatives has obviously been the source of some investigation as testing has been applied and used over the years. The problem isn't just false

Page 2306

positives -- i.e., I think he has EPO and he doesn't; there's some other explanation for it.

There's also an equally important issue of false negatives, which is you know some guys who are using EPO yet our tests don't show but why. So there has been some analysis in the literature of -- of that particular subject, which Dr. Ashenden is prepared to talk about.

ARBITRATOR LYON: And during the methodology of testing, if it, in fact, existed by this lab, have they admitted that they did it? Has the lab admit -- actually admitted that they did it, or is this --

MR. TILLOTSON: They don't deny that they did a -- that they were doing this testing, if that's what you're asking.

ARBITRATOR LYON: Have they admitted or denied it or ever made a comment on it?

MR. TILLOTSON: When you say, admitted, did they actually perform these --

ARBITRATOR LYON: The -- whatever this lab did -- the French lab did, they actually issued a public statement that they did it?

MR. TILLOTSON: I don't know if the lab has. I do know the regulatory agencies have confirmed

Page 2307

that they were working on that project. WADA has confirmed that, as well, and, in fact, that the lab Chateau -- or whatever that particular lab is -- was, in fact, working on that project. That's not a subject of dispute.

ARBITRATOR LYON: Are there any standards and control -- can anybody testify under oath here that they know of any standards or controls that were used during this test?

MR. TILLOTSON: Our expert, Dr. Ashenden, has spoken with member -- or members of the lab to satisfy himself so he can be prepared to testify here regarding the controls the lab says that they used and whether or not, assuming that those controls -- if the lab is being truthful, whether or not -- assuming they used those controls and the test results would have meaning, the answer is, yes.

ARBITRATOR LYON: That's all I have.

ARBITRATOR FAULKNER: Mr. Tillotson?

MR. TILLOTSON: Yeah. Then the last thing, I -- I mean, I'm perfectly prepared to reargue what has essentially been the argument throughout the case inviting the summary judgment that -- that the evidence we've been putting on regarding Mr. Armstrong's alleged use of performance-enhancing

Page 2308

drugs somehow doesn't mean anything in terms of the party's contract.

I'm prepared to detail our position. I think I've made it clear at the beginning as to why --

ARBITRATOR FAULKNER: At least I fully comprehend your position, so that doesn't mean it need to be repeated by --

MR. TILLOTSON: I will -- I just -- I did want to offer a 10-second rejoinder in this sense, that I do believe it's materially unfair to our side to allow Mr. Armstrong and Mr. Stapleton to take the stand and kind of prove through these test results and say, well, this is meaningless; this is nothing; they must have spiked this; this is outrageous, and then hamper our ability to bring someone in to -- to -- to explain, rebut, and attack that testimony, that, no, there is something here that the Panel needs to hear and consider.

I conceded in my opening with respect to the way in which the tests were done as we understand, that that is not in compliance with the WADA rules that were sanctioning an athlete and made it perfectly clear that we were going to try and demonstrate that what the lab did still has value and meaning to this. I'm sorry. That's where this testimony comes in.

Page 2309

MR. HERMAN: Let me just say one thing, Your Honor, just to make it very clear that when we -- when we started -- I said, you know, we're going to -- we submit -- we move to, you know, exclude all of this, and we were not waiving or opening the door but -- you -- not knowing what was going to come in.

Yeah, I had Mr. Armstrong say that -- you know, comment on it, I'm happy to strike all of that testimony, if you want to.

ARBITRATOR FAULKNER: I don't think we need anything else. Gentlemen, why don't you kind of join me. Actually, fellows, we may be a little while because I think we're going up to the eighth floor, so you guys take, like, a five-minute break.

(Break from 1:22 p.m. to 1:33 p.m.)

ARBITRATOR FAULKNER: Let's go back on the record. The Panel has heard extensive argument on the issue on the motion to exclude. The motion is denied. The evidence will be such that it will be subject to being cross-examined. We will hear the evidence, and then we note that you-all will have a rebuttal expert.

So please call your next witness.

MR. TILLOTSON: We call Dr. Michael Ashenden. Mr. Towns will be doing the questioning of

Page 2310

Dr. Ashenden.

ARBITRATOR FAULKNER: And please speak up so our court reporter can hear, and if you -- if you could be a little bit slow, I suspect your accent, while it doesn't bother any of us, may give her a little bit of difficulty.

MR. HERMAN: Mr. Chairman, while we've already notified the Panel, I do want to make aware that Mr. Levinstein will be doing the Cross-Examination. With the Panel's permission, if there are objection during the testimony, either one of us might make those, if that's all right. Normally I know that you don't want two lawyers involved but --

ARBITRATOR FAULKNER: We're not in federal court. I don't mind which one of y'all make an objection. Mr. Herman, I don't know we can keep you from talking.

MR. HERMAN: Have you-all discussed that?

MR. TILLOTSON: I just want to confirm before we start that -- that Mark and, you know, your rebuttal expert have executed the protective order, if you'll just confirm that for us.

MR. LEVINSTEIN: We confirm that. That is the case.

MR. TILLOTSON: All right. I appreciate

Page 2311

that. Thank you.
ARBITRATOR LYON: Could we ask the witness to spell his name, please?
THE WITNESS: The last name, A-s-h-e-n-d-e-n.
DR. MICHAEL ASHENDEN,
having been first duly sworn, testified as follows:
DIRECT EXAMINATION
BY MR. TOWNS:
Q. Dr. Ashenden, could you describe for the Panel your educational background?
A. Yes. I did an undergraduate degree in what was called exercise and sports science, and that degree gave you a broad overview of the various areas that contribute to -- to -- to physiology -- exercise physiology, sport by mechanics, sports nutrition, sports psychology.
It was a general degree that gave you an opportunity to specialize, which I did into the area of exercise physiology. And from that point, I went to -- to work at the Australian Institute of Sport where -- where I enlarged on that.
Q. Now, you have a Ph.D.; is that correct?
A. That's right.
Q. What -- what did you complete your study for

Page 2312

your Ph.D. in? What topic area?
A. The first two years I was at the Australian Institute of Sport, I was there in the position of Exercise Physiologist, Department of Physiology, and it's probably recognized at that time that -- it was the highest, I guess, position that you could strive for as an undergraduate student.
You were given a scholarship, and you were given free rein to do whatever research you wanted to, and I was awarded that scholarship for one year and a second year, as well.
During that time I looked at what would happen to -- and blood values, for example, when female athletes became iron deficient. We started to use, then, analyzers to look at reticular sites in which hadn't really been used in sports before. Then I --
ARBITRATOR FAULKNER: Excuse me. Did you say reticular sites or particular sites?
MR. HERMAN: My accent must be bad. Reticular sites. The young red blood cells.
ARBITRATOR FAULKNER: Okay.
A. That research gradually melded into doing research, looking at the effect of the simulated altitude exposure on the red blood cells production,

Page 2313

as well, and it was that area that I got my doctorate thesis on.
Q. (By Mr. Towns) Okay. And what was it about the -- the production of red blood cells that you were studying? What was the purpose of that study?
A. We were particularly interested to know what happened to an athlete's blood when they were exposed to altitude. Now, in Australia, we don't have any high mountains, and so the fall-back position is that you have the athletes exposed to simulated altitude, and you can do that by reducing the amount of oxygen in the air from them.
The physiological effects are pretty much acknowledged to be the same. We recognized early on that the picture that we saw in athletes during our exposure to simulated altitude was much different to -- to what was recognized in the medical literature as what would happen to a patient's blood when they were given EPO.
And there was a researcher -- his name is Dr. Arasoda (phonetic) who -- who first recognized that as a potential way to reveal athletes when they had used EPO, instead of an alibi (phonetic) which is usually given at high altitude, that's why our blood looks like this. And so that then led to an extensive

Page 2314

research project dealing on that basis.
Q. Okay. Now, I want to talk a little bit more about that because we've had lots of testimony in this hearing about red blood cells and about EPO and different things.
In the beginning when you were doing that research on altitude, what was it about altitude training or exposure that affected red blood cells?
A. When you're exposed to high altitudes, the sort of -- you know, 5,000 meters. We're getting towards the top of Mt. Everest. There's no doubt that your body responds by producing more red blood cells. It stimulates production of a hormone which then goes to act upon the bone marrow and stimulates more red blood cells to be produced.
And the effect that has is when you're on the top of a mountain where there's very little air, more red blood cells helps you to take the oxygen out of the air and into your muscles and into your body. Now, that's clearly a response that happens at high altitudes.
Athletes generally can't tolerate those higher altitudes. They train at moderate altitudes, and so there's been a fair bit of debate for a lot of years about whether or not when athletes go to

Page 2315

moderate altitude, they get the same response that we know happens when you go to high altitude.

So to come back to your question, we were particularly interested to know whether those moderate altitudes led to an increase in red cell production like we knew happened at very high altitudes.

Q. And what did you discover?

A. We found that it didn't. We could distinguish between what happened at altitude and what happened when an athlete used what we used -- nonathletes, I should say in this case -- what happened when you gave them EPO.

There was some overlap at the very extremes, but we were able to develop models which we published and showed that if you used thresholds that we felt were fairly conservative, that you could distinguish an athlete who had used EPO just by looking at their blood and -- and looking at the markers that we had shown changed when they used EPO.

Q. Now, in looking at that, can you contrast for us the difference in effect on a person from altitude versus EPO? What -- what difference are we seeing here?

A. Well, the confusing thing is that it's

Page 2316

actually -- they're both shifting in the same direction. It's -- it's magnitude that's -- that's the difference. When you take EPO, there is an enormous stimulus which is nonphysiological. It never happens when you go to altitudes. It overrides the body's own mechanisms to -- to limit that.

And so essentially what you see is instead of a shift this far, which you might attribute to altitude, you see a shift out to here. And so it's in the same direction, but the magnitude distinguishes it.

Q. Now, after you did your -- your graduate work, what did you do next in terms of your professional career?

A. Well, I should take -- take one step back. One of the -- one of the things that we did when we were at the Institute of Sport, we dealt with the -- the best athletes in Australia. They came to train and had scholarships. And I knew firsthand how frustrating it was for clean athletes who had spent years of their life training, and -- and they get to an event and they just couldn't keep up with the -- the athletes who they suspected, slash, knew were using drugs.

And it was incredibly disheartening for

Page 2317

those -- for those athletes, and I knew firsthand. I lived with the athletes for three years, that it was very, very hard for them to cope with, and, I guess, somewhat naively at the time I thought, well, one way that I could address this problem is if I could get rid of the drug cheats, then these clean athletes could be able to compete today and succeed based on their merits.

And so leading up to the Sydney Olympics, which was held in Australia in 2000, we were funded by the Australian government and International Olympic Committee to see if we could get these blood tests up and running, and it was at that point back in '99 really that I began collaborating with the French lab LNDD, which is the -- that lab that you've heard about through this hearing.

They were developing the urine test at that time -- at that point in time. We were developing a blood test, and the two essentially overlapped at Sydney, and so in order for an athlete to fail a test in Sydney, they had to trip both their blood models and the French urine test.

Now, quickly it was realized that athletes could get away with using slightly lower doses of EPO and still get a performance and not trip

Page 2318

their blood models, and the general consensus pretty quickly was, well, we'll just rely on the urine test because it's not fair if you see the athletes using EPO in their urine, but just because they use a little bit less or -- or you -- you saw one or two days later, they shouldn't have been allowed to get away with that.

Having said that and coming back to your question now, that was really only a deterrent to use EPO, and we knew full well that athletes had other avenues to get a similar sort of performance advantage. Back at that time there was on the horizon what were called blood substitutes which are essentially artificial blood.

So instead of making your bone marrow produce the red cells, you got this artificial blood, and you could use that. And that was definitely a fear, and so that was on the horizon. As well, we've known for -- really since the 1960s that blood transfusions were being used.

And so while those two avenues were open, I felt that my intent to -- to rid the sport of blood doping wasn't being met just by having a urine test. And so I left the -- the Australian government position at the AIS and began doing this research

Page 2319

during 2001 and have been doing it ever since.
We successfully developed the test for blood substitutes. We were successful in developing a test for homologous blood transfusion. At the moment we are still concerned because there's one big avenue and one small avenue that's still open.
Q. Okay. Now, let me ask you something interesting. You actually, as I understand it, held a position with the IOC, is that correct, or you've done work with the IOC?
A. I was part of the -- the group assigned is who took the blood and the urine test to the IOC that led up to the Sydney 2000 games and presented that model. And my role at that point in time was essentially to troubleshoot the flaws in the blood testing to make sure that we addressed all of the issues and taken those kinks out before we gave it to the IOC and gave it consideration.
Q. Now, in addition to your work in blood doping, have you also had experience or done work in technology and technological developments that can help athletes?
A. Yeah. When I was at -- if I use the word AIS, that is the Australian Institute of Sport facility. It's easier to say. At the AIS we were

Page 2320

constantly trying to find any legal means to -- to help the athletes to succeed, and so, for example, to lead up to the Atlanta Olympics in '96, we were concerned about the effect that the hot, humid conditions would have on the athletes.
And so we developed a project which essentially looked at how could we help an athlete cope with the hot conditions, and -- and some scientists came up with the idea of using these cooling vests, and essentially it's -- it's a way that you precool the athlete before and during their warmup, and we did studies and found that it did help their performance.
And so that since was -- and spun out into a -- into a company -- I can't remember which company actually brought the rights to that, but nowadays, at least in Australia, I know that these cooling jackets are a commercial product.
We --
ARBITRATOR LYON: You said the cooling jackets are what?
THE WITNESS: A commercial product. It's not a research idea anymore. It's a -- it's a -- you can go to a shop and purchase them.
A. We did the work on the simulator altitude

Page 2321

house which was the first room of its kind in the southern hemisphere. That's what I did my doctorate thesis on.
We worked on various other things, you know, jump mat forms that could train -- in that case, it was volleyball as to -- to be able to maximize the training benefit they got from resistance training, so we were always trying to explore those different areas.
Q. (By Mr. Towns) Now, has your work been influential at all on -- on WADA?
A. I would like to think so. We've -- we've had -- we've had success in some areas, so, for example, I mentioned earlier we developed two separate tests to detect blood substitutes, and -- and one of those test we were using the same methodology, which is the same method used to detect EPO, and so I coordinated that research and oversaw it. We submitted the results to WADA, and that test is now in place and been used to take blood substitutes.
We developed a test -- we introduced a test, I should say, to detect the use of homologous blood transfusion, and so that is now accepted, and it's already being the subject of a fair bit of publicity in that it's caught a couple of athletes

Page 2322

already.
And I pushed very strongly at one stage for WADA to acknowledge the potential for saline transfusions to saline infusions to mask drug use, and it -- it was apparent that once these blood tests had been worked were being used, the athletes were trying to find a way to continue using doping but to -- to go under the radar of these blood tests, and a very simple way is to infuse saline so that your blood is diluted, and so it doesn't look like you've taken drugs, even though you have.
And I've pushed very hard at WADA. As a response to that, they then acknowledged the problem and introduced saline infusions to -- on to the prohibitive substance.
MR. HERMAN: Could you speak up just a little bit?
THE WITNESS: Yeah.
Q. (By Mr. Towns) Now, on that topic, describe for us a little bit, why -- why would an athlete want to do a saline infusion?
A. The goal in blood doping is to increase the amount of hemoglobin in your blood. Hemoglobin is the protein that makes blood look red that carries oxygen from the air to your -- to your -- to your body.

Page 2323

Now, in very simple terms, your blood is made up of fluid and about also red cells. Red cells, hemoglobin, for these purposes, you can interchange the words. If the total moment of hemoglobin is increased, you can bring the concentration back to what it is normally by diluting that blood. So you've got to think of a bucket that's half full of red cells and half full of water.

If you -- the concentration is 50 percent. If you put another quarter of the -- the volume of red cells in, then the concentration is increased. If you then top that up with more water -- you'd have to have a larger bucket -- but your concentration would be the same as it was initially, but you'd have more hemoglobin, and essentially that's what saline infusions do.

You increase the amount of hemoglobin, then dilute it with saline to look as if you hadn't blood doped in the first place.

Q. Okay. And have you done any work with the ASDA? First off, tell us who the ASDA is.

A. They're the equivalent of USADA, the United States Antidoping Agency. In Australia, it's called Australian Sports Drug Agency. I think as of, I think, March they're changing that to the Australian

Page 2324

Sporting Antidoping Agency.

They've been consulting with me for -- since I was back at the AIS, so for a number of years informally, and essentially I've been critical of the way that -- not just Australia's but all antidoping agencies conduct their testing, but I don't think they're as effective as what they could be.

I'm -- I've been in plenty of newspaper articles expressing that view. I -- I don't hide from that fact that I've told these agencies. The Australian Sports Drug Agency recently had a change of their chief executive officer, and the new CEO came to me and said, look, we've heard your criticisms. We take it on-board, and rather than you criticize us, think about coming and helping us to make it better.

And so I was a little bit reluctant at first because I'd had some bad experience with them, but we've slowly worked through some issues, and I gave them late last year a draft of proposals, and I said, if you want to make this effective, this is what you're going to have to do.

And to their credit, they've taken that to their board, and the board has okayed these improvements, and we now are quite aware they're going to use me a consultant to make sure that they

Page 2325

implement what I'm suggesting properly, and then I feel confident that it would be the best antidoping program that I'm aware of in the world.

That might sound a little bit big-headed, but there are some fundamental changes that we're going to introduce, which I'm sure will make it more effective.

ARBITRATOR LYON: Who's going to introduce that?

THE WITNESS: The Australian Sports Drug Agency.

Q. (By Mr. Towns) Are you currently working on any research that you think has any hope or potential for making you feel a little more level, in your opinion?

A. The problem that we face in -- in doping research is that it's becoming easier and easier for athletes to -- to escape when caught, and the problem really revolves around the fact that they're using hormones and products that are the -- that can't be detected or are very short-lived.

So, for example, EPO leaves the system completely within a couple of days. We've completed research last year which shows that if you try taking that dose very carefully, within 12 or 24 hours it's

Page 2326

left your system. Now, that's a real concern because it still shows athletes can dope and not be caught.

I personally believe and we've been funded by both USADA and WADA to conduct this research. We believe that we need to start shifting the paradigms and say, instead of trying to catch them with a needle in their arm, let's look at what happens to them when they've taken the drug, and the markers that show they've taken the drug which has left their system are in the WADA code, and we know that we can impose sanctions based on those biological markers.

The marker that I think has tremendous promise is looking at the molecular level at the genes and which genes are switched on and which genes are switched off in association with drug use. And so we've done a study, and -- and we've shown that something, like, 8 -- we found 83 genes that changed by an amount which was clearly not biological.

And so we are pushing that research forward now because I think as long as -- this is what our research has shown us. As long as the athlete's getting a benefit from the blood doping which lasts for a couple of weeks after their injections stop, these markers are still disturbed, and so I believe that if we utilize the WADA code which says you can

Page 2327

use these markers to impose a sanction and we show them an athlete on week "X" had stopped taking EPO based on the fact that these parameters are the same as what we see when we treated subjected with EPO, I think we finally are in our, you know, realm where the athlete won't be able to simply dodge a test for day or two and won't be able to use a product that we can't detect. And I think at that point the athletes will say, well, now we can be confident of competing clean, and they won't resort to -- to drug use.

Q. Okay. Now, I know that when we talked about this before, you were a little hesitant to want to mention this. But it's true, isn't it, that you've been awarded the Australia sports metal?

A. Yeah. That was given to -- to the researchers doing the EPO 2000 project in recognition for the services that we've given in getting these blood tests ready for the Sydney Olympic Games.

Q. And you also made the top 10 of the Smart 100; is that right?

A. Yeah. There's a -- there's a magazine in the Australia that's -- it's distributed nationally, and it's -- every year they do a poll of a group of people, and so, you know, who in the particular field do you recognize as leading the field, and I was a

Page 2328

finalist in their top 10 in the sports category.

Q. Now, you've been retained by SCA in this case as an expert?

A. (Witness nods head up and down.)

Q. And we've asked you to provide expert opinion in different topic areas; is that right?

A. Yeah.

Q. One of those areas is generally blood doping in sport; is that fair?

A. Sure.

Q. Can you -- and you've done a little bit of it, but can you describe for us so that we understand a little bit more kind of an overview of the history of blood doping in sport?

A. Most accounts would go back to about the 1960s. There was -- I don't know names -- a Finish athlete who was associated with the use of blood transfusions, taking someone else's blood and putting it into your body so that you had more red blood cells, more hemoglobin.

Pretty much since that time there was a steady background noise that, you know, every now and again it would pop up on the surface, and after 1984 Olympics, the U.S. Cycling Team was -- and later admitted to using both autologous and homologous blood

Page 2329

transfusions. And so it's all been sort of in the -- in the picture.

Then I think during the late '90s, it's fair to say that it became easier by using injections of this hormone EPO. You didn't have to worry about blood bags and blood transfusions so --

Q. I want to interrupt you just for a second because you used a term there, homologous and autologous blood transfusions. Can you explain what you mean by that?

A. Homologous transfusion is when you take the blood from somebody else. Autologous is when you use your own blood, and so you take it out earlier, store it. And then if you put your own blood back in, you use an autologous transfusion. If you, instead, use someone else's blood, it's homologous transfusion.

Q. That sounds a little bit dangerous. Is it?

A. Homologous transfusions, yeah. It's -- it's one of the main reasons why I really wanted to -- to get a test in place because literally you are risking your life, and there's been accounts that have been relayed to me by people in this room that of athletes reporting to the start line and having to be carried away because they're having a homologous transfusion reaction.

Page 2330

That's kind of on the low end of the scale. The high end of the scale is if you become sensitized to one of these antigens and later on you need a transfusion for medical use, you won't be able to have it. And then you get into those whole area of AIDS and viruses and things.

Now, you mix all of that into this notion of you having a transfusion for no legitimate medical reason, and you really are and -- playing with -- playing with your life.

Q. Now, I think I interrupted you there. You were -- you were telling us the more recent developments in blood doping, and I cut you off so --

A. I was up the '90s? Yeah.

We -- it was easy to use an injection. Then come 2000 when we introduced a test that was at least able to detect EPO to -- to some extent, I, speaking with -- with people around the world that were close to sports, they said, we were looking, your know. Now these transfusions are coming back.

As you would expect, the cynical athlete knows that they might be caught with one test. They're going and use a test -- a doping approach where they know they can't be caught. And I think the proof of the pudding is that, you know, in 2004, we

Page 2331

introduced the test, and the first time the test was introduced, athletes got caught.

Q. And specifically what -- do you know the names of some of the athletes that got caught?

A. Yeah. The 2004 Olympic Games in Athens, Tyler Hamilton's "A" sample was found positive for blood transfusion. The "B" sample was destroyed by mishandling in the laboratory, and so he wasn't sanctioned based wholly on that result; however, a couple of weeks later he was racing in the World Cup in Spain, and they tested him again, and the blood cells stay in your circulation.

This time "B" sample was handled correctly. The "A" sample and "B" sample again showed the presence of mixed cell population. He was sanctioned for the transfusion. And coincidentally or not, his teammate Perez was also found positive of homologous blood transfusion.

Q. Okay. That's the dangerous one, homologous?

A. Yeah.

Q. Okay. And that's -- you -- you actually participated in -- in the development of that test; is that right?

A. Well, I coordinated the research. I am -- was at the first meeting when we went to the -- the

Page 2332

people at the hospital in Sydney and said, look, you know, do you think you could use a test that you've been using for 10 years in a hospital and could we apply that to sport and catch athletes using blood transfusions?

We then went through a process where we wrote up applications, submitted it to USADA. They said, that's a great idea. Go and do the research, WADA was funding -- funding my position, and so they had a stake in it, as well. And so essentially I oversaw the -- the program to the point where you published it, and we -- we showed that -- that the test was able to do what we -- we claimed that it could do, and then we handed it over to the -- to the antidoping agencies, and they implemented the test.

Q. Dr. Ashenden, I want to ask you, because I think public perception is that the authorities are fighting very hard to get rid of doping in sport. Why has it been so difficult to eradicate?

A. Because the predominant drug used in the '90s was EPO, and it's a hormone that we have in our body anyway. And so the problem that we faced was, well, how do you distinguish when the hormone which is going to be there anyway comes from an injection or it comes from the production -- kidneys production.

Page 2333

Combine that with the fact that this hormone is very short-lived. You take an injection, and it's completely removed from the system within a matter of days. And you paste that on to the fact that an athlete can full well go up into the mountains or a remote private location knowing that if drug testers did arrive, they would have at least some notice and be able to evade drug testers during that critical period.

Then you've got a formula putting all that together where a cynical athlete could -- and they would probably need the advice of their doctor -- be able to map out a program where they were essentially beyond reach during the periods where the EPO was in their system and be able to compete when they still had the benefits of -- of that drug, but there was no way that they could be caught.

The -- the other problem we face, which is still with us today, is that if you use autologous transfusion -- you're taking your own blood out in the earlier day and store it up and put it back in, we can't -- we can't pick that up. There is no test where we can sanction an athlete for using that approach.

Now, it's just as effective as EPO. It's

Page 2334

probably slightly more effective than the homologous transfusion. The bottom line is we can't sanction for it, so athletes who are seeking to use blood doping and not get caught would be drawn to that avenue.

Q. Well, that leads to an obvious question. If we hear or see that an athlete passes a drug test, can we conclude that they're clean?

A. I think all that you can conclude is that at the time that athlete gave the specimen, they weren't using any drugs that could be detected, and that's -- that is radically different from saying, well, they weren't using drugs. All it shows is they weren't using drugs that could be detected at that time.

And one of the things that's perhaps not clear to -- to the -- to the public is that even when an athlete provides an sample and even when that sample is tested, it's not automatic that all of the drugs that they might have used is tested for. So, for example, even the -- even the highest profile event that you can think of, say the Tour de France, for example, even when they put the urine sample from an athlete in a sport which we know has problems with EPO, in an event which we know has been associated with drug problems in the past, because of the financial restrictions and the time constraints, they

Page 2335

don't always analyze that sample for the presence of EPO.

So even if it was in there, it's possible for the athlete to have a negative result simply because they didn't analyze the sample.

Q. Now, do we know of any examples of athletes who, in fact, did beat tests but were using drugs?

A. Oh, sure. I mean, if you -- I mean, probably here in the States, you're familiar the BALCO situation where there's at least three athletes that I'm aware of who have been found positive for using drugs and have never failed a drug test.

And in cycling, David Miller won the 2003, I think it was, World Championships, and equivalent to what Lance Armstrong won in '99 and repeated in 2003. Now, he was subjected to the same testing that any other cyclist is. He won the World Championship. He did not fail any test for EPO.

Later on when police raided his house and he came into possession of EPO, he admitted that he had used the EPO to prepare for the 2003 World Championship, so, I mean, clearly it is possible to do.

Q. Now, more recently we've seen in headlines in the U.S. the situation with the sprinter Montgomery.

Page 2336

Was Montgomery -- did he ever test positive, that you know of?

A. No. That's one of the BALCO cases where they were using steroids which at the time there was no test available for, and so they knew full well that whatever testing they were being subjected to, they put up their hands and come and test me, and they knew they weren't going to fail the test because they knew the product they were using couldn't be tested for.

Q. Now, you talked about not only products but methods of using products that can -- can escape detection. Is there certain techniques or are there certain drugs that one can use to escape drug tests?

A. There's -- there's a whole category that we call masking agents which -- there's always rumors that there's this magical masking agent around which, you know, helps you to not trip the drug test, but I find those -- those arguments -- at times they seem compelling. At other times we'd track it down, and it's probably based more on rumor.

But one of the things that we do know happens and we do know it's possible is urine substitution. If you've got a drug in your body that you even fear might be detected, you can substitute your urine using somebody else's who's -- who is clean

Page 2337

or even your own urine which you've collected before when you didn't have the drug in your system.

And there's a couple of examples that -- Willy Vogt the trainer associate with the Festina drug scandal in '98 --

Q. Let me stop you right there because I think -- I think we may have a picture. Yeah, yeah. I didn't really understand the urine substitution until you showed me the photograph.

A. It's a little bit gross, but can I get up?

ARBITRATOR FAULKNER: Yes, sir.

A. Essentially on the left-hand side, what we're looking at here is it was produced in Willie White's book about -- this was what was going on. This is a condom that's used as a receptacle for the urine, and so that's inserted up the -- the anus, and then this tube is used to take what would be clean urine passed through this into the sample jar. (Indicating.) And so the clean urine would end up in the sample, not the -- the athletes themselves.

This one over here was what a Hungarian hammer thrower used at the 2004 Olympic Games, and he successfully used this approach to -- go give a bogus sample, and he was awarded his gold medal, and he went home, and everything was hunky-dory -- sorry. I

Page 2338

shouldn't use that -- everything was -- seemed to be okay.

The problem was that someone reported him as having used this approach, and so the lab went back and looked at the samples and said, well, we've got two samples here from the same athlete, they don't match. One of those comes from someone else, and so they suspected that he had used urine substitution. One of his teammates had got caught trying to use that, as well.

They went and knocked on his door in Hungary and said, look, you know, you need to provide another urine sample, and he refused, which is a doping sanction, so his medal has been stripped. But the take-home message for me was that even at the Olympic Games where you're using the best available drug tests, a gold medalist successfully gave a substituted urine sample and -- and got away with it. It's possible to do that.

Q. Now, no offense but it's --

ARBITRATOR LYON: Let me ask you a question, if you don't mind. You said that he used this device on the right-hand side?

THE WITNESS: Yeah. Well, let me be a little bit more accurate. David Coleman, who's the

Page 2339

director general of WADA, released this photograph and stated that that is what he believed was used, and so I don't think he would be making that sort of statement without, you known, knowing the basis.

ARBITRATOR LYON: Okay.

Q. (By Mr. Towns) I was going -- it seems -- well, my perception would be that these guys are watched fairly closely when they're giving samples, and it would be difficult to use a device like that. Is that, in fact, true?

A. Well, obviously it is true, to use that sample. One thing that -- that concerns me is that at the 2003 Tour de France, the WADA, the World Antidoping Agency, sent some independent observers to -- to see how the drug testing procedures were carried out. Essentially it's looking over their shoulder to make sure they're doing the right thing.

The WADA independent observers reported back to them at the Tour de France, the cyclists weren't accompanied from the finish line until when they had to provide a urine sample. In some cases the cyclists disappeared into their -- their trucks, came back out 20 minutes later, and provided a urine sample.

Now, that's pointblank against WADA's

Page 2340

policy. You have to observe the athlete from the moment they -- they cross the finish line to when they provide the sample to make sure there's no opportunity to use this sort of thing.

Now, at least up until 2003, those guidelines were being followed, and so at least in Tour de France there has been an opportunity to -- to utilize this sort of thing.

Q. Now, as a scientist trying to devise ways of ensuring that the sport is clean, how do you go about trying to catch those that are now escaping the system?

A. Sorry. I don't really follow your question.

Q. Well, I mean, if they're able to -- to use these various methods that you've described, as a -- as a scientist and a researcher, how -- I mean, in the future, how are we going to catch these people? Do you have any thoughts about that?

A. Well, an approach that I've -- I've been supporting for a long time is this notion of longitudinally monitoring the athletes and in particular their -- their blood profiles because within reason, the blood concentration, hematocrit, whatever you want to call it, you're born with is what you have throughout your life. Now, obviously there's

Page 2341

a little bit of variation from day to day.

Now, the -- the values go up and down by a -- by a little bit. But we've always been of the opinion that if you have a -- a picture of what an athlete's blood should look like and then they report to a race with values that are much higher than what they've been in the past, then that can give you a trigger, if you like, that, well, something unusual is happening.

And so a longitudinal picture of an athlete's blood profile gives you a good insight into whether or not there's -- there's something unusual happening.

Q. Okay. Now, I want to switch topics and talk about another area that you've been asked to provide an opinion, and it's more to the heart of what this hearing is about.

Do you have an opinion of whether Lance Armstrong used performance-enhancing drugs?

A. Yes, I do.

Q. And what is that opinion?

A. Based on what I've seen and -- and read and heard, to -- to my mind beyond any reasonable doubt, he has used performance-enhancing drugs at -- at some point.

Page 2342

Q. And what specifically leads you to that conclusion?

A. I think it's -- I think it's a conglomeration of things. The thing that I've always been aware of that -- that never really -- never really made sense to me was the sudden jump in performance. Now, in antidoping research, one of things that -- or antidoping research, one of the things you look for is a sudden unexplained improvement in the performance.

Generally speaking, an athlete's improvement is -- is gradual over time. Now, that's not to say they can come in at a phenomenal level and improve from there. But generally you don't see someone come from nowhere and suddenly start winning races. And whenever you do, you -- you want to look at that a little bit closer and say, well, there's got to be an explanation. Then you try to find out what it is.

Q. Now, what dramatic change or improvement do you see in Mr. Armstrong's case that you believe supports that conclusion?

A. The thing that concerns me is that if you -- if you want to break it together, precancer -- you know, the Tour results in '93 and '94, for example. He struggled to -- to keep up with the peloton,

Page 2343

especially in the mountain stages. He was dropping, you know, 20 minutes at a time.

Now, that's understandable. Climbing a mountain in those conditions has got to be hard, but what I find hard to reconcile is that after cancer, he comes back, and the first time back, he's not just able to climb the mountain and beat the peloton, he's able to decimate them and completely leave them behind.

Now, that is, by anyone's definition, a dramatic improvement in performance, and I haven't seen anything that explains to me how that improvement took place.

Q. Now, you told us a few minutes ago that you believe there's value in looking at longitudinal data on athletes. Have you been provided some data that would give you a longitudinal picture of Mr. Armstrong?

A. Yeah. When -- when SCA first approached me, they -- they said, you know, we're anticipating having a longitudinal blood record. I said, well, look, I'd be happy to look at that because that should give me some insight. That's never really been produced.

We've got probably -- we're excluding the -- the medical records -- half a dozen blood

Page 2344

values over, you know, a span of, say, from '92 through 2005. That almost 13 years.

Q. Well, let's look at some of the data we've been provided. Let's look at in the book -- either -- in the blue books in front of you there at Respondents' Exhibit 33. If you go to table two on page four.

MR. TOWNS: Mariela, could you cut that table out for us? Thank you.

Q. (By Mr. Towns) Is this some of the data that you were referencing?

A. Yeah. That was published -- I think it was online in April 2005. Something like that.

Q. And you know this to be the JAPR article by Dr. Coyle; correct?

A. Yeah.

Q. And he testified about this earlier in this case, and you heard that; right?

A. Uh-huh, yeah.

Q. Now, just tell the Panel what it is you see when you're looking at this longitudinal data.

A. I guess when I first saw this article, the thing that struck me is if you have a look at the maximal oxygen uptake values, you know, 70, 76, 81, 66, 71, those aren't the sort of values that I would

Page 2345

have expected to see in an athlete who could literally leave behind the best cyclists on the planet. So it struck me as, gee, that's lower than what I would have expected.

The next thing that struck me is the -- the improvement in power output at a given oxygen uptake. It's lower here, and it does seem to go up. What struck me as inconsistent though, is here is Armstrong postcancer, and I think Ed Coyle testified, if my recollection serves right, that that was on the back of just two weeks of training.

Now, if you have a look at the power output after two weeks of training after this guy's had cancer, it's virtually the same as what it was after he competed in one of his first Tour de France. Now, I -- I still can't reconcile in my mind how you can get that similar value when -- if you look at his oxygen uptake here, it's the lowest that -- that it's -- in any of those values. There's something in that August '97 testing period that I can't, as a physiologist, reconcile.

Then I guess the next thing that struck me is the body weight. Something that I'd always read about Armstrong is his explanation for this improvement in performance is that during the cancer,

Page 2346

he remodeled his body. Now -- and he came back -- I think I read 22 pounds, 20 pounds which is, you know, 9 or 10 kilograms. This is when he was a successful athlete.

He'd been training for -- I think he testified, since he was 14, so he wasn't a couch potato. 79 kilograms, 76.5, 71 kilograms when he's in the racing season. Now, I accept that his racing weight probably was 75 or so kilograms. What I still can't understand is if he remodeled his body during cancer, he comes back out heavier than what he was when he went into it. That's -- that's not his account. He said he came out 20 pounds lighter, and you see it again after he'd won the Tour de France. He's still virtually the same weight as he came back and -- from cancer.

I was given a pretty brief opportunity to review his medical records, and they seem -- they seem to stop at about his fourth round of chemotherapy. But up until that time, his body weight hadn't changed. It was still 79 kilograms or thereabout, so I -- I can't see where he lost his body weight and when, and none of the data that I've seen would make me think any different. I -- I -- I just can't make -- make sense of it.

Page 2347

Q. Now, there have been a number of explanations that have been offered for the increase in performance both in regard to this data and outside of it, and I want to -- I want to ask you about some of those explanations and get your opinion.

Dr. Coyle testified and this paper suggests his opinion is that Mr. Armstrong's efficiency as he matured increased. In fact, I think down on the -- the same page, on page four, he even has a -- a graph, and he showed us a PowerPoint that it's a straight-line increase in efficiency.

Now, do you have -- do you have an opinion on whether the efficiency explains Mr. Armstrong's increase in performance?

A. I think the first point to make is that Ed Coyle is the first and only scientist to ever claim to have found an increase in efficiency of this magnitude in a cyclist.

It's been -- it's -- Holy Grail is overstating it, but it's -- it's something that has been looked at. Plenty of people have tried to find it, and you just don't see it. It's -- it's tantamount to saying, well, you'd run faster if you had three legs. Let's grow a third leg. It's a truism if you -- if you grew a third leg, if you

Page 2348

improved your efficiency.

The concern I have is that I -- I don't rely on that data. There's inconsistencies there which, to my mind, make me question the validity of it, and then I would come back to the position, well, I still haven't seen any data that suggests that there was an improvement in efficiency, and, therefore, as a scientist, I couldn't take that as an explanation.

THE WITNESS: Now, can we -- can you bring up the graph that's there? (Indicating.)

A. During his testimony, I'm not sure why but he left these data points out. He made -- sorry, Ed Coyle made a point of saying, well, it's a straight line. Now, you would expect because it's on a straight line that that reinforces the -- the validity of his finding. Now, frankly, I -- as a scientist, I'm not in a place to make that claim because what that's inferring is that the stimulus that's causing this increase in efficiency is constant throughout.

Now, he attributes it -- attributes it in his article, at least to my -- I didn't hear him say anything different in his testimony, that that's due to the hours and hours that Lance Armstrong spends on his bike. Now, the first thing to realize is that everyone spends hours and hours on the bike. There's

Page 2349

nothing unique about that. So why don't we see this improvement in efficiency in every other cyclist on the planet.

The other point comes back to this -- it's a constant stimulus because, based on what Ed Coyle said, it's on a straight line; therefore, believe the data. He had cancer here. (Indicating.) He stopped training. Now, if the stimulus was his training and he stopped training, then it means the stimulus is no longer there. So this point shouldn't be on the line. It shouldn't be on the line, but it is. So to my mind, if I look at that from the other perspective and say, well, the fact that it's on a straight line makes me question the data more than ever.

And I -- I just can't accept at face value those -- those conclusions. "A," because it's never been shown anywhere else; "B," there's clearly flaws in the -- the methodology used to collect that; and "C," it's -- it's -- it's just not consistent even with his own speculation.

Q. Now, I want to ask you about flaws in the methodology because I asked some questions of Dr. Coyle and -- and it may not have come very clear in the way that I was asking the questions.

Page 2350

There was some dispute over the type of equipment that was being used and criticisms, and I -- I wasn't trying to be, you know, necessarily unfair to Dr. Coyle, but can you explain to the Panel why the choice of equipment matters?

A. Well, as an exercise physiologist, I would concur with what Jay T. Kourney said, which is that the chances of monitoring an elite athlete over this period of time and you conduct the longitudinal state of his -- I forget his words, but it was essentially there's no chance in hell of -- of doing it successfully, and it's right.

There is virtually no chance of getting a study like this done properly because you have to have the same equipment at each time point. If you don't, any differences that you see from one point to the next could be due to the athlete changing or it could be due to the equipment you're using changing. And the best way that you get control for that is to use the same piece of equipment each time and very carefully calibrating and get it to where you use it as exactly as you can.

But what you simply can't do is substitute another ogometer, another bike part way through and say, well, we'll get the results off that

Page 2351

bike and just pretend that it's the one we've used all along. Now, I -- I couldn't understand Ed Coyle's explanation of -- of how he rationalized the fact that he had used different odometers but somehow efficiency tests he'd used the same on.

It doesn't ring true to me, and I -- I'm concerned that one possibility that would explain these results is that he did use a different ogometer and that that's underpinned this whole Table 2. As -- as an example, it's --

THE WITNESS: Could you blow up that table again, please?

A. There's been plenty of studies published which show that if you used one type of ogometer here and a different ogometer there, based just on the differences that you see using different ogometers, your efficiency would change by virtually that amount.

And until that possibility can be excluded, as a scientist, you would look at that and say, well, you know, let's -- let's hold off, and I certainly wouldn't be extrapolating any conclusions from it.

ARBITRATOR CHERNICK: By the amount, you're referring to the changes in those efficiency percent, the 21 and 21.18 to 23.05?

Page 2352

THE WITNESS: Yeah. In magnitude, 21.18 to 23.05.

ARBITRATOR CHERNICK: Is that plus or minus five percent?

THE WITNESS: Well, the efficiency itself can change by 1, 1.8 percent, based on measurement error alone. The work outputs, the -- what's the bottom, that difference, 374 to 404, is within the areas that you could find using different ogometers or even the same ogometer over time just by fluctuations in the -- the measurement itself.

ARBITRATOR CHERNICK: Well, doesn't -- wouldn't the calibration solve that problem if you're using the same machine?

THE WITNESS: It would address one aspect of that. The other thing that -- that hasn't been covered at all here is the issue of how precisely can you measure gross efficiency. If you go and do a test today, come back tomorrow, do the test again, how different are those results going to be? And we submitted -- I think somewhere there's an evaluation where the only publication we could find in the literature that we looked at showed us that, you know, 1.8 percent is what the area you'd expect just coming back one day to the next.

Page 2353

And so to look at that over seven years and discount that entirely and say, well, that's not the cause, I -- I don't think that's a sound approach to -- to make the publication.

ARBITRATOR CHERNICK: Okay.

Q. (By Mr. Towns) Now, one thing that you brought up that I notice, Dr. Coyle testified at the August '97 data, the fourth column there, was done on -- after Mr. Armstrong was coming back from his -- his cancer and that he had very little training out from -- I don't recall the exact time -- versus November of 1999, after he's won his first Tour de France.

Is there anything -- to me, there is. Was there anything interesting to you as a scientist in the difference in wattage output in those two -- in those two values?

A. Between '97 and '99?

Q. Yes.

A. Yeah. We already covered that. The -- just to explain this value here, this is the amount of power that Armstrong was generating when his body was consuming five liters of oxygen. I mean, that's -- that's a fairly intense workload. Coming out of cancer, he was able to generate 399 watts, and after

Page 2354

winning the Tour de France by a stunning margin, he was able to produce 404 watts.

Now, in -- in practice, five watts is -- is neither here nor there. I've explained before, that's the thing that -- that strikes me about that.

Q. Now, there was also some discussion with Dr. Coyle, the difference between gross efficiency and Delta efficiency. Could you clear up any confusion that I may have created. Can you explain the difference?

A. I'll do my best to convey this to you. It's a -- it's a hard area to explain.

Gross efficiency essentially reflects how much of the energy that your body's consuming, actually comes out into the pedals. That is very gross analogy, but I will -- I'll do the best I can.

The order effic -- let me just explain that. And so it takes into account the energy that you're using to -- to breathe, to move your lungs in and out, to stay on a bike, to hold the handles of the bicycle, things like that. People realize that -- or scientists realize that that's probably a little bit -- pardon the pun, but it's a gross way to look at this. It's too inaccurate.

And so what they did was say, well, we'll

Page 2355

call this Delta efficiency, and we'll take account of the oxygen or the energy that you're using to hold on to the bike and to -- to breathe, and we'll factor that out, and then we'll look at how efficient your muscles are. Now, even Ed Coyle's own publications, he -- I -- I tend to agree -- suggest that Delta efficiency is probably the more valid measure.

Now, the thing that occurred to me here is that the differences between -- at any one time point, the difference between his gross efficiency and his Delta efficiency is vanishingly small. I mean, to one decimal place, it's the same of -- of this end of the table. Essentially what that's suggesting is that for this particular athlete, he doesn't need any oxygen to hold on to the bike or to move his lungs or anything like that.

Now, clearly that's nonsense. There's something that hasn't been taken account of here, but I'm not aware of any other publications that have ever shown someone's gross efficiency officially being the same as their delta efficiency is. His inference is some people are able to sit on the bike and breathe, not using any oxygen at all. Now, even lying down in bed, you have to use oxygen.

ARBITRATOR FAULKNER: Mr. Towns, is this

Page 2356

a good time to take a short break?

MR. TOWNS: Sure.

MR. TILLOTSON: I'd like to get rid of the noise on my phone so that it will quick chirping.

(Break from 2:37 p.m. to 2:50 p.m.)

ARBITRATOR FAULKNER: Proceed, please.

Q. (By Mr. Towns) All right. Dr. Ashenden, before we broke, we were talking about the longitudinal data that we had on Mr. Armstrong, a portion of which is on the -- the screen from Dr. Coyle's study.

I want to talk about other explanations that have been offered for Mr. Armstrong's dramatic improvement after cancer, and one of those is that Mr. Armstrong has superior physiology. Do you recall that being offered at various times by various people?

A. Sure.

Q. And in particular, do you recall Dr. Coyle had a diagram up where he calculated, I guess, Mr. Armstrong's genetics or somehow to the population as one in a billion. Do you recall that?

A. Yeah.

Q. Do you have an opinion on -- if -- if Mr. Armstrong's physiology is equal to one in a billion in the population?

Page 2357

A. Well, the -- unfortunately the representations made by Ed Coyle in that calculation were -- were just wrong. Number one, he didn't calculate the measures that he was claiming were the 1 in 50, 1 in a 100. And there was this trickle-up effect that you don't measure this but you just say it's 1 in 10, and then multiply it all together. It was just -- it was baseless. There was no scientific rationale for the conclusions that -- that he reached.

And was it one in a billion or one in 500 billion or something? It was equivalent to -- to speculation.

Q. Okay. Now, along that same line, Dr. Coyle showed us a couple of values that he felt were exceptionally high among either the -- the average population or lead cyclists, one of those being VO2. Do you recall all the testimony about VO2?

A. Yes.

Q. And we've certainly heard a lot about VO2 from various witnesses in this case. Can you just briefly tell us what VO2 is?

A. I'll go over it one more time. It's the amount of oxygen that your body is burning permanent, and it reflects the -- the energy expenditure. Particularly for endurance sports, you need to be able

Page 2358

to burn a lot of oxygen in order to sustain a high-energy output for a long time.

Q. Now, in looking at the -- the data that we have, just look at Table 2 here from Dr. Coyle's study. The VO2 values for Mr. Armstrong, do you find those to be an explanation for his improvement in performance? Let me -- let me try to put that a different way. Do you see that as an explanation of that improvement?

A. Well, no. On probably -- I'll address it at two levels at this point. The first is that the -- the relative value, which is this second line here. (Indicating.) Most people would acknowledge that's the value that you need to take into account when you're looking at cycling.

The highest value that you see there is 81.2 in the middle column, and he -- that was at the time that Lance Armstrong won the World Championship. Now, 81.2 is a good value. There's no doubt about that. It's a good value. And if an athlete came into your laboratory and had a VO2 of 81.2, you have no hesitation whatsoever in predicting that they would have a successful career in an endurance sport. There's -- there's no doubt about that.

The thing that concerns me there is that

Page 2359

that's the highest value that we see, and it goes down from there. It goes to 71.5 in '99. Now, that's inconsistent with the performances. The success began in '99 when the VO2 was just 71.5.

Now, when you start looking in the -- the low 70s like that, your average professional cycling team is going to have at least several athletes with VO2s equal to 71 and probably higher. I mean, there's a paper that's been published on the Spanish professional cycling team, and the average VO2 of the entire squad was something like 78.8. That's the average, so obviously some of the cyclists were higher; some of them were lower.

(Respondents' Exhibit No. 104 was marked.)

Q. (By Mr. Towns) Let me stop you right there, and I want to show you what's been marked as Respondents' 104 and ask you if that's the study that you're referencing.

MR. TOWNS: This was in the second production, Senator.

A. Yeah, it is. If you have a look at the second page of the document.

THE WITNESS: Can you blow up that bottom table? Thank you.

Page 2360

A. This is the -- that value that I was talking about. This is the -- the relative value, and this is the average of all of the cyclists, 78.8 plus or minus 3.7. The highest value that they had in their squad was 84.8. Now, of course, 84.8 is a very good score, but to my mind, to take a message from that is that VO2 of -- the low 70s, it's still good, but these are the caliber of cyclists that Armstrong would have been competing against, and if his VO2 when he raced was in the low 70s, he was racing against people who had higher VO2s than he did.

So in and of itself, the maximum oxygen uptake doesn't explain his -- his success. And then you bring that back and you look at the inconsistency where it was higher in '93 when he didn't have the same success, lower in '99. You really begin to question that. I don't -- I don't buy the argument that it was some -- I think he called it in the article "exceptionally high VO2" that could explain the success, no.

Q. Well, how about a little bit different explanation and that being offered by Dr. Coyle, as well as on the video that came before Dr. Kearney's testimony regarding the blood lactate levels of Mr. Armstrong. Is that, in your opinion, an

Page 2361

explanation for his superior physiology and increasing performance?

THE WITNESS: Can we go back to the Coyle Table 2?

A. This is the value here that we've been talking about, maximal blood lactic acid, 7.5, 6.3 --

ARBITRATOR FAULKNER: You need to keep your voice up, Dr. Ashenden.

A. I'll repeat that. 7.5, 6.3, 6.5, 6.5, and 9.2. The -- another argument put forward to explain this dramatic increase in performance is the notion that the highest lactic acid levels that Armstrong produced were remarkably low. There's two problems with that argument.

First of all, these values are low, but, again, you see that kind of value in a professional cyclist. Now, it's the bottom end. I acknowledge that. But it's not so low that you would say, well, there it is, the magic bullet.

But perhaps the more important thing is that I -- as an exercise physiologist, I would struggle to find a colleague that would put up their hand and say, yes, your maximal lactic concentration is able to predict your performance. It's been -- it's been misconstrued, and I'm not sure why he's

Page 2362

pushed this point so -- so diligently.

But the truth of the matter is that back, say, 10, 15, 20 years ago, lactic acid was viewed in a completely different context. It was thought of as this evil thing. You know, lactic acid impairs your muscle function, blah, blah, blah. The most recent literature turns out, it'd be used better -- the best we can see is you look at the molecular basis of it, it turns out lactic acid really is good during exercise.

It's essential. It's used as a fuel by the muscle, so the notion that having a high level is going to give you -- or a low level is going to give you better performance is -- is flawed; however, I'll qualify that in anticipation of some -- some questions.

I don't dispute that monitoring your lactic acid levels over time is a valid training tool. So what you look for in an athlete is over time with the same -- called a workout, you know, the same effort, if you can get the lactic acid levels to decrease with the same -- doing the same work, that is a positive training stimulus, and that's the true application of lactic acid loads. It's -- it's not how you use lactic acid when you're training an elite

Page 2363

athlete. It's just not used this way.
Q. (By Mr. Towns) Now, along the lines of talking about blood values and some of these things, there was some discussion of Mr. Armstrong's hematocrit level. Do you recall?
A. Yeah.
Q. Specifically I asked Dr. Coyle if he had measured Mr. Armstrong's hematocrit, and he replied, as I recall, yes. Do you remember that?
A. (Witness nods head up and down.)
Q. And it's not reflected in this report, but do you recall what he said that the testing range was on Mr. Armstrong?
A. Not exactly. I had the -- the feeling it was between 43 and 46; although, he didn't indicate where he got those values from, so I was a little confused. My -- my recollection is that it was within that range.
Q. Okay. And do you recall Mr. Armstrong himself describing what his hematocrit levels were?
A. I think he -- my memory was that he said at the Tour de France, the highest hematocrit he ever had was 46.
Q. Now, just -- we've heard a lot about hematocrit. Can you just tell us why it's, you know,

Page 2364

better or worse to have a higher or lower hematocrit?
A. The -- it's a difficult concept because the value itself doesn't predict the performance. It changes in the day, and your hematocrit is pretty much -- it's a genetic feature, so the hematocrit you have when you are, say, 18 years old is what you're going to have throughout your life.
Some people might have hematocrit of 52. Other people will have a hematocrit of 43. Yeah, 43 is a much more common value for a minor. 52 is very, very uncommon. But the point is that if you're 43 -- and this comes back to this longitudinal monitoring I was talking about before -- you can stay 43, and there will be few variations up and down.
But just because my hematocrit is 48 doesn't mean I can beat an athlete whose hematocrit is 43. But if my hematocrit is 43 and I increase it to 48 artificially, then that gives me a performance advantage. It's relative to your value if you increase it. It's a performance advantage. But just having a hematocrit of 48 doesn't equal good performance.
Q. And does the Tour de France's best, you know, have any sort of monitoring of hematocrit levels?
A. Yeah. In -- I think it was '97, I think,

Page 2365

they introduced this notion of what they called a health check, that they would check the hematocrits of riders before they began to compete -- and usually it's the morning of a race -- and they instigated a rule that said, if your hematocrit exceeds 50 percent, you won't be allowed to ride that day.
Now, for Tour de France, if you don't race one day, that's it for the whole -- the whole competition. So that was the -- the rule they instigated in '97, and they've -- they've still got that rule, and they've supplemented it with some other tests, as well.
Q. Now, what if you're a Tour de France rider and you have the natural hematocrit that you described of being greater than 50? Are you just banned for life from participating in the Tour?
A. No. It's -- it's recognized because it's a genetic feature, that some people will have a hematocrit that's high, and it's not fair to exclude them just because that's what their parents gave them.
And the athletes are allowed to apply for an exemption. Essentially it entails them going to a laboratory or selected lab, and you test the results and demonstrating that it's their natural value.
And so I think they do some urine testing

Page 2366

on them simultaneously, and they needed to satisfy the doctor that, yes, this is the value which is normal for you, and they're given an exemption. If you come to the race and your hematocrit is 52, you're allowed to race, even though it's above this limit we've got in place.
Q. Now, in -- do you recall a packet of information we got the morning that Dr. Kearney testified that was marked as Claimants' 118? Do you recall that packet?
A. Can I look at it?
Q. Sure.
A. Claimants' --
Q. Actually I bet it's not in your binder.
MR. HERMAN: I think it's the blue --
MR. CHERNICK: It's that large clipped collection of -- here. (Indicating.)
MR. TOWNS: Oh, there it is right here. There you go.
MR. TILLOTSON: He's got it.
MR. TOWNS: Oh, he does?
MR. TILLOTSON: Do you need one?
MR. TOWNS: I do.
MR. TILLOTSON: It was right there. Do you need it?

Page 2367

MR. TOWNS: No. I have one.
Q. (By Mr. Towns) In Claimants' 118, there are some blood values taken by the USOC on Mr. Armstrong. Do you remember that?
A. Yeah, I do.
Q. And do you recall what Mr. Armstrong's highest reported blood value was in Claimants' 118?
A. The highest I remember was 48.8. It was 46.7 and a 48.8. 48.8, yes, sir.
Q. Seeing that value as compared to all of the other reported values and even the reports of Mr. Armstrong himself, what does that indicate to you?
A. It strikes me as unusual. That is the sort of trigger that I would say, well, that deserves closer attention. You need to look into -- to -- to why this athlete's values in the past have been 43, and he -- he reports to USAC, and the value's 48.8.
ARBITRATOR LYON: What's the date of that?
THE WITNESS: I'll read it out. It's written 12/6/91. Is that June of December? I guess that's December.
ARBITRATOR LYON: That's December.
THE WITNESS: In Australia, that's June.
Q. (By Mr. Towns) All right. Now, I want to --

Page 2368

I want to quickly turn to a -- a couple of other explanations that have been offered. Both --
ARBITRATOR CHERNICK: That was in 1991?
THE WITNESS: Yeah.
Q. (By Mr. Towns) -- both in terms of explaining Mr. Armstrong's superior physiology and also his superior performance improvement that we saw postcancer.
One is the notion that Dr. Coyle explained regarding Mr. Armstrong's heart size and heart rate. Do you recall that testimony?
A. Yeah.
Q. Do either of those explanations satisfy you for Mr. Armstrong's improvement or superior physiology?
A. The heart rate, it's -- I -- I -- they've been around physiology levels for a lot of years, so I'm -- I'm going to give them benefit of the doubt and suggest that they probably didn't understand what they were actually saying. It was a mistake.
To suggest that someone's maximal heart rate gives them a performance advantage over someone whose maximal heart rate's low is -- is nonsense.
Now, I -- I can't comprehend why physiologists that's worked at the USOC -- and I think

Page 2369

Eddie Coyle said he'd seen a thousand cyclists or something. Why they would say that? I think they were probably mistaken, but you wouldn't -- you wouldn't make that suggestion.
Q. Okay. What about the reports of Mr. Armstrong's superior heart size?
A. Well, again, that was another -- there's another explanation, at least put forward in the press, and I know I read it, and it's been repeated on that DVD that we saw from the Discovery Channel that, you know, Lance Armstrong's heart is -- is -- you know, is an incredible size, and I think in the interviews I saw Ed Coyles give, that he said it's equivalent to the heart of a seven-foot-tall man.
I -- I was -- I was skeptical about that from the outset. I've never seen any measurements, and there was -- it just seemed rather a convenient explanation, and it's simple enough to do -- to measure heart size, and based on what we've heard, they've never measured apart from an echocardiogram, which is usually the best way to look at it.
Looking at the reports during his -- and leading up to his cancer treatments, they noted that his heart was within normal limits. Now, they said it was on the upward -- the upward boundary of normal

Page 2370

limits, but that, to me, is a much more objective way to look at it, and it doesn't suggest that -- according to the -- to the Armstrong stats, is that it's equivalent -- or I shouldn't -- no, I think -- I think Lance Armstrong said as much himself, that, you know, it's -- it's an incredible large heart.
I don't think Ed Coyle had any basis to suggest that it was equivalent to the size of a seven-foot man. I -- I don't know where he would have made that assumption from.
Q. Now, a couple of other explanations, that Lance Armstrong needed to age before he can win the Tour de France and that the explanation from, say, his performance in 1995 to 1999 is simply he got older. What's your reaction to that?
A. There's -- there's an element of truth that in -- in endurance sports, you will see athletes mature into a better athlete, but you don't see this sudden dramatic -- he gets to 28 and hit some sort of a power band and all of a sudden explodes. And I think you've also got to take on-board the fact that there's been at least three, that I -- I know of, multiple Tour de France wins who have succeeded in the early '20s.
I don't think it's valid to say that,

Page 2371

well, this is why you get the sudden jump because he got older. I -- I don't agree with that.

Q. Now, one -- one rebuttal to any criticism, skepticism of Mr. Armstrong's physiology or improved performance has simply been Mr. Armstrong and those who around him saying, Mr. Armstrong's the most tested athlete on the planet and he's never tested positive. Does that satisfy, from a scientific standpoint, your concerns or -- or issues with the increase in performance?

A. I think if I was a layperson, I'd take some assurance from that. I'd say, well, he's been tested. I mean, he would have had to come up positive if he was using drugs. I remember, it was a revelation to me when I realized when I started working with antidoping labs themselves that they don't just take these urine samples, put it into a machine, push a button, and all the results come out.

You've got to decide which product you're going to test for, and you've got to allocate out some of that urine to test it for this and some of it to test for that. Now, there's a limit to how much urine is collected in a sample jar, and you simply can't test for every product under the -- the banned list.

And as I've explained before, the

Page 2372

laboratories and the organizers rationalize their costs by not testing every single thing, even if they could, and reducing the costs. Now, then working from that platform, you say, well, you're not testing every sample for every product. You know there is some blood doping methods that they can use that wouldn't be picked up even if you did look for it.

It starts to ring a little bit harder to say, well, I was tested all these times and never tested positive. It's even more questionable when you take into account that -- the admissions of athletes in the last few years that, yeah, look, I took EPO. I won a World Championship. They didn't catch me.

It's -- it's -- I don't personally now get any reassurance from that.

Q. Well, what about the 2000 tests both on blood and urine that was conducted on the entire Postal Service Team? What's your explanation of those tests in terms of satisfying any curiosity or -- or perhaps concerns you have with the increase in performance of Mr. Armstrong?

A. The thing about the -- the 2000 results that concerns me is that the -- the specialists who analyzed those samples separately working with two different levels -- both from their reports

Page 2373

simultaneously came to the realization there's something strange. These urines are too clear. There's -- I -- I mean, I --

Q. Let me just stop you right there and ask you -- because we've heard clean; we've heard clear. What does that mean, urine is too clear?

A. Okay. I went through this with Mr. Levinstein, so I'm sure he understands it.

Now, clean is my tie. That's clean. It hasn't got a stain on it. Clear is water. That's clean and clear. This is clean. This is clean, but it's not clear.

Now, the accurate representation of what those reports concluded in the 2000 samples was they're too clear, not that they were too clean, and Lance Armstrong himself, it could have well been a slip of the tongue. I -- I automatically concluded too from his statement, but he said, look, I've been accused of being too clean. It's -- that's misrepresenting it. The samples were too clear.

Q. What do the samples being too clear indicate to you?

A. Clear urine is inconsistent with an athlete who has just been on a bike for four, five, or six hours and raced up a mountain, and it is consistent

Page 2374

with urine substitution, and that concerns me because the year 2000 was the time where there was an enormous amount of publicity about -- and work to develop a test for EPO. It was in place in September, a couple months after the Tour de France.

And I'm not sure that any athlete at the Tour de France in 2000 could have felt absolutely certain that they weren't going to be tested in some way or another for -- for EPO. And I think that if you look at that, if you like, picture and take into account the fact all of his urine samples were clear and it was during mountain stages, as well, that I -- that causes me concern.

Q. Okay. And I don't necessarily want to be too graphic, but what would you expect, you know, if -- if it shouldn't be clear, what should the urine samples have looked like after the mountain stages?

A. I would say it's almost brown, you know, from stages like that. It's -- it's not clear. That's the -- that's the one thing everyone would agree on.

Now, you know, yellow, dark yellow shading into brown. Now, if it was brown, that's getting a little bit too extreme. That athlete was probably not very well advised on, you know, hydration, but that's the sort of thing you'd expect.

Page 2375

Q. Okay. And have you seen any evidence of there ever being any urine substitution in the Tour de France?
A. Well, Willy Vogt from the Festina scandal acknowledged as much. He goes into -- I mean, he devotes a whole chapter to the -- the ways that they would try to get around the doping controllers. The -- I guess that would be all that comes to mind in cycling. If you want to limit it just to cycling, yeah.
Q. Okay. Have there -- now, we heard about the athlete -- we saw the picture where there was that explanation. Have there been other examples of urine substitution, besides the one you're talked about?
A. Well, there was the two Hungarians at Athens 2004.
Q. You'll have to speak up.
A. I beg your pardon.
There was the two athletes that -- at the Athens Olympics in 2004, the Willy Vogt. It's -- oh, it's not exactly urine substitution but it's tantamount to it. Michele Smith was the Irish swimmer that -- and her sample was found to contain whiskey.
Now, that's a little bit hard to explain, and that was the basis for doping sanctions, as well,

Page 2376

so it's not as if this is a far-fetched notion.
Q. As a person with some Irish heritage, is that uncommon?
A. No thanks.
Q. Withdraw the question.
Let's shift now and talk about a subject of much controversy, and that being the 1999 report from L'Equipe; okay? First off, I want to ask you if you've had an opportunity in this case to do some study to look -- look somewhat at that situation, the 1999 samples as reported in the L'Equipe.
A. Yeah. I've looked over the -- the results that I've been given.
Q. Okay. And let's look at Respondents' 44. It's in this one right here. (Indicating.)
A. Yeah.
Q. First, let me ask you this, Dr. Ashenden. We talked quite a bit about your work early on. Let me just ask you a simple question. Have you done work with urine -- urinalysis?
A. Yeah. We -- last year, 2005, we were funded by the WADA to -- to conduct an investigation on whether using the -- the very small dosages of EPO that I talked about, whether it really was possible for an athlete to -- to get under the radar using that

Page 2377

approach. We worked with the Paris laboratory. They conducted the analyses for us, and so -- I've supervised projects that have dealt with this methodology and the researchers that did these stages.
Q. Okay. And the values that are reflected here on the first page of Respondents' 44, are those typical of the types of values in the way that they're reported in the work that you've done?
A. Sorry. Which values are you referring to?
Q. Well, I'm not picking any particular one. I'm just saying the way that the various values are reported generally in the first page.
A. Yeah. I mean, they've -- they've sent results to me in virtually the -- the same format. Probably not -- well, not exactly the same but, I mean, very, very similar.
Q. And behind the -- Respondents' 44 is more than one page. There's data behind that. Have you reviewed that data, as well?
A. Yeah.
Q. Can you just briefly tell us what recombinant EPO even is?
A. The hormone in your body that regulates red blood cell production is EPO. Recombinant EPO is essentially taking the gene that's responsible for

Page 2378

producing that hormone in your body, sticking it into a cell somewhere in a dish, multiplying it a trillion times, and then taking the EPO that's produced from those cells, cleaning it up, putting it into a tube so that instead of having to have your kidney to produce the EPO, you just inject that virus.
It's a -- it's a -- recombinant means you take the gene out. It's the same molecule with just very slight modifications.
Q. Okay. And do you know what lab these particular samples were analyzed in?
A. Yeah. In LNDD in Paris.
Q. Is that a WADA accredited lab?
A. It's the same lab that does all of the analysis and always has for the -- for the Tour de France.
Q. I want to show you what's been marked as Respondents' 53 and highlight the text. And what I want to ask you is just a very simple question. Mr. Stapleton in this open letter refers to a lab on which they offer the results of Mr. Armstrong's testing were performed that could be relied upon. Is that the same lab that performed these tests?
A. Yes, it is.
Q. Now, do you have any information on how the

Page 2379

testing was -- was performed on these 1999 samples?
A. Yes. After my deposition when I realized that it was a point of some concern, the validity of these results, I've made a point of calling Jacques Deseisse who heads up the laboratory.
He -- he collaborates with me on -- on research projects. It's not uncommon for us to discuss matters, but I wanted to satisfy myself that my understanding was correct. And so I -- I spoke with him, and -- and there was -- there was some restrictions because obviously I said to him, look, I can't give you any details because I'm going to be a witness.
And he said, well, actually I can't give you too many details because it's a subject of a WADA and UCI investigation, but he was able to talk to me in general terms about the research and the technique that he used.
Q. Okay. Now, if we looked back in the first pages of Respondents' 44 --
A. Yeah.
Q. -- can you tell us what these values or results mean?
A. The -- I haven't spoken to him in any detail about the specific results because that's one of the

Page 2380

things that we realized was probably out of bounds. But it's clear these corresponded with the -- the sample ID numbers from the -- the doping control forms. This is the -- the concentration of EPO in the routine take after the urine sample is spun down.
It's -- it's a pretty involved process, but essentially you've got to pretreat the urine, and you end up with a very small amount in the bottom of a tube, and this here is a reflection of the concentration of EPO that's left in the little bit after you've gotten rid of everything else.
These three columns were the subject of the research. It was to -- to look at, is there a better way for us to interpret results so that we can prevent athletes who are doping with EPO from escaping just because they happen to fall under the -- the particular criterias. So they took samples; they analyzed them; and then they interpreted the results three different ways; and -- and looked at which way "A," "B," "C" was -- was better in different situations.
That's just remarks about the -- the sample analysis themselves. It's volume left over, the volume of retentat left over that could be analyzed if -- if they needed to back in and check the

Page 2381

sample again.
Q. Now, what you -- in looking at those values, what conclusions could you reach in terms of if there are any positives reflected?
A. Well, this first column is visual interpretation. It's -- as it was pointed out during the -- whatever you call it before we started talking. It's looking at the bans and saying, is that associated with EPO use or not.
Now, contrary to what was said earlier on, visual identification has been used to sanction athletes. There are more than -- I know of at least two laboratories -- Jacques told me -- that having posed sanctions based only on visual interpretation of what they see in front of them.
The second column is what is predominately used in -- in most of the labs around the world, and I should point out, there's no stipulation the lab has to use this way of interpreting the results. There's some flexibility.
But this column here is what's most widely used, and the third column is a mathematical discriminative analysis to -- again, once the results are there, interpret them using this mathematical approach. There are three different ways of looking

Page 2382

at the same result.
Q. And do -- the results that are reflected, do they reflect positives?
A. Which ones?
Q. Any of them.
A. Well, it's difficult to say with this reproduction, but, yeah, the ones that are -- are shaded out -- it's going to be too confusing. Essentially they've shaded out samples that were positive on this criteria. They've put the number here to -- to reflect the percentage here and, again, used the shading key system to -- to indicate where they're using that approach, they would have declared that sample positive.
Q. Now, there's been some criticism -- well, there's been a lot of criticism, I think, of this lab and these tests. One has centered around chain of custody. From the information that you've reviewed, do you think that it is an accurate criticism to discard these results on chain of custody grounds?
A. Can you ask that question again?
Q. Well, have you seen anything that reflects problems with chain of custody?
A. No. The -- if you talk about chain of custody, you've got -- the custody from when the

Page 2383

sample was collected from the athlete to when he got to the laboratory. Now, I don't think anyone's questioning that that chain of custody was intact.

The samples, when they got to the laboratory, had been kept under the appropriate circumstances. Once the sample is in the lab, if you were to analyze those samples under the WADA code, then you would need to adhere to an internal chain of custody, which is what they're talking about before when they said, yeah, you put your name on this sample if you touched it.

Now, there's no requirement or stipulation you've got do that if you're conducting research, but at the same time it's the same laboratory that -- same personnel, the same technicians as would be doing it if it was a doping control. So materially nothing has changed, and the suggestion that just because you didn't put this name by this box to indicate who touched it, therefore, these results should be discarded, I think, is too extreme.

I don't think that -- it might exclude on the letter of law pursuing a sanction under the WADA code, but as for bringing the results themselves into question is no suggestion it would.

Page 2384

Q. Now, in addition to your discussions -- and I won't try to pronounce the name -- but with someone with the lab, have you seen any written correspondence regarding the chain of custody conditions?

A. Yeah, I have.

Q. Okay. And there have been -- I mean, you've heard explanations for these positives that have been offered, one of which was that the samples were spiked. Do you recall hearing that?

A. I recall hearing it; I recall seeing it; I recall reading it, too, I think.

Q. Okay. Do you think that that is an explanation of how Mr. Armstrong was ultimately associated with positive samples, by spiking?

A. I think that's -- it's shaving, like, the thinnest layer off and saying, look, this is why these results look like this and discarding the whole body of evidence which suggests it's not. Now, I was approached by a reporter and asked, you know, in your opinion, is this a valid explanation, that the sample was spiked, and I said, no, it's not.

The -- the notion that they were spiked, first of all, invokes that the sam -- the laboratory somehow had a motive to spike the samples. Now, there was no reason to do that. And, secondly, if we narrow

Page 2385

it down on the Lance Armstrong samples, it infers that the laboratory knew which samples were Lance Armstrong's.

Now, even in this hearing, it's been acknowledged that there was no way the lab could have known because that key wasn't released by Armstrong until after these results had been finished and -- and sent to WADA. And, thirdly, it infers that somehow the lab was able to mimic the spiking, not knowing which samples corresponded with which day of the Tour de France to replicate which -- to replicate a patent abuse which very, very closely resembles what I would suspect to see in an athlete actually using EPO.

Q. Now, we've also heard a possible explanation, that there was -- that these samples were old and somehow degradation came into play. Do you recall that?

A. I recall hearing it.

Q. Is that argument a satisfactory explanation, in your mind?

A. No. It's -- it's as simple as this. If there's EPO in a sample and it degrades, then the level after it's degraded is going to be lower, it's true that we -- a sample that's not stored correctly, not -- not frozen or refrigerated, that that

Page 2386

degradation can happen. So it was there, and then it disappears.

But there's no suggestion whatsoever that you can somehow generate the EPO where there was none before. That's not degradation. That's divine intervention.

Q. Now --

A. Sorry. Probably not appropriate.

Q. With the -- some of the criticism that has been leveled due to these samples not having an "A" and a "B" sample and not following the WADA protocol, would the lack of an "A" and "B" sample be a bar against the governing bodies that were cycling to use these results to sanction Armstrong?

A. I don't think so. I've -- automatic -- several years ago, I -- I consulted with -- with the person responsible for reviewing the -- the doping regulations of the International Olympic Committee, and he told me in a personal conversation that he'd reviewed everything that he could get his hands on, and there was no stipulation anywhere that said, you have to analyze an "A" and "B" sample.

Now, clearly there's a precedent, and it's, I think, become accepted that you do analyze the "A" and the "B," and the WADA code says that's what

Page 2387

you should do. But the WADA code also says that you can look at evidence -- other evidence which doesn't fall under the "A" and "B" category. I mean, to take it to -- to the next stage is being -- doping sanctions imposed when there was zero tests done, neither an "A" or a "B." As well, you've got athletes who have been found guilty by only an "A" sample, and they said, look, you know, hands up, I did it.

And there was an Australian athlete just recently who -- who declined the "B" analysis, and based on just the "A," he was found to have -- given a doping sanction -- doping infraction.

Q. Now, in -- in examining these 1999 results, have you been able to do comparisons of those results with Mr. Armstrong's performance in the 1999 Tour de France?

A. Yeah. I overlayed the -- the results and the dates from the doping control forms with the -- the stages that were -- were raced in '99.

Q. Okay. And if we can look at Respondents' Exhibit 76 in front of you there, is this the study that you're referring to?

A. Yes, it is.

Q. Can you tell us, when you did this comparison, what is it that you found?

Page 2388

A. Well, just -- just very quickly, the -- that text I've cut and pasted from the website -- I think it was Cycling News. I'm not sure. And essentially they've got a -- a record of who did what at each particular stage, and that's where the -- the text and the performance comes from.

The lines that the individual paragraph comes from, the doping control forms, where it notes the time that the athletes tested, and then this value I took from the LNDD results where they analyzed the sample and using the most common criteria which was that middle column of the result sheet listing the percentage of basic Isoforms that the lab found in each sample corresponding to each day of the race.

Q. And for a nonscientist, like myself, what is -- what does an examination of the basic Isoforms reveal?

A. The significance of percentage is that there's -- there's some overlay in the EPO that you've got naturally in your body and the EPO that you inject that's common EPO. Now, they take account of that. They say, well, if we find one percent of basic Isoforms, we're not going say that that means you've doped.

And so they set a threshold that is

Page 2389

roughly around 80 percent, and they said that if you exceed 80 percent, then the chances of that happening by -- by chance or the fact that you're some sort of an unusual individual is so remote that we can't really impose a sanction. Now, generally you'd find that that percentage declines if you've had an injection, you know, to 90 percent or so after a day, 24 hours.

To find 100 percent -- we've done these studies, and we collected urine samples every couple of hours and monitored the percentage that we found in those urines. That, to me, is consistent with an injection that was received within just a couple of hours before the sample had been collected.

Now, to me, that's significant because that day was probably 6.8 kilometer race, and it would have been over and done with early in the morning and samples collected, done deal. Now, that's, to my -- my mind, why that result is the only one that I've seen that had 100 percent Isoforms, but that is consistent with an injection that was received within just a few hours.

Q. And just so we're clear, this -- Respondents' 76, which is about three pages long, the information comes from public data about the performance and the

Page 2390

tour stage by stage, and Respondents' 44, which is the information associated with the L'Equipe reported test; is that correct?

A. Yeah, yeah.

Q. Now, you know, walk us through here, you know, what you see in the first few stages after the prolog.

A. Well, my interpretation of this is that an injection -- this is consistent with an injection that was taken early in the morning on the 3rd, and as we've seen in our research, the next day the percentages are going to be lower because EPO stays in your circulation for three or four days, so the percentage would come down.

Armstrong wasn't tested on this day, and then there's stages three, four, five, six, which, again, he wasn't tested, including seven, because he -- he wasn't leading. They test the top three riders, and then some randomly selected athletes, as well.

On this day, the -- well, this website called "The Race of Truth," was when Armstrong regained the lead, and so he was tested. When the laboratory analyzed the sample that corresponded with that day, they found that if they used the first

Page 2391

column, visual interpretation, which has been used to impose a sanction in several labs, he would have been declared positive.

They didn't report any percentages for that sample, which is where -- I've noted it here. Then you've got a rest day. Stage nine he's tested again, and you see 96.6 percent. Now, that's less than 100 percent obviously, and, again, it's consistent with an injection that he would have received -- could have received earlier in the -- earlier in the day, and it falls again.

The next day they test the samples, and there's 88.7 percent. Now, that's what we saw in our research when we tested an athlete every couple of hours. The percentages come down. For whatever reason, there was -- the sample corresponding to the number in the doping control forms wasn't analyzed, so no results were produced.

THE WITNESS: Could you go to the next page?

A. He was tested on the 12th stage, 95.2 percent; tested the day after, and again it came back as visually positive, but using the other way to interpret the results, it was too weak to provide a percentage of ISO forms. And then on the 14th stage,

Page 2392

89.4 percent. There was a rest day. From this point on, Armstrong had a 4 minute, 44 second lead which is enormous. Once you've come out of the mountains, then -- the Discovery video clearly pointed out, then it's job of the team to carry the -- the leader to the end, and once the hard stuff is over, then you're relying on the team.

I find it unusual that from that point forward, there was never enough EPO in any of Armstrong's urine samples to report a result.

Q. Why is that unusual?

A. It's unusual because when an athlete stops taking EPO, it is no longer the injected EPO that gets into urine. Their own kidney has shut down production of EPO because the body recognizes that there's too much blood in his circulation. It suppresses EPO production so it gives your body a chance to come to its -- its natural level.

It's consistent with not finding enough EPO in the sample to analyze, that an athlete -- you see that when an athlete stops taking EPO injections. And, again, this is where I'd suggest that even if the laboratory was, for whatever reason, spiking samples, without knowing which samples corresponded to which day, the fact that there was this consistent patent

Page 2393

before and after, to me, it's -- it's inconceivable that -- that it could be a -- a result of deliberate tampering.

Q. Now, Dr. Ashenden, I want to ask you -- you've told us a lot of things this afternoon. Looking at all of the evidence that you've seen, in your own experience as a scientist and expert in this field, do you reach a conclusion as to whether Mr. Armstrong has used performance-enhancing drugs in his career?

A. I think that as a physiologist, I look at that unexplained jump in performance. As an antidoping researcher, I look at the -- the strange changes in the -- the blood. As a layperson, I look at the admissions that he admitted to using these banned drugs and that that would explain this previously unexplained jump in performance.

I bring into the equation that you've analyzed the samples, and it shows that he was using EPO during the '99 Tour de France. I have to conclude that beyond any reasonable doubt, he had used performance-enhancing drugs.

MR. TOWNS: Thank you. I pass the witness.

(Break from 3:47 p.m. to 4:03 p.m.)

Page 2394

ARBITRATOR FAULKNER: Why don't we resume, and we'll start with cross-examination.

MR. LEVINSTEIN: Thank you.

CROSS-EXAMINATION

BY MR. LEVINSTEIN:

Q. You were first retained by SCA in April of 2005?

A. Or thereabouts, yeah.

Q. That's when they contacted you to ask you to be an expert witness?

A. Yeah. It was proposing that -- proposing that I -- I would be. I don't think they retained me straightaway.

Q. Okay. It's hard to understand what -- what did you say?

A. I'll try to my loosen my tie, then I'll get more air into my lungs.

I -- I don't think the first contact was when they actually retained me, but they -- they contacted me somewhere around that time frame.

Q. Okay. Were you aware that they'd already denied the claim four months earlier before they retained you?

A. No.

Q. Did they discuss with you the nature of the

Page 2395

case?
A. No. Oh, well, you know, in general terms what it was about, yeah, but not the sort of, what I would call, legal aspect of it, no.
Q. What did they tell you they needed you eventually to testify to?
A. They wanted me to -- at that point in time they said, we'd like you to -- to look at longitudinal blood results. Would you be able to look at those and advise on whether it's, you know, consistent with doping.
Q. Okay. And in your deposition, you mentioned a few blood results, but I don't think you mentioned any longitudinal blood results today. So did they ever show you longitudinal blood results?
A. Well, yes. Before I got here to Dallas at this hearing?
Q. Yes.
A. All I ever saw was the three values that were in LA Confidential, and I kept saying, you know, when are you going to send these results, and they kept saying, well, they haven't been produced, so it -- it was a bit frustrating.
Q. Okay. So you never did get longitudinal blood results from which you could conclude one way or

Page 2396

the other whether Lance Armstrong used performance-enhancing drugs?
A. Well, now once I got here, I did see a few of the results, and like we pointed out with those USSC results, that, to me, is -- is strange.
Q. Okay. So what you're talking about -- the only data point you're talking about now are these two numbers from 1991, the -- the results that you say look strange?
A. No.
Q. Well, the USSC results you're talking about were two hematocrit readings, one of 48 -- what were the two numbers?
ARBITRATOR LYON: 48 and 46.
Q. (By Mr. Levinstein) 46.7, I think?
MR. TILLOTSON: 48.8.
Q. (By Mr. Levinstein) 48.8. And this was in 1991; correct?
A. Yeah.
Q. One in June of '91 of 46.7, 6/24/91 --
A. Yeah.
Q. -- and one in December of 48? Okay.
A. 48.8.
Q. And you think that that -- how old was Lance Armstrong in 1991?

Page 2397

A. Roughly 20.
Q. Okay. And is it your testimony today that you believe he was involved in artificially changing his hematocrit in 1991?
A. I would say that those values when held up against the values that you see later on are consistent with blood manipulation.
ARBITRATOR LYON: Consistent with what?
THE WITNESS: Are consistent with blood manipulation.
Q. (By Mr. Levinstein) Where were those readings taken?
A. Can I have a look at the --
Q. Sure.
A. -- the thing? Where was that? Which --
ARBITRATOR CHERNICK: 118.
MR. BREEN: Actually it's loose.
A. Which -- which one would you like me to look at?
Q. (By Mr. Levinstein) Well, either one of them. Where were they taken?
A. Okay. Samples were analyzed in Pikes Peak Diagnostic Service, and I haven't heard anything to suggest otherwise that there were -- that samples were taken when he was at the USSC.

Page 2398

Q. Okay. Well, let's talk about hematocrit. Why don't you tell us the things that can change someone's hematocrit. First, the biological things that can change. Let's say, it's me, and you're going to take my hematocrit a bunch of different times. What factors could change my hematocrit reading?
A. Your posture.
Q. Posture?
A. The -- do you understand the word "posture" or not.
Q. Standing up straight or sitting down.
A. Yeah.
Q. Okay.
A. Posture. And your hydration status, whether or not you're at altitude, whether you've been standing on your head, whether you've used saline infusions. Those sort of things.
Q. What else?
A. Do you want me to list every possible thing?
Q. Sure.
A. Well, then, you know, that doesn't mean could. I mean -- what else? Exercise, taking EPO, using blood transfusion. I think that would be a representative sample for what we're talking about here.

Page 2399

Q. Okay. So the amount of exercise that you've been doing recently can affect your hematocrit?
A. No, not the amount. It's more that if he'd just got off his bike after doing a really intense effort, then you would expect his hematocrit to fluctuate.
Q. Okay. So training can't increase the plasma volume and lower the number?
A. Yes, it can.
Q. So training and exercise can affect your hematocrit?
A. Yeah. An endurance athlete typically has lower hematocrits from a typical person, and from what I can understand, he was in training at the time when -- when this was taken.
Q. Do you understand Colorado Springs is at altitude?
A. Yeah.
Q. Okay. Does diet affect hematocrit?
A. I know that it's said to, but I've never seen any data to suggest that it does.
Q. Okay. Let's start for a second, you're not a hematologist; right?
A. Right.
Q. You're not a physician?

Page 2400

A. No.
Q. You don't spend your day generally looking at people's hematocrit in terms of treating patients?
A. I spend too much of my day looking at athletes' hematocrits. That's what I do.
Q. Okay. Let's say you got on a plane and flew across the Atlantic. Does it change your hematocrit?
A. While you're on the plane?
Q. When you land, does your hematocrit differ because you've been on a plane?
A. Do you mean sitting down eight hours in a plane seat? It may.
Q. Okay. If you're nervous, does it change your hematocrit?
A. Well, now you're starting to get in -- can you give me an example of what you call "change"? Like, what do you call "change," and then I'll try and answer your question.
Q. Tell me how much it can change your hematocrit because you are in a state of nervousness and anxiety for a period of time.
A. Well, how nervous are you?
Q. What -- very nervous.
A. How I can answer your question?
Q. Well, can it cause significant change in your

Page 2401

hematocrit?
A. I've never had to factor whether or not you're nervous into looking at hematocrit values. No, I haven't.
Q. Okay. Do you know if physicians do?
A. I know that physicians don't understand a lot about hematocrit, so they may well do it that way.
Q. Okay. About technical variability? Does how the blood is drawn affect hematocrit?
A. It can.
Q. And whether you're standing or sitting can affect the hematocrit?
A. Yeah. We talked about that.
Q. And applying a tourniquet and how long the tourniquet is on before you take the blood can affect hematocrit?
A. Yeah.
Q. Okay. And are you suggesting that a -- a difference between -- well, first, do you have a view on what is Lance Armstrong's normal hematocrit?
A. Yeah. Based on what I've seen, I'd say it's about 43.
Q. Okay. And what's that based on?
A. The -- the medical results where he's having blood checks pretty frequently, the reports in LA

Page 2402

Confidential. And that's pretty much all I've seen.
Q. Okay. Which blood checks?
A. His personal reports, as well.
Q. Which blood checks? You said, the blood checks where he's having his blood checked fairly regularly. What are you talking about?
A. When he was at the hospital.
Q. Okay. And so it's your belief that 43, 44 is his normal hematocrit?
A. If you asked me to -- to say, yes, I'll take 43.
Q. Okay. An average person, between the morning and the evening, how much variability can there be in their hematocrit? One day? Same day?
A. How much can there be?
Q. Yeah.
A. Well, it would depend on what they did during the day.
Q. Skip EPO or saline infusion or blood transfusions, but all the other things you do in the day. Whether it's running around, whether it's training, whether it's diet, how much can you change your hematocrit from the morning to the evening?
A. I would say that maybe one percentage, two percentage. Something like that -- ballpark.

Page 2403

Q. Okay. So two percent points would mean a 43 could become a 44?
A. Forty-three plus two is 45.
Q. Percentages you said?
A. Yeah, percentage points.
Q. Oh, percentage points?
A. Forty-three percent.
Q. I'm sorry. Percent is the --
A. Forty-five percent.
Q. So you'd go from 43 to 45 --
A. I said, you could.
Q. -- in the course of a day?
A. You could. I didn't say, you would. I said, you could.
Q. Okay. And yet you're willing to tell us that you think Lance Armstrong is 48 at altitude, which means he was taking EPO or doing something improper in 1991?
A. No, that's not what I said.
Q. It was evidence of blood manipulation.
A. No. I said it was consistent with blood manipulation.
Q. Well, we're here to try and figure out whether he used performance-enhancing drugs. Do you think it evidence that he was using

Page 2404

performance-enhancing drugs in 1991 or not?
A. Well, it evidences similar to consistent because he got a similar reading.
Q. Well --
A. I mean, I've given you my answer. If you don't accept my word, put in another word but as long as it means the same thing.
Q. Well, you're an expert. Is it your opinion that he was using performance-enhancing drugs in 1991?
A. Based only on the hematocrit of 48.8 and 46.7 and seeing that in a hospital room setting it's consistent with 43, that, to me, is consistent, and the UCI themselves would categorize that as suspicious and flag that -- flag that athlete for EPO testing.
Q. Based on something that happened five years earlier?
A. I'm -- I'm using the numbers, and I'm saying, if an athlete came in with 48.8 and previously his numbers had been 43, he would be flagged for urine testing.
Q. If the testing was done in the same circumstances? Not comparing testing at altitude versus testing at ground level?
A. No. The UCI wouldn't distinguish.
Q. What UCI testing are you referring to?

Page 2405

A. Their health checks.
Q. Okay. Are you telling me that you're to understand that the health check compares data from today to hematocrit values from five years ago?
A. No.
Q. Okay. Let's -- you had three readings from Ferrari's data. Do you recall that?
A. Yeah.
Q. And what were those numbers?
A. I don't recall the actual numbers.
Q. All right.
MR. LEVINSTEIN: Do we have that exhibit? I don't know what number you put on it. SCA 1269 was the Bates number?
MR. TILLOTSON: It's the excerpt from the book? Is that what it is or --
MR. LEVINSTEIN: No. It's the chart from Ferrari date --
MR. TILLOTSON: Oh.
MR. LEVINSTEIN: -- that you produced. I've got enough copies at hand.
MR. TILLOTSON: I don't think we marked, I guess, is what I'm saying, but you can mark it, and we'll give it to him.
MR. LEVINSTEIN: Here are three of them.

Page 2406

(Claimant's Exhibit 143 was marked.)
Q. (By Mr. Levinstein) Is this the data from Ferrari's file as you referred to?
A. I've never seen this.
Q. You've never seen that before?
A. No.
Q. All right. Let me find the one that you've seen. It's the same -- did your numbers come from LA Confidential, then?
A. The numbers I was talking about before, yeah.
Q. Okay.
MR. TILLOTSON: That would be --
MR. LEVINSTEIN: Does that have an exhibit number? It's SCA 1543.
MR. CHERNICK: I think it's 25.
MR. TILLOTSON: An excerpt of the book is 25, Mark, and I'll turn it to that page.
MR. BREEN: I'll find the page for you, Mark.
MR. LEVINSTEIN: If you want multiple copies, I can --
MR. BREEN: They have them already.
MR. LEVINSTEIN: They have them?
MR. BREEN: Yeah.
MR. LEVINSTEIN: Okay.

Page 2407

ARBITRATOR CHERNICK: Tell us the Bates number again, please.
MR. LEVINSTEIN: 1543.
MR. TILLOTSON: It's -- in our Exhibit 25, it's 1543. In the French version of the book itself, it's page 321.
Q. (By Mr. Levinstein) During your deposition, you testified that these three numbers were evidence of blood manipulation, as well; correct?
A. Can I see my deposition, please?
Q. Sure. I don't know who's got it.
MR. BREEN: I've got my copy.
Q. (By Mr. Levinstein) Actually, to be specific, you said, the only tenable explanation for these three --
A. I was reading so --
Q. -- was blood manipulation.
Why don't you look at page 39 of your deposition. I don't think they can put that up on the screen.
ARBITRATOR FAULKNER: What was the exhibit and page number?
THE WITNESS: Page 33.
MR. LEVINSTEIN: Thirty-nine. It's -- 38 and 39 is the discussion. I don't know the exhibit

Page 2408

number. I'm sorry. I don't know the exhibit number. This is his deposition, so I don't -- there's no exhibit number.
ARBITRATOR CHERNICK: It's not marked.
MR. FAULKNER: That's fine.
Q. (By Mr. Levinstein) I'll focus on the last part.
Question: You said that it's the only tenable explanation for those data points.
Answer: Yes.
Question: That means the only way to explain those points is because he manipulated his blood; correct?
Answer: And you said, no.
Question: I said, the only tenable explanation, to my mind, is blood manipulation.
A. You know, I think, if you read through that transcript -- you'll read through that transcript, you will see you were hammering me on this over and over and over, and that may well have slipped out. But I think if you read my deposition, you will see that that's not what I was trying to convey to you.
Q. Well, let's read the whole thing.
A. Well --
Q. You said, it was consistent with -- let's

Page 2409

focus on page 38.
You said, it was consistent with blood manipulation, on page 38.
A. Uh-huh. Which is what I think I said earlier today.
Q. I said, is it consistent with doing nothing at all, and you said, no. It could be caused by many other factors.
Well, how many is many?
Well, you tell me what other factors could also explain those data points.
I don't have any other explanation.
Could training at altitude affect those numbers?
Not the -- to that magnitude.
Okay. So you're going to tell me that it's the only explanation for these data points, is blood manipulation?
It's the only tenable explanation to my mind.
We can keep going.
So basically it's three data points. Do you believe you can conclude that this athlete manipulated his blood in order to defeat the health check?

Page 2410

No. That's not what I said.
Well, it's the only tenable explanation you said to those data points, is blood manipulation.
A. Yeah.
Q. Okay. So --
A. I mean, you've got a little bit of time.
Q. Do you disagree with that now? Is there -- is that not the only tenable explanation for those points?
A. If you go back and read the previous -- where is it -- where did you start asking me about this? It's on page 36. And then on page 39, you get the word that you're looking for, and then you hang my deposition on that. I don't think that's a fair representation of what I was trying to convey to you.
Q. Well, let's talk about these dates; okay? December '97, February '98, June '98; okay?
A. It takes me a little to get -- for me to get my head around the American dates, but, yeah.
Q. Sorry. I can't translate --
A. In Australia --
Q. -- transpose them for you. I understand.
A. Yeah. But -- okay.
Q. December '97, February '98, June '98. 41.2,

Page 2411

do you have an understanding of why his hematocrit might have been down at 41.2?
A. Well, that's pretty much what you'd expect.
Q. I thought you said his normal was 43 to 44.
A. I think I said his normal would be 43. You tried to say it was 44. 43 to 41.2 wouldn't raise any concerns in my mind.
Q. Well, let's talk about what had happened to Lance Armstrong in the year before 12/2/97.
A. Okay.
Q. All right. When did he get diagnosed with cancer?
A. I'm going to say, October '96, but I can't say for certain.
Q. And during cancer treatment, what happened to his hematocrit?
A. Well, based on the only medical records we were given, his hematocrit remained pretty much stable. There was one point at the end where it fell to -- if my memory is -- is it was 36 percent or something like that, but there was -- I mean, there was a letter from Dr. Nickels saying, please send all further blood results for the next five days to Indiana University Hospital.
We requested the results from the Indiana

Page 2412

University Hospital. They weren't given to us. For some reason, those blood results were missing, so all I can do is tell you up until the point that I was given, the lowest data that I saw was 36 percent or thereabouts.
Q. Just -- just -- I went upstairs today and looked through the medical records for the first time. You didn't notice in those records a document that's tagged by your counsel that says, on October 18th, '96, his hematocrit was down to 31.4?
A. I'll accept that perhaps that's a figure that I had in mind. I mean, when I say, 36, that's my recollection.
Q. And you didn't see the document that was also tagged that says, on December 9, '96, his hematocrit dropped to 27.9?
A. No.
Q. Okay. And his hemoglobin was down to 9.5?
A. No, I didn't see those.
Q. Okay. I don't have them with me right now but I'm sure we can get copies, and we can get those to you.
A. I -- I would be interested to see those blood profiles during and after his chemotherapy. They haven't been produced.

Page 2413

Q. They're in those documents that are in the office that I --
A. Well, there's -- there's a wall.
Q. Okay.
A. And all of a sudden, the values are no longer there.
Q. All right. So what happens to bone marrow during chemotherapy?
A. The goal of chemotherapy is to destroy cells that are multiplying, and your bone marrow where your red cells are produced is multiplying cells, so typically you would see a decline in red cell production and white cell production more markedly but also red cell production.
Q. And it's -- in other words, your bone marrow has a hard time producing red blood cells after chemotherapy? It's been damaged, and it doesn't produce as many red blood cells?
A. My understanding is that the lowest value you see is about 10 days after chemo stops, and then in a healthy young male -- I shouldn't use the word "healthy" -- in a young male, using Lance Armstrong, you would expect they would rebound very quickly.
It's -- it is what you would expect to see, so the low point, ten days after chemo stops, and

Page 2414

then it starts coming up.
Q. Oh. Well -- but you're aware the doctor was sufficiently concerned that he was given EPO to get his red blood cell count back up?
A. I'm aware that -- Dr. Nickels, is it?
Q. Yeah.
A. -- prescribed EPO.
Q. And through January of '97, he was giving EPO to Lance Armstrong?
A. And, again, I would really like to see those blood values because I couldn't find them in those medical records.
Q. But --
A. I mean, you should -- as you see the bone marrow responding, the EPO is starting to kick in, you should see those values come up. Now, I don't know if they did or not.
Q. So we don't know anything about what his hematocrit values were between January of '97 and December of '97 and how fast they came back up; correct? You don't have that data?
A. Unless there's a data point somewhere that is in that date range. My recollection is I can't remember seeing any, but, I mean, they're not -- I'm not sure of that.

Page 2415

Q. Well, what was Lance Armstrong doing competitively in December of '97?
A. I guess I'd have to look at -- did Ed Coyle talk about that in his paper? I -- I haven't got a training history for Lance Armstrong, so I couldn't tell you that.
Q. So you don't know whether he was training or not when his numbers were 41.2 for his hematocrit?
A. February '97, did you say?
Q. I did.
A. Or December '97?
Q. I said December '97 --
A. Well --
Q. -- I think.
A. That's -- his chemo was in October '96, December '96. So January '97 he stopped EPO. My recollection is that he -- I think someone at the hearing has said or it might have been Jay T.'s deposition or something like that that he was back sort of testing the water at that point in time. I don't know. That's my impression.
Q. Okay. And February 14th, '98, what happened -- what did he do between December '97 and February '98, as far as competing or training?
A. I don't have his training records to be able

Page 2416

to tell you.
Q. Well, are you familiar with testimony about a hypoxic tent?
A. No.
Q. Maybe with testimony that Lance Armstrong uses a tent to simulate altitude? Has there been that testimony in this case?
A. I think Lance Armstrong mentioned it, but he didn't say when he was using it.
Q. Okay. Well, does --
A. Back in '97, '98, it wasn't a sort of -- as common as what it is today. I mean, now you can buy hypoxic tents over the Internet. Back then, it wasn't -- it was a very -- a new area, if you will.
Q. So you didn't know that in early 1998, Lance Armstrong used a hypoxic tent?
A. I don't know one way or another.
Q. Okay. Well, what is the effect of hypoxic tent on hematocrit?
A. Pretty modest.
Q. And what percentage?
A. Maybe -- well, you've got to look at it -- are you saying when he's in the tent, while he's got his head stuck in it, or the next morning when he comes out of it, or at lunchtime after he's come out

Page 2417

of it? If you give me a time, I'll give you an answer to --
Q. Let's assume you spend six weeks to two months of training while using the hypoxic tent when you're not training.
A. Yeah.
Q. What kind of change in your hematocrit can you see?
A. It would be negligible, yeah. Maybe one percent or something like that. I mean, it's -- it's peddled by the manufacturers that this is a fantastic way to increase your hematocrit. The evidence to support it just isn't there. Studies have been done. What effect does putting your head in a tent at night have on, you know, hematocrit? We've done those studies ourselves, and it's just not there.
But the manufacturers would have you believe otherwise, and athletes who peddled products for the manufacturers would have you believe otherwise. And I'd go so far as to say athletes who are using doping use this as an alibi for doping, as well, so you've got to take what you hear with a little bit of caution.
Q. So you're not aware of published studies that say that if you sleep in a hypoxic tent and you train

Page 2418

at low altitude but you -- but you live in a hypoxic tent at night, that it can cause two, three percent increase in your hematocrit?
A. I don't doubt that there are studies like that, but I would want to see that data because personally I've done those comparable studies, and we don't see it.
Q. All right. Let me ask you some questions about your -- your background. You graduated from college when? 1995?
A. School?
Q. Your undergraduate degree.
A. Oh, '95, yeah. Correct.
Q. And how old were you then?
A. I don't know.
Q. Well, when were you born?
A. I'm very shy about my age.
Q. When were you born?
A. I -- it's a personal detail that's got no relevance to this. If you want to ask me how many years I've been in the area, sure, but --
Q. No. I want to know how old you are.
A. I choose not to answer. Is it really important?
ARBITRATOR FAULKNER: Okay. Doctor,

Page 2419

would you please humor the Tribunal? In court, I could direct you to answer. I'll ask you to answer. It is a very common, expected answer here, maybe not in Australia. But if you'd be kind enough to tell us how old you are, it'd be very helpful.
A. In '95, I would have been 30. You do math.
Q. (By Mr. Levinstein) Okay. So you graduated from college in 19 -- what we call college or university, in 1995?
A. (Witness nods head up and down.)
Q. And from '95 to 1999, you were a grad student?
A. No.
Q. Were you a student during the entire period from '95 to '99?
A. I'd have to remember when I was enrolled, but I'd say, no.
Q. Okay. How long does it take in Australia to go from a bachelor's degree to a Ph.D.?
A. Oh, it varies. I mean, there's -- there's no stipulation of how long you have to spend. Some people take six, seven years.
Q. Well, what's the shortest you can take?
A. There's no stipulation that I'm aware of.
Q. Okay. But a lot of the activities in which

Page 2420

you were engaged in that you've described from '95 to '99 were as a graduate student?
A. No.
Q. Well, they were a part of your Ph.D.?
A. Program. I was doing a Ph.D. outside of my work. I was employed.
Q. Okay.
A. And I was doing my Ph.D. -- you might call it by correspondence. Is that -- do you have that term here?
Q. We do.
Okay. So from '95 to '99, the only degree you had when you were engaged in these activities was an undergraduate degree?
A. I can't remember when the Ph.D. was awarded. I couldn't answer that.
Q. Well, your resume says Ph.D. in 1999 from James Cook University.
A. Okay. Well, depending on when in '99 it was awarded, yeah.
Q. Okay. And shortly thereafter, you were dismissed from the Institute of Sport?
A. Incorrect.
Q. Well, you were working for the Australian Institute of Sport; correct?

Page 2421

A. When are you talking about now?
Q. Well, let's see. From '96 to 2000, you were working as an exercise physiologist for the Australian Institute of Sport?
A. Yeah.
Q. And then you were a consultant on an EPO 2002 project -- 2000 project for the Australian Institute of Sport?
A. Yeah.
Q. Did that project end in 2000, the EPO 2000 project?
A. No.
Q. When? In 2001?
A. No. Probably two or three years after that.
Q. Okay. And did concern rise that the conduct you were engaged in raised ethical concerns?
A. No, no. That's --
Q. Did you under --
A. Do you want me to answer?
ARBITRATOR FAULKNER: Question his questions, and I am sure that Mr. Towns will have lots more questions for you afterwards.
A. No. That's incorrect.
Q. (By Mr. Levinstein) Okay. Were there concerns expressed about whether the conduct you were

Page 2422

engaging in was a conflict of interest?
A. No, that's not an accurate representation.
Q. Well, did you receive a letter formally reprimanding you for conduct beyond your role as a public servant?
A. That letter from the director of AIS was sent to me while I was overseas, and we -- your rebuttal witness and I -- at the time we were collaborating to get this doping research program underway. Now, at the time I was arguing that there was a better way to stop cheats -- blood dopers in sport by using a safe program which Professor -- Dr. Stray-Gundersen was advocating.
Now, I took the stance that it was better to have that program utilized than do simply what we had got to by the time of the Sydney 2000 Olympics. Now, the Australian government took the stance that, no, we paid for this research. This is our stance. We're not getting any better.
I took issue with that, and I took a stance that, no, I am going to advocate this -- this approach, which I felt genuinely was better than what was in place. The director of AIS wrote me a letter and said, you're an employee of the Australian government, and you are recommending an approach which

Page 2423

is not consistent with our adopted protocol, and it was -- I think he said, you know, you need to be aware that what you're doing is -- is beyond your I -- well, I'll have to look at the letter to get the exact wordings.

And based on that letter, which I received when I was in London -- and I contacted him and said, you know, this is ridiculous. You know, you're being -- he was being pigeonholed by some superiors of his, and I said to him, this needs to be resolved because it's nonsense.

That letter's on the record, as well. He said, look, just wait there. I was in London from what I can recollect. The Australian government was paying me, and I was up in London for a week until they tried to resolve the confusion here in Australia. They were never able to, so in the end, I had to cancel a whole lot of appointments, came back to Australia to deal with it one on one.

Q. Did you receive a letter formally reprimanding you for conduct beyond your role as a public servant?

A. No. My recollection or that letter -- and I can go back and have a look at it -- is --

Q. Could we put up your deposition to page 174?

Page 2424

MR. TILLOTSON: Well, let him finish his answer.

MR. LEVINSTEIN: Sure. I'm sorry.

Q. (By Mr. Levinstein) Go ahead.

A. My recollection is that the actual wording was that it was alerting me to the fact that I was proposing or endorsing a stance that was inconsistent with the government.

Q. Okay.

MR. LEVINSTEIN: Could you put up his deposition, page 174, please?

A. Page 174?

Q. (By Mr. Levinstein) Yeah. Line 8.

Question: Well, did you receive a letter formally reprimanding you for conduct beyond your role as a public servant?

Answer: Yeah.

A. Yeah. Now, to be perfectly frank, that question was at the end of what turned out to a five and half -- five-and-a-half-hour deposition. It caught me by surprise, and I hadn't visited that issue for quite some time. After you asked me that question, I made a point of going back and looking at my records to search that letter, and I've got that letter on my computer, from what I can recollect.

Page 2425

And now having reviewed that letter, I would say, well, no, that's probably misrepresenting. At the time I said, yes. It -- it caught me by surprise.

Q. Have you ever been a faculty member at a university?

A. Yeah. I'm currently -- what do they call it? I'm drawing a blank. At the University of Melbourne in the Department of Medicine Stats, so I'm a -- so I'm some sort of a fellow.

Q. Is there a reason it doesn't appear on your CV?

A. Personally I don't give it a lot of weight.

Q. So do -- are you employed as a professor to teach classes there?

A. No, no.

Q. Okay. So you're not a member of the faculty?

A. Well, I think they categorize it that I am, but, frankly, it's more -- it's -- it's paperwork which I don't spend a lot of the time doing.

Q. Okay. So -- and since you got your Ph.D., you've -- primarily of the, I guess, six years since you've got your Ph.D., for the past four, you're been the project coordinator of this group you created called the Science and Industry Against Blood Doping?

Page 2426

A. It's a consortium, yeah.

Q. Okay. And its funding comes from WADA and USADA?

A. WADA, USADA, and now the Danish Antidoping Agency, as well.

ARBITRATOR LYON: The who?

THE WITNESS: Danish from Denmark.

Q. (By Mr. Levinstein) So you've been employed by the drug testing organizations to do research?

A. No, they don't employ me. They provide a grant, and I take a salary from that grant.

Q. Okay. So you have a group of people who are part of your project, and they apply for grants under -- with your -- which you're a part of as the project coordinator, and you, as the project coordinator, supervise the projects that are given to this group?

A. I thought you would have a pretty good understanding of this because in the Hamilton case, you dwelled on this for hours and hours. It's clear --

Q. I did?

A. Well, you and Jacobs are interchangeable, in my view.

Yes, I'm coordinating a research

Page 2427

consortium.
Q. Okay. I'm not counsel in Jacob's case, just for the record so --
A. Well, it's pretty clear they're --
MR. TILLOTSON: Mike -- Mike -- Mike, stick to answering the questions, please.
THE WITNESS: Oh, I'm so sorry.
Q. (By Mr. Levinstein) Go ahead. Your answer to that, what you --
A. What was your question? I'm sorry.
Q. The sports -- sorry. The Science Industry Against Blood Doping research project, what's your role in that project?
A. Project coordinator.
Q. Okay. So, for example, when you testified about the urine testing that was done in connection with one of the projects, actually the samples were simply sent to the French lab, and they reported the results?
A. The study was done in France.
Q. Right. And you've never worked in a doping control laboratory?
A. No.
Q. And you've never done an EPO test?
A. No.

Page 2428

Q. All right. And you've never prepared a document like the chart you showed us with the '99 samples?
A. Typically they're sent to me, but, no, I prepared similar things when I submit the reports to WADA.
Q. Well -- but you've never done a report of EPO testing or any kind of urine testing?
A. I have.
Q. Well, what urine testing have you conducted personally?
A. In 1995 in France, we were funded by the World Antidoping Agency to examine whether titrating EPO dosages would have an effect on urine profiles. We -- that was conducted by the Paris lab. They forwarded the -- the results to me. I reformatted them, put them into a report, and submitted that to WADA in -- in compliance with the grant that they've given us.
Q. But all you did was take data from them and put it in a chart; right?
A. No. That's not accurate.
Q. You said you reformatted it and put it into a report for WADA.
A. Yeah, okay. I was paraphrasing, but, I mean,

Page 2429

in the -- in the middle there was a -- an exchange for -- oh, I don't know. I hesitate to put a time frame on it, but at least weeks and perhaps months where we were looking at these results and discussing them. So it's not accurate to say I just took the values, pasted it, and sent it off.
Q. Okay. Let's go back to those three values that we were talking about from LA Confidential.
You said those numbers are consistent with blood manipulation?
A. Yeah.
Q. Okay. So is it your view that Lance Armstrong would have done something to reduce his hematocrit to the 41 level?
A. You would have a reduction in hematocrit if your natural value was 46.7. I would find that curious, but I think the reality is the middle value is abnormally high, so it's not as if you reduced his value. It's that that's normal, and then he's -- it's consistent with blood manipulation that arises to 46.
So that's kind of a flip side to what you were alluding to.
Q. Well, what events did he compete in in February of '98?
A. I don't know.

Page 2430

Q. Were you aware that he was starting to attempt a comeback?
A. If you say so. I'll accept what you say.
Q. Well, in order to assess these values and whether they show blood manipulation, wouldn't you want to know what events were coming up and not coming up?
A. No. Because we've been doing this research now really for -- for three or four years, and we have -- it's -- I don't want to get too technical about it.
If you apply what's called "analysis of variance," you can tease out, well, what effect has the time of the day been? What effect has the training been? What effect has posture been?
Now, we've collected probably -- it would be close to 3,000 samples and analyzed all of those, used these analysis of variance. And it allows you to look at, well, what's what and who and this, this, and this. Now, we've progressed that on to a point now where we're confident when you take all of those factors we know we can't control for them, so we've built that into the model.
We now look at blood values, and I can confidently look at that and say, well, I know based

Page 2431

on 3,000 samples and this analysis of variance which reveals the different components that, yes, that is consistent with blood manipulation.
Q. Consistent with?
A. Yes.
Q. Does that mean there was blood manipulation involved, or there wasn't?
A. I -- do you want me to spell consistent? That's the word I'm choosing to use.
Q. Well, again, it's also -- could be consistent with not blood manipulation; correct? Or it isn't?
A. I said, it is consistent, so it can't not be consistent. I said, it is consistent with blood manipulation.
Q. Okay. Does that mean you believe that Lance Armstrong was involved in blood manipulation between December '97 and February of '98?
A. Looking at this data, I would not exclude that, no.
Q. Well, I'm not asking you to not exclude it. You're here to testify, and you've testified you believe Lance Armstrong was using performance-enhancing drugs; all right? We want to know what you base that on, and if it's just -- nothing proves but taking it all in one big picture,

Page 2432

that's one thing. I'm trying to identify individual things on which you're basing your opinion and ask you whether they show it or not.
So if you can't answer that, that's okay, but to a legal -- you know, a reasonable certainty, are you -- you testified some things beyond a reasonable doubt, you say. So I want to know what level of certainty you have that the 46.7 reading in February '98 was due to blood manipulation.
A. Okay. So you want me to -- I mean, I think I made it clear in my deposition -- in fact, I'm sure I did in the end -- that I was taking a whole lot of things into account. Now, you want to narrow that out and say, now let's just look at this component.
Okay. I'll look at this component, and you want me to ascribe a level of certainty. I'm not a lawyer, but I would say that it exceeds mere chance.
Q. I'm -- I don't know what that means. Mere chances of one in 20? I don't know what mere chance is probabilitywise.
A. Well, I'm trying to ascribe a -- a legal -- you want me to use words to describe numbers. Now, there's going to be some personal interpretation. That's the words that I would use to convey what I

Page 2433

understand when I look at these numbers.
Q. Let me ask you: Has any athlete ever, ever been sanctioned by anybody because of a change in their hematocrit level?
A. No.
Q. So no one's ever taken hematocrit levels and come into a court or a CAS arbitration or any proceedings and based on hematocrit levels alone sanctioned an athlete; correct?
A. Not yet.
Q. Okay. But you think that that should happen?
A. No, that's not accurate.
Q. Well, you think that that data alone can be the basis for declaring athletes guilty of using performance-enhancing drugs.
A. When have I said that?
Q. Well, isn't the whole idea of this longitudinal study that what you're advocating is by taking blood samples for a long enough period of time, if there's too much variation, that can be the basis for sanctioning an athlete?
A. I think if you look back, this notion of longitudinal blood collection has been -- it's -- work in progress isn't quite what I would want to convey, but certainly there was an optimism around the year

Page 2434

2000 that, yes, that would be the scenario.
I guess now that I have seen a lot of data and I've been through this analysis over and over and over, I now would take the position that it's certainly a tool to identify suspicious changes, and I think it's got a very potent application in that respect. Whether or not we'll ever see the day when just hematocrit alone is used to sanction an athlete, I think I would be -- I'd be skeptical. I don't think it will happen. It may.
Q. Because you don't think it's enough on which you can reach a conclusion to a sufficient level of probability in order to sanction an athlete?
A. In order to impose a sanction?
Q. Yeah.
A. I think the values would have to be so extreme that the athlete would have to be completely stupid to have presented himself with those values, so I doubt it would happen.
Q. Okay. And these aren't close to those kind of extremes you're talking about?
A. To impose a sanction on these three values?
Q. Yes.
A. No. I wouldn't be confident prosecuting that case, no.

Page 2435

Q. Okay. And the 41 value that it drops back down to, do you see that?
A. Yes, I do.
Q. What was he doing in June of '98?
A. I don't know.
Q. Did you know he just won tour of Tour of Luxembourg about three days before that number?
A. I don't know. I didn't know that.
Q. Well, then the question is: Don't you need to -- I mean, isn't the idea of blood doping that the idea is that the athlete would be getting his hematocrit up to a high level in preparation for a race?
A. If they chose to.
Q. Okay. And, in fact, about -- around the time of the February test, were you aware that he was in a race and did extremely badly, the Rue of Del Sol?
A. I think we've already covered that. I said I didn't know what he was doing.
Q. Well, at some point you did. Do you remember the Rue of Del Sol and Lance's attempt to come back and that it failed?
A. No.
Q. And do you remember that then he was in something called Paris to Nice cycling race, and he --

Page 2436

A. And then he broke the record.
Q. -- dropped out in the prolog?
ARBITRATOR FAULKNER: Wait. Gentlemen, one at a time. We can only hear one of you at a time, as can our court reporter.
A. Just to save a little bit of time for everyone, I'll go on the record as saying, I don't know what he was doing during this period, so you don't need to ask me again.
Q. (By Mr. Levinstein) Well, we heard all these different possible things that can change hematocrit.
A. Yeah.
Q. And you don't know which one of these factors, how the blood was taken, his posture, all those things, at any of those three the blood was taken?
A. What I've also pointed out is that we've now got our research to the point where we're comfortable. We don't have to take that into account, and you need to allow a margin, but that margin is in place. And when I look at these values, I look at them based on the 3,000 or so samples I've seen, and, yes, that is unusual.
Q. Unusual?
A. Well, I'm using another word hoping that you

Page 2437

might be satisfied with it. Obviously not.
Q. Well, at your deposition the only tenable explanation for this was blood doping, so I'm trying to get to -- now, we've also seen in '91, he had that same 46.7 value.
A. He did, yeah. That's not the same test.
Q. No, no. In 1991.
A. Okay.
Q. Do you remember, the early use -- the one in Colorado Spring?
A. That's the same value, yeah.
Q. So you still think that's really unusual, that he got the same value in '91 and he got it again in '98?
A. I think any two tests when you come up with the same value to one decimal place is going to be unusual, so in that respect, it's unusual but --
ARBITRATOR LYON: I'm sorry. What did you just say? I didn't hear you.
A. If you -- if you conduct a test and on two separate times separated by seven years you get the same result to one decimal place, that's unusual. Now, it's also what you would expect to see if an athlete was using doping at some stages and not at others. The value doesn't stay high just because

Page 2438

you've doped once. It will come back down to normal and go back up if you dope again.
Q. (By Mr. Levinstein) Well, we're going to put on testimony later that there's a much bigger variation than you're talking about. But what would you say is the normal variation around your normal hematocrit?
A. For an endurance athlete?
Q. Fine. And --
A. Okay. I don't know off the top of my head, but I can go and find out, if you want.
Q. About? One point? Two points to -- up and down?
A. It's a -- it's a continuum, so it's not as if it falls over one decimal point and say, that's suspicious and one below it's not. But, I mean, if you saw a change of four percent, it would be, like, okay, that's -- that's unusual, but, I mean, it's a -- the stance that we're advocating at the moment is that you recognize the changes, not necessarily ascribe a certainty to it, but if a value changes by 3.9 and if you have the threshold of saying a four-percent change is unusual, and another value changes by 4.1 percent, to my mind, I look at it and say, well, I can -- I can take that threshold out because a change of that much

Page 2439

is not something that I've encountered before.
And so, I mean, is two percentage strange? Is three percent? Four percent? I would struggle to give you an -- an exact number where all of a sudden I say, that's unusual and that's not. I mean, as well, I think if you take into account the other values, in particular ferritin here, you begin to get a better picture of what's going on.
So, you know, I -- I can't answer your question the way that you want because I just -- I don't think it's a -- I don't think I could answer it, and that's the best response I can give you.
Q. So if my hematocrit is normally 43, four points higher up to 47 is within the -- or 3.9, is what you said was a normal range?
A. I was giving you that as an example.
Q. Okay. Well, what is -- let's say my hematocrit is 43. What would you expect it to be at the low and the high over the next three years when I get tested without doing anything?
A. I -- I was trying to convey to you that that's not the stance that I take at the moment. It's a continuum, and so I don't say, this percentage point equals suspicious. I don't look at results that way.
Q. That's not the question I'm asking. I'm

Page 2440

saying, if -- I'm just a normal person, and I have hematocrit of 43. I assume that every time I get my hematocrit taken, given diet, altitude, how the blood's drawn, the tourniquet, the calibration of the machine, et cetera, there's going to be a variability?
A. Yes.
Q. Okay. And what the hospital says versus a different system that Ferrari might have or what the USOC might have, different machines may end up with different results?
A. Yes.
Q. And it matters how much water I drank; right? How hydrated I am affects the whole thing?
A. Yeah.
Q. I'm asking you, if over -- let's say, every day you took my hematocrit four times a day for the next year, what would be the high number and low number? Assuming I did no blood manipulation, what kind of a range would you expect?
A. I'll say it once more, I don't use specific ranges. It's a continuum. Now, if -- you're asking me to take all these factors into account and give me the range. Now, if you take out one or two of those factors, that range is no longer applicable, and that's why I don't believe it's appropriate to say,

Page 2441

"X" percent is the range because you can't take those factors into account, and so --
Q. Well -- and you're going to ask this Panel to look at hematocrit numbers and consider them evidence of whether someone had blood transfusions or used EPO or did something improper. And a starting point would be because there's variation in the numbers. A starting point would be to tell us, the average person who does none of those things, how much variation would you expect in their hematocrit? And if you don't know, that's fine, but if you do know, what would you expect?
A. Are you talking about a hypothetical, or are you talking about these values?
Q. A hypothetical, an average person who's got hematocrit of 43 who's a male.
A. No, no. You said a hypo -- you said, we're going to tell all these -- you're going to -- you want me to submit this is evidence of --
Q. No, no, no.
A. -- blood manipulation?
Q. No, no. Before we get to looking at Lance's numbers. We're going to compare Lance --
A. That's what I asked you, were you talking about these numbers or a hypothetical?

Page 2442

Q. We're going to compare Lance's numbers to a normal person, let's say; okay? And you're going to say that these variations in Lance's numbers have some legal significance, that they are evidentiary, that you ought to consider that Lance went from 41 to 46 and consider it suspicious or suggestive of doping.
A. Well, you were telling me what I'm going to say. Is this a hypothetical?
Q. You've already said that about these three numbers -- you said that the 41 -- the 46.7, the 41 suggests that there's -- suspicions should be raised about whether Lance Armstrong was involved in blood doping, and you've said the 48 and the 46.7 from '91 should raise suspicions -- that is, a 20-year-old athlete, Lance Armstrong, was involved in improper manipulation of his blood. That's what you've testified to, as I understand it. Am I incorrect?
A. You're using words that I haven't used. I will use my words, if I may.
Q. Okay.
A. Those values, in my opinion, are consistent with blood manipulation. Now, if you want to then take that and say, well, now you're going to use that in a legal case, I would say, now, hang on a minute. That's not what I said. You asked me, face value, to

look at these results. Now, if you'd then said, well, now you're going to base a doping sanction on this, I would have said, to begin with, well, you know, you asked my opinion. I gave you my opinion.

ARBITRATOR FAULKNER: Okay. Gentlemen, the Senator needs to leave. This is going to be a good place to stop. We will be resuming Cross-Examination at 9:00 in the morning, and then we will take this up again at that time.

(Proceedings adjourned at 5:00 p.m.)

STATE OF TEXAS)

COUNTY OF DALLAS)

I, Kathy E. Weldon, Certified Shorthand Reporter, in and for the State of Texas, certify that the foregoing proceedings were reported stenographically by me at the time and place indicated.

Given under my hand on this the _____ day of February, 2005.

_____

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