

SUPERIOR COURT OF JUSTICE

B E T W E E N:

JOSEPH T. BATTAGLIA

Plaintiff

- and -

IMPERIAL TOBACCO LIMITED

Defendant

P R O C E E D I N G S A T T R I A L

BEFORE THE HONOURABLE MADAM JUSTICE THOMSON
On Monday, November 27, 2000 at Toronto, Ontario

APPEARANCES:

MR. D. LENNOX	Solicitor for the Plaintiff
MS. D. GLENDINNING	Solicitor for the Defendant
MR. L. BARNES	Solicitor for the Defendant

SUPERIOR COURT OF JUSTICE
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Monday, November 27, 2000

THE COURT: Okay. Mr. Massey, ready to go?

MR. MASSEY: Good morning, yes. I believe so, yes.

THE COURT: Right. I would just remind you that you are under oath.

MR. BARNES: I just have a few more questions.

THE COURT: Yes.

EXAMINATION IN-CHIEF OF MR. MASSEY BY MR. BARNES (CONT'D):

Q. Mr. Massey, on Thursday afternoon you were presenting evidence on hole-blocking and we went through several articles during the course of that evidence. I just wonder if perhaps you could just give us a conclusion as to what all of that literature means in simple terms as opposed to scientific terms?

A. Well, I think in simple terms what it says is some smokers cover some of the holes to some degree on some of the puffs when smoking some cigarettes. And when you add all of that up, assuming that there is a maximum when the holes are blocked or completely covered there is a maximum blockage of 50% it leads to a very small increase in the delivery of tar and nicotine in absolute terms. I believe the figure was 4.1 to 5.3 in terms of tar.

Q. Okay.

THE COURT: Did you say in "absolute terms?" Is that what you said?

A. Numerical terms - 4.1 to 5.3. I believe were the figures I quoted from the Baker Dixon and Hill publication.

THE COURT: M'hmm.

Q. And when using that "absolute term" applying to the nicotine, you recall what those figures would be?

A. I don't know exactly, but in round figures, it would still mean that there would be pack printed delivery of .4mg in both cases.

THE COURT: Yes.

5 A. I believe it was .35 to .37 - I can't be sure. Can I look at the document?

Q. Would you please, if it would help you, just on that point because I think that might be important. Would you just tell us what Tab Number you are going to please, Mr. Massey? It might be at 26.

10 A. That is at Tab 26. It's the publication by Baker, Dixon and Hill. It's page 78, Table 6. And the nicotine delivery goes to the 50% blockage.

THE COURT: May I have that page again, please. 76?

15 A. 78, Table 6.

THE COURT: 78, okay, yes

A. It goes from .35 with no blocking to .44 with 50% which in random numbers is still .4mg per cigarette.

20 Q. And when you are saying in round numbers, it is still .4, that's because of the methodology that's used to.

..

A. That's correct.

Q. ...put the numbers on the packages. As I under it 3.5 becomes .4?

25 A. Yes.

Q. And 4.4 becomes...

A. .4.

Q. .4

A. Yes.

30 Q. All right. Thank you, Dr. Massey. You can close that Tab. We've heard a bit of discussion with Mr. Brown

about the product "Eclipse." Are you familiar with that product, Mr. Massey?

A. Yes, I am. I have seen that product. I have smoked that product.

5 Q. All right. And, are you aware of what in fact is happening with that product in the United States? We have evidence that suggested this it is on the market in the U.S. Could you please tell the court what you know about that product?

10 A. Ah, yes. That product is on test market in certain local areas in the United States. And, in fact, it has been criticized - criticized quite severely by a number of the anti-smoking groups as being no safer than a normal cigarette.

15 Q. I would like to show to you some press releases and just ask you if that's the criticism that - the type of criticism that you are aware of. Can I hand these up to Your Honour, please?

20 Perhaps if we start with - just to make sure that we all have order, the one that's got April 9 in the upper left hand corner?

20 THE COURT: Yes.

25 Q. All right, this is an Associated Press article. And, it - does the first paragraph record what your understanding of what was happening in the US when RJR tried to introduce this into the test market?

30 A. Yes, it is - considerable resistance towards this. And, indeed, there was resistance towards the predecessor of Eclipse which was "Premier." (Ph).

30 Q. All right. And, if you go down in this press release you would see that the ASH Director, John Bansite (Ph) filed a complaint with the FDA, arguing that Eclipse should fall into the same ruling - the same ruling I understand

to be Premier. Is that correct?

A. Yes.

Q. And, not be allowed on the market?

A. That's correct, yes.

5 Q. And I would like to take you down to the sentence, "The situation illustrates the dilemma facing tobacco companies. Some anti-smokers complain when they seek to develop what others would call a "safer cigarette." Does that go back to the evidence that you gave earlier that obviously as you worked towards a design of a product that is "safer" it has to have consumer acceptability?

10 A. In fact yes. It does have to have consumer acceptability. But, also it has to meet whatever criticisms maybe put forward by regulatory groups or, or, in this case, Anti-Smoking Groups. And, the rules tend to change on the way they view these products.

15 Q. All right. And if I could ask you to turn to the next article, which is April 24th.

THE COURT: Do we know what year?

20 Q. I believe the year that you are looking at...

A. Year 2000.

Q. No, I believe actually, Your Honour, I believe...

A. Oh.

25 Q. ...the one that you are looking at, on April 9th, I think is 1999.

THE COURT: Okay.

Q. And the next one is....

THE COURT: 2000, I can see that, yes.

30 A. Yes.

Q. And the next two are both 2000. All right.

Can you tell me what you understand from the second article that you have in front of you which is April of this year, Mr. Massey?

5 A. Well, it is, it is that the product is still being criticized for any claims that it may be less harmful. In this particular case the criticism tends to focus on what is termed the "release of glass fiber materials" which are used in the construction of the product.

10 Q. And, if we turned to the last page we see that there was now a concern being expressed about the use of glass or, I guess the glass fibers that are being used in this particular modification or design.

A. Which page are we on?

15 Q. The very last page of that article.

A. Oh, of that one.

Q. That's correct.

20 A. Ah, yes, that's correct. They are talking about glass fiber being an issue there. But, I should point out there has been a considerable dialogue between RJ Reynolds and various groups of toxicologists. In fact there is - this is, this issue is the subject of a recent edition of Inhalation Toxicology issued about two weeks ago.

25 Q. And then if we go perhaps to the most recent press release which is October, 2000, we see in this press release that Anti-Smoking Groups said, today, that they wanted RJ Reynolds to stop test-marketing an experimental cigarette. Do you see that?

A. Yes.

30 Q. And that's your most current information as to what's going on in the US, isn't it?

A. With regards to the Eclipse product, yes.

Q. And, in fact there is reference here at the

bottom of that page to some studies that have been done in Massachusetts. Do you see that?

A. Yes.

5 Q. Suggesting that with respect to two particular components, which they say are cancer-causing there is a lot more of them in this product than there is in other products?

A. Yes, that's correct.

10 Q. So, it would be fair to say from reading that there are certainly, even in the limit test-market, there is obviously a great debate as to whether Eclipse is in fact a safer product.

A. That is correct.

15 Q. Might I have the three marked as the next exhibit, Your Honour?

THE COURT: Yes.

Q. Okay.

20 EXHIBIT NUMBER 17: Press Releases from the Associated Press - April 9, 1999, April 24, 2000 - Produced and Marked.

THE COURT: You said something came out two weeks ago. Is that what you were referring to, this, or to something else?

25 A. I am referring to a publication in a journal "Inhalation Toxicology" which reviews the issue with regards to glass fiber particles. And, suggests or provides good evidence for such glass particles being too large to be inhaled. This was a study conducted on behalf of RJ Reynolds.

30 Q. If I could just - this is just a matter of housekeeper - if I could just ask you, Your Honour. I hand you a copy to look at Exhibit Number 10 for a moment, Mr. Massey? That is the chart that I discussed with Mr. Battaglia with

5
respect to his smoking history. And, I think that he was prepared to accept that the T & N numbers were in fact correct on that chart but I said that I would prove it. And Dr. Massey I understand that you have reviewed the various files and those numbers have come from those files that you have reviewed establishing what the T & N numbers were on those packages during the relevant period of time?

10
A. Yes. These are, these are the numbers - and you are correct. I have reviewed these and I have reviewed them also with the manufacturers of the non-ITL products

Q. And, I am wondering if I could just ask you to look - and I would just hand you a copy...

THE COURT: Which ones are ITL products?

A. The first one would be Medalion.

15
THE COURT: Yes.

A. The next one would be du Maurier Special Mild 100s. The next one would be du Maurier Extra Light.

THE COURT: Yes. All the du Mauriers?

20
A. du Maurier Ultra Lights and then the last three, which are the Matinée Slims, Extra Mild Kings Size Matinée, Extra Mild King Size itself and Matinée Slims 100s Extra Mild are ITL products.

25
Q. Thank you. And if I could then ask you to just to look for a moment with me at Exhibit Number 16. And I would just hand you a copy. And without asking you to do the arithmetic again, we looked at - I'll make sure that Viscount 100 is on the first sheet...

A. Yes.

30
Q. ...and Craven A is on the second sheet. And I was asking you about what the numbers would be for products that I suggested to you were competitive products of the Matinée products based on the intensive regime in BC. And we

5 looked at these two products and looking firstly at the
Viscount 100s Extra Mild, I that you said that percentage
numbers - we adjust them roughly - so we don't need to do them
again them was sort of over 700 percentage...

A. Yes.

Q. ...when you did the intensive?

A. That's correct.

Q. And secondly it was a similar exercise with
respect to the Craven A...

10 A. Yes.

Q. ...which was a similar product to the
Matinée. And a question was raised, Dr. Massey, that in fact
the Craven A that we were looking at were not in fact King
Size?

15 A. Yes.

Q. Do you recall that?

A. That was question was raised.

Q. I am just wondering if in fact, first off
all, you could just explain to the Court why not all of the
products are found presently on the BC web site?

20 A. The main reason that they are not all found
on the BC web site is because then there was cut off in terms
of market share. And, now, it is only products above 1.25
percentage market share.

25 I also believe that there is some issue with regard to
posting these numbers - it's a technical issue, I believe - on
the BC web site. It's not that it's not updated on a regular
basic.

Q. And, as I understand it, Dr. Massey, the
balance of the products are being phased in over the next
30 several months?

A. Yes, in the next twelve months.

Q. So, eventually all of the products would be up on the web site?

5 A. No, not all of the products will be up on the web site, only those brands which have in excess of 1.25% market-share in the British Columbia market.

Q. All right. Now, and it's brand-share in British Columbia as opposed to brand share nationally?

A. That's right.

10 Q. All right. And, coming back and just dealing with the Craven A King Size, it's a ventilated product as well?

A. Yes.

15 Q. And, what would you expect the results to be of that product if it were king size as opposed to the Craven A Special Mild that we are looking at here?

A. There is the king-size version of the Craven A Special Mild.

Q. Right.

20 A. I would expect those to show a similar increase when smoked under the modified or so-called "Intensive Regime."

Q. And just one final question on this. I believe that Mr. Battaglia's evidence was that he is currently smoking Vantage Slim 100s Extra Light Fours?

25 A. I believe so.

Q. And could you...

THE COURT: Just hold on a minute.

MR. BARNES: I am sorry. It's a long name, isn't it?

THE COURT: Vantage?

30 MR. BARNES: Vantage Slim 100s Extra Light Fours.

THE COURT: Is that correct, Mr. Battaglia?

MR. BATTAGLIA: It's a variety of - that's one of them.

THE COURT: Okay.

5 MR. BARNES: Q. And, Mr. Massey, can you tell the court, first of all, is that a ventilated product?

A. Yes, it is.

Q. And, what are the numbers on that product?

A. 4mg of tar and .5mg nicotine.

10 Q. And what numbers would you expect that to show on the "Intensive Method" measurement?

A. I would expect that under the "Intensive Regime" those would show similar increases to those observed for Matinée Extra Mild Slim 100s which would be of the order of 600 to 700% increase in tar and nicotine.

15 Q. I just want to ask you one or two more questions about elasticity. First of all Mr. Collishaw's paper is referred to in the materials. Are you aware as to whether Mr. Collishaw's paper has ever been peer reviewed?

A. I don't believe it has.

20 Q. And, you have given evidence, as has Mr. Brown, that Imperial's products are not elastic.

A. That's correct.

25 Q. Is there a test available where the Plaintiff can go and test the products to demonstrate to the contrary if they wanted to test that the products were elastic?

30 A. There are laboratories. One does exist in Canada. There are equipped to do smoke analysis. And, it would require going to one of those laboratories and changing the puff volumes to greater than 35mg, but keeping everything else the same and to generate tar and nicotine numbers. That can be readily done.

Q. And I take it that lab would be Labstat.

(Ph)

A. Labstat (Ph) would be one of the laboratories.

5 Q. And your evidence is that you have never marketed an elastic product.

A. That's correct.

Q. And, you may recall - were you here when Mr. Crawford was being examined?

A. Yes, I was.

10 Q. And, Mr. Crawford - I just want to put this context so we remember the time frame. Mr. Crawford was being asked questions about a visit he made to Sir Patrick Sheehy in, around December, 1986.

A. Yes.

15 Q. All right. And at some point in his questioning he was asked by Mr. Lennox if in fact the project that he went over to speak to Mr. Sheehy about was discussed with Health Canada, and Mr. Crawford said he wouldn't know. Can you answer that question for the court?

20 A. Yes, I can. The project in overall terms, or that stage in its over all terms was presented to a Dr. Sommers (Ph) and Mr. Collishaw when they visited Imperial Tobacco in the early part of 1986.

25 Q. All right. And, I would ask you to dig out the correspondence and the materials surrounding that meeting and I'd like to just have a look at those with you. And, here's a set for Her Honour.

First of all, the first document that we see is a letter from Dr. Dunn to Dr. Sommers. And, I notice in the left-hand corner that you were copied on this document?

30 A. Yes.

Q. And what is the genesis of this document?

5 A. As, it says it was a follow-up to a CTMC meeting which was held - CTMC, being the Canadian Tobacco Manufacturers' Council. The technical representatives were meeting with Dr. Sommers and Mr. Collishaw in April. And as a follow-up to that, Imperial Tobacco took the initiative to invite Dr. Sommers and Mr. Collishaw to our laboratory to show them - to give them some exposure to the sorts of things we were working on and the general facilities of all laboratory.

10 Q. And is the invitation in the next letter reflect in the - I am sorry. The next letter sets out the fact that they are going to come and visit you at our laboratories?

A. That's correct.

15 Q. And the two that come are Mr. Neil Collishaw who has already given evidence and Mr. Sommers. And, then is the Agenda the next document?

A. Yes, it is.

Q. And it sets out the type of matters that you discussed?

A. Yes.

20 Q. And, can you point to items on this Agenda where you would have been discussing the very matters that Mr. Crawford was discussing with Sir Patrick?

25 A. That would be the Agenda item which was general a discussion on biological, where we talked about some of the work that we had reviewed and the proposals we were putting together as a research project to reduce those components of cigarettes smoke which had be indicted by various groups of people over the years-remove or reduce those components. And, that took place during that presentation.

30 Q. And, would it have been on this occasion that you would also have been showing Mr. Collishaw this machine that he referred to as the "Slave-smoking machine?"

5 A. Yes, except it was not a slave-smoking machine that was entered into the evidence. Early it was an updated version, a much more sophisticated version which was supposed to be a puff recording system and a puff duplicating system.

Q. So, you were making him aware of that technology?

10 A. Yes. And, this was no secret in any case at that time because we had presented the general outline of this equipment at a conference in Montreal. It was the Tobacco Chemist Research Conference in 1985, I believe.

Q. Right. I think we've actually reviewed that evidence.

A. Yes.

15 Q. You are right. And then if we turn over to the final page, that is a letter from Mr. Sommers back to Dr. Dunn. In this letter in the fourth line they say that they appreciate the open manner in which you discussed your work.

A. That's correct.

20 Q. And, do you presently have scheduled any meetings with Health Canada to review the current state of your work on this project, Dr. Massey?

25 A. A meeting is scheduled for December 10th, with a representative of Health Canada in the Bureau of Tobacco Control to provide them with an update of where that project stands.

Q. And what would your report be on that last point as to where your project stands today?

30 A. It will be - it will review the issues of smoke chemistry, some of the processing details that we've been through. It will review some of the toxicological issues. And, it will also touch upon the subjective character of the

prototype products that we have developed so far.

Q. And, what's your level of confidence as to whether you are going to be able to achieve your objective of a safer cigarette in the near future.

5 A. I think all I can say: I'll remain optimistic at this stage.

Q. I guess that makes you a good scientist. Thank you, very much. Those are my questions.

10 THE COURT: This will be Exhibit 18...

MR. BARNES: Thank you.

THE COURT: ...the documents with respect to the 1986 meeting.

15 EXHIBIT NUMBER 18: Imperial letter to D.E. Somers, April 28, 1986 - PRODUCED AND MARKED. Environmental Health Canada letter to Patrick Dunn, May 6, 1986 - PRODUCED AND MARKED.

CROSS-EXAMINATION BY MR. LENNOX:

20 Q. Dr. Massey, if you could go to your Tab 31 in the Red Binder, and turn to page 228,

THE COURT: Tab?

Q. Tab 31, Your Honour

THE COURT: Thank you.

Q. Page 228.

A. Yes.

25 Q. Do you see where it says "Conclusions" in the left-hand column?

A. Yes.

30 Q. And the third Conclusion there, a bullet point says, "In general, higher-yield cigarettes are smoked less intensively than lower-yield cigarettes.

A. Yes.

Q. Would you agree with the flip side of that that lower-yield cigarettes are smoked more intensively than higher-yield cigarettes?

5 A. They can be by some smokers, yes, on some occasions, but generally the information that we have available to us indicates that full compensation does not occur.

10 Q. But, I wasn't asking about full compensation, doctor, I was asking about general trends. You would agree that as a general trend lower-yield cigarettes are smoked more intensively than higher-yield cigarettes?

15 A. But I can only agree that the - when that does occur that they are compensated to the extent of 50% as is documented in the literature.

20 Q. And, when we talk about smoking more intensively we are talking about people taking bigger puffs?

A. In general, yes.

25 Q. And, people taking shorter intervals between puffs?

A. Generally I don't believe that they are as good - that that is a common method of compensation.

30 Q. You would agree with me that it does happen?

A. It does happen, but it is not generally from the literature a common means of compensation.

35 Q. If you look at page 229, on the same paper just over the top, footnotes three and four, - do you see some footnotes there? And Mr. Collishaw has actually cited this paper. Is this correct?

A. Do you mean the reference?

40 Q. Yes.

A. Yes. Mr. Collishaw is cited in those papers.

45 Q. Would you agree that Mr. Collishaw publishing in this field?

A. Yes.

5 Q. Go to page 199 on the same paper. Right at the bottom right, where it reads, "It has been shown that by varying the smoking parameter such as puff interval, puff volume and duration, the smoke yield per cigarette can vary by a factor of up to 40." Do you agree with that statement?

A. I guess if it's referenced correctly, yes I do.

THE COURT: "If it's - sorry?"

10 A. If it's referenced correctly. And, I would just like to check what reference is...

Q. The reference is pages one

A. To five.

Q. ...to five.

15 A. Yes, and I think they were pointing our here that these dates are generated on a machine.

Q. All right. For they to be generated on a machine demonstrates that these changes in smoking parameters have a big impact. Is that correct?

20 A. Yes, within the - I am not sure what the variations here were. But, clearly they do have some, some influence on the figure of 40.

Q. You will agree with me that variations matter?

A. Yes.

25 Q. I think you said last week that the concept of a smoke machine came from the US Federal Trade Commission in the 1960s. Was that your evidence?

A. "The concept for a smoke machine?"

30 Q. Where did the idea for a smoke machine come from?

A. Oh, the idea for a smoking machine has been

around for many, many years. I wouldn't care to, to state a year, but I do know that smoking machines, in some form or another, have been around since, at least, 1950.

5 Q. Turn to page 200 in the same article, right at the top.

THE COURT: What page?

Q. Right at the top of page 200.

THE COURT: Okay.

10 Q. It says, "In order to provide the smoker with relevant product information, efforts have been taken since 1920s and 30s to standardize smoking parameters. Do you agree with that statement?

A. Yes.

15 Q. Would you agree that that work in the 1920s and 30s was done in within the tobacco industry?

A. I'm not sure of that.

Q. All right.

A. Was it done exclusively in the tobacco industry?

20 Q. Well, it's not exclusively - it doesn't have to be exclusively, let's just look at the footnotes. The footnotes are six, seven and eight at 230. Would you agree with me that those authors are working from within the tobacco industry?

25 A. I can't agree or disagree because I don't know whether they did or whether they worked within the tobacco industry or not. It is a little before my time.

30 Q. It's a little before time. We'll concede that. Dr. Massey, when this early work was being done on smoke machines, would you agree that people were smoking unfiltered cigarettes?

A. The period we are talking, 1929 - yes, I

would.

Q. And, this early work postulated a puff volume of 35 ml on this unfiltered cigarette. Would you accept that?

5 A. I'll accept it.

Q. These unfiltered cigarettes from the 1920s they have a lot of tar in them, do they not?

A. I would presume so.

Q. They might have 25 or 30 mg of tar?

A. They could have as much as that.

10 Q. If you could turn to the Plaintiff's volume, Tab 16.

A. Is this Volume 1?

THE COURT: Yes.

Q. Plaintiff's Volume 1, please.

15 THE COURT: Yes.

A. Yes.

Q. The first page is page 176.

A. Yes.

20 Q. And there's a summary there that says a study was done with 13 smokers of a popular Canadian brand which 15mg tar, 1.25mg nicotine and 16mg Carbon monoxide. Do you see that?

A. Yes.

Q. Would that have been an Imperial brand?

25 A. I believe so, yes.

Q. And would that have been Players or du Maurier or....

A. Ah....

THE COURT: What year is this?

30 A. This is a 1995 publication. Am I correct?

Is it 1995?

Q. I believe it's 1995.

A. It was probably a du Maurier brand.

Q. Okay. You used the Slave smoking machine on this test?

5 A. We would have used a puff duplicator machine on this test.

Q. Okay. A puff duplicator. And if you turn to page 182 there is a column there for the 13 smokers. Do you see that?

10 A. Yes.

Q. And smoker number one he took a puff volume there of 54.5ml Do you agree with that?

A. Yes.

15 Q. And if you work your way down the columns, smoker number one, smoker number four, smoker number ten, smoker number twelve, smoker number thirteen, these people all took puff volumes in the 50 to 60 range.

A. Yes.

20 Q. And, in fact the average puff volume from this survey is 46.9...

A. Yes.

Q. ...ml which is above the 35ml standard.

A. Yes.

25 Q. And if you looked at the intervals, smoker number one he is at 23.06 seconds. Do you see that?

A. Yes.

Q. And, again working down the column a lot of these smokers are under the 58 seconds standard interval.

A That's true.

30 Q. And, in fact the average there is 40 seconds.

A. Correct.

Q. And if you turn over the page to 183, you've calculated the tar and nicotine yields for this du Maurier product. Do you see that?

A. Yes. Well, they don't calculate.

Q. Well, you have duplicated the Mouth Smoked Delivery. That's what this...

A. They...

Q. ...page is.

A. ...are assigned but they are not calculated.

Q. Yes. And, the average Duplicated Mouth Smoke Delivery is 18 mg of tar.

A. Yes.

Q. And, that's above the standard number?

A. Yes.

Q. And the nicotine there is 1.5 and that's above the standard number again.

A. Yes.

Q. And some of these smokers in terms of their Mouth Smoked Deliveries are well above the standard. Do you see that?

A. And, some of them are below.

Q. Some are below and some are above.

A. Yes.

Q. Smoker number one - he is well above. Is he not?

A. Yes, he is. And smoker number 3 is well below.

Q. M'hmm. And this du Maurier product at 15mg of tar that's kind of the high-end of the market these days, isn't it?

A. Yes.

Q. And some of the smokers here are getting

more than what's on the label.

A. And some are getting less - considerably less.

5 Q. I think it was your evidence last week that it was the government that had come out with the idea that lower tar was safer?

10 A. I don't know if I've promoted the idea that it was safer, but they recommended to those people who - they recommended that people should not smoke. But for those people who continued to smoke that they should move towards lower tar.

15 Q. Did the Canadian Tobacco Industry, to your knowledge, ever promote the idea that lower nicotine was safer?

A. No, I don't believe so.

20 Q. Have you ever seen any Ads that suggested that lower nicotine was safer?

25 A. Lower nicotine was safer? I don't believe so.

30 Q. Have you ever seen this Ad before from Rothmans?

A. No, I don't believe I have.

35 Q. Do you see on the left-hand column the third paragraph in italic where it says, "Several years ago Rothmans Research Division had already accepted the thesis, the greater the tar's reduction in tobacco smoke the greater the reduction in the possible risk of lung cancer." And that's Toronto Star, Wednesday, July 9, 1958.

A. But this is Rothmans International.

40 Q. Yes, it's Rothmans.

A. Rothmans International.

45 Q. Rothmans International. So, it's not - well it was published in a Canadian Newspaper.

A. Maybe.

Q. So, does this article suggest to you that the Tobacco Industry is suggesting to Canadians that lower tar is safer?

5 A. It's not the Canadian Tobacco that's saying that, no.

Q. A tobacco company advertising in Canada is making that suggestion. Do you agree with that?

A. "A...?"

10 Q. A tobacco company is suggesting - is Rothmans International Research Division suggesting to Canadians smoker that lower tar is safer?

15 A. In this Ad they are suggesting that, but this is not Rothmans in Canada. This is the International Research Division which was based at the time, I believe, in Basilton, in Essex in England.

Q. Okay. Now, you mentioned last week that the Matinée Extra Mild was launched in 1978. Is that your evidence?

20 A. I believe it was Mr. Brown's evidence. I may have agreed with Mr. Brown.

Q. Okay. If you turn Tab....

THE COURT: Can you just give me a minute please. This is Exhibit 19.

EXHIBIT NUMBER 19:

25 An Advertisement from Rothmans International Research Division in Canada - Toronto Star, July 9, 1958 - Produced and Marked.

THE COURT: Now, start on that next topic again, please.

30 Q. Sure, We've just discussed that the Matinée Extra Mild was launched in 1978 and I was just asking Dr. Massey, if he could turn to Plaintiff Volume Tab 17. And at

page 220, please.

A. Yes.

5 Q. And the title of this paper is "The Use of the Freiri Slave Smoker to Investigate Changes in Smoking Behaviour"

A. Yes.

Q. And the authors are E.R. - I don't know the first name there and Patrick Dunn.

A. "Freiseleban(Ph)."

10 Q. Yes. Is Freiseleban, (Ph) is he also employed at Imperial Tobacco?

A. He is not an employee of the - and hasn't been since, I believe, since 1976.

15 Q. But, Patrick Dunn was an employee of Imperial Tobacco?

A. Yes.

Q. And the date of this report is March 3r, 1975?

A. Yes.

20 Q. So that's before the Matinée Extra Mild was launched.

A. Yes.

Q. And if you turn over the page to 221...

A. Yes.

25 Q. ...there is a summary and it's underlined and in the original. The underlined passage is, "In each case, the smoker adjusted his smoking habits in order to duplicate his normal cigarette nicotine intake."

A. Yes.

Q. Do you know who underlined that?

A. No.

30 Q. Would you agree with me though that before

Imperial Tobacco launched the Martinée Extra Mild they knew that smokers adjusted their smoking habits to get nicotine?

5 A. I don't think they knew that. No, I don't people know that even now. I think if you refer to the, to the work of Professor Benawits (Ph) at the University of Berkley, he has put forward that theory and so has Dr. Gory (Ph) put forward that theory.

10 I think that the evidence that's available is still equivocal on the issue of whether people do smoke to adjust to a particular intake.

Q. If you turn to the page 208 at that same tab...

A. Yes.

15 Q. ...do you see at the bottom it reads, "Which product/design properties influence elasticity." (1) "Tip ventilation: bigger effects of higher degree of ventilation. Micro-laser (on-line as well as off-line) ventilation more effective than electrostatic ventilation, electrostatic ventilation more effective than natural porous wrapper."

A. That's what it says, yes.

20 Q. Would you agree that Imperial Tobacco knew, at least at the date of this document, how to create elasticity in its products?

25 A. No, I wouldn't. That was the purpose of the research which we referred to in my testimony on Thursday, that was conducted in 1993.

THE COURT: What's the date of this paper? Are these 1995 papers again?

Q. This is....

A. I believe this....

30 Q. 1984.

A. Yes.

Q. The Proceedings of Smoking Behaviour-Marketing Conference July 12, 1984.

THE COURT: Yes.

5 Q. Last week you discussed a curbed chart that Mr. Collishaw had referred to.

A. Yes.

10 Q. This is printed off from the CD-rom - Your Honour, the footnote where the curb chart is. If you look at the first page here, Dr. Massey, you see it's entitled "Nicotine Conference, June 8th, 1984?"

A. Yes.

15 Q. On the list of distribution, appears your name?

A. Yes.

20 Q. So you were at this Nicotine Conference?

A. Yes.

25 Q. And if you turn to - there are a series of slides. And if you turn to the last slide this is the chart we were dealing with last week. Correct?

A. Yes.

30 Q. And the chart doesn't actually deal with Matinée Extra Mild.

A. That's correct.

35 Q. We don't know what cigarette this was? We don't know what cigarette this was that generated this data?

40 A. I believe that they were lmg commercial available cigarettes. But, I am not sure of all of them, but I believe one was Carlton, one was Now (Ph). And there were people who were switched from - I believe a version of State Express, commercial available, but I am not sure which one.

45 Q. These are cigarettes sold in England?

A. The State Express is sold in England,

Carlton and Now are sold in the United States.

Q. And what this chart is really showing is switching behaviour...

A. Yes.

Q. ...or the impact of switching.

A. That's correct.

Q. And, what this chart is really showing is that people are trying to, to get a certain amount of nicotine.

A. Well, I don't know whether I can agree with that. This chart is a plot of Daily Nicotine Availability versus What They Take from a Cigarette as a percentage of what the machine-smoked delivery is.

Q. What this curb suggests is that people might smoke a few cigarettes very intensively or they might smoke a lot of cigarettes and not smoke each cigarette so intensively.

A. I would agree with that.

Q. So, this chart doesn't tell us what Mr. Battaglia's yields were from the Matinée Extra Mild.

A. But, no chart could tell you what his yields were, because, nobody has, to my knowledge, monitored Mr. Battaglia's smoking behaviour. But this provides a guide as to what one would expect based on this data and it was entered into evidence by Mr. Collishaw.

Q. Okay.

A. So, the extrapolation from the number of cigarettes which Mr. Battaglia said he smoked on the basis of the deliveries quoted can be read off from this chart.

Q. In fact neither you nor Mr. Collishaw can make that extrapolation from this chart because that is not what that exactly....

A. Exactly to Mr. Battaglia? No. But no chart can.

Q. Well, I am a little confused about that because, I think your evidence was last week that there is the effect of spillage. People spill smoke out of their nose.

A. Yes, and their mouth.

Q. And their mouth, And then there's the distinction you drew between what goes into the mouth and what actually goes into the lungs.

A. Yes.

Q. And so, I think it was your evidence, today, that no test method can really tell what people get when they smoke.

A. It can give an indication of what is taken from the puff but not what is inhaled, if indeed inhalation does take place.

Q. But, given all these difficulties with spillage and the difference between the mouth and the lungs...

A. Right.

Q. ...you still try and measure and monitor smoking behavior at Imperial Tobacco.

A. We don't do so at the moment, no.

Q. When these documents were authored, you did.

A. Documents prior to 19 - I would think '94, '93. Yes we were doing such measurements.

Q. And you spent money on these smoke-duplicator machines, right?

A. Yes.

Q. How much money did you spend on this research?

A. I wouldn't like to estimate how much has been spent over the years, because it is not an inconsiderable sum.

Q. If you look - turn to Tab 4. And this is

Mr. Collishaw's paper, page 43.

THE COURT: Let's make this "Nicotine Conference of Hampton Exhibit 20.

EXHIBIT NUMBER 20: Nicotine Conference of Hampton, July 12, 1984 - Produced and Marked.

THE COURT: I've lost you now.

Q. Tab 4, Your Honour.

THE COURT: Yes. Page?

Q. Page 43.

THE COURT: Thank you.

Q. Do you see there's a chart there at the bottom?

A. Yes.

Q. And it says that there are over 400 research and development professionals working for the BAT group.

A. Yes.

Q. And there are 45 working in Canada...

A. Yes.

Q. ...at least at the time of this chart. Do you accept that information?

A. Yes, I would.

Q. Do you know what the budget is to employ all these 400 people?

A. I don't know that off the top of my head, but again, it's not an inconsiderable figure.

Q. Last week we heard testimony that the Matinée Extra Mild was only .25 percent of the Canadian market.

A. I believe so.

Q. And the Slims 100 was only 1 percent of the Canadian market.

A. I believe so.

Q. You would agree with me though that there

are a lot of different brands of cigarettes on the Canadian market.

A. Yes.

Q. I think there are at least more than 40.

A. I believe there are a lot more than 40.

Q. So, you would agree with me that the Matinée Extra Mild is a top-ten seller in Canada.

A. If you have information or - Mr. Brown gave evidence that Matinée Extra Mild King Size is within the top-ten in Canada I would accept that.

Q. Let's lump them together. If we lump the Matinée Extra Mild and the Slims 100 together that's 3.5 percent of the market.

A. Yes.

Q. And would that make it a top-ten seller.

A. Again, I am not sure whether it comes within the top-ten or not. If Mr. Brown gave figures for those market shares, if he equated that to being within the top-ten, I would accept it. I am pretty sure that he would not have lumped the two together though.

Q. Okay. But, you agree with me that light and mild cigarettes make up about half the cigarettes that Imperial Tobacco sells?

A. I would agree. I am not sure, but I would agree.

Q. Last week, and even today, you commented on the printout - "Tar and Nicotine numbers for the Viscount and the Craven A..."

A. Yes.

Q. ..."Cigarettes." And we saw, I think that was Exhibit 16, was the printout taken from the BC Government.

A. Yes.

Q. These are brands sold by Rothmans, Benson and Hedges?

A. These two brands? Yes.

5 Q. Would you agree with me that these are highly ventilated cigarettes?

A. Yes, I believe they are.

Q. And given their ventilation, they are performing in exactly the same way, more or less, as the Matinée Extra Mild?

10 A. More or less, yes.

Q. I would like to talk to you for a minute about the Sales Weighted Tar Average. Last week you said that the industry had a target to reduce the Sales Weighted Tar Average from 17mg to 12mg. Do you recall that testimony?

15 A. I certainly know that that was the figure quoted by Mr. Brown, I am not sure whether I quoted that figure, but I agree those figures seem to be about right.

Q. And, you said that there were a number of ways to reduce the tar yields. I think you itemized four.

A. Yes.

20 Q. And that's the tobacco blend, paper porosity, filter and lastly is delusion of the vents.

A. Ventilation, yes.

Q. And you said last week that the first-three methods, tobacco blend, paper porosity and filter could take yield down to as far as ten or eleven mg of tar.

25 A. Yes.

Q. So, you can meet the 12mg target without using vents?

30 A. Oh, yes you can. I didn't say that the cigarettes at that level would be acceptable to consumers though, because I know they wouldn't be.

Q. There's nothing in the Government's goal of 12mg of tar that requires you to use vents?

5 A. Oh, yes there is, because there was also a requirement to bring carbon monoxide down in line with tar in a one to one ratio. And without the use of ventilation, that's, that's not possible.

Q. Go to Tab 27 of the Red Binder. Just one other question, when did the carbon monoxide rules come in?

10 A. Ah, well there weren't rules. They were requirements. I believe there was a letter from one of the Ministers of Health, certainly from, I believe Monique Bejean, (Ph) I think that was entered into evidence, saying that we should attempt to get to a one to one ration.

Q. So, this was under the Voluntary Code?

15 A. Yes.

Q. The paper at Tab 27...

A. Yes.

Q. ...this is the paper authored by Richard Baker of BAT and Leslie Lewis of RJR?

20 A. That's correct.

Q. And, at tab - sorry - page 43, the first paragraph at the top, it says at the end of the first paragraph, "24 percent of people in Canada block the ventilation zone..."

25 A. I am sorry, which page - 44?

THE COURT: Page 43.

Q. Page 43.

A. Oh, I am sorry.

THE COURT: I don't see.

Q. They are numbered at the bottom, sorry.

30 THE COURT: Okay. I don't see what you are reading from.

5 Q. If you read the first paragraph it starts, "The implication of these distributions on maximum ventilation zone covered by lips during smoking depend on a position of the ventilation zone on the filter. For the two largest studies, the results indicate that 15 percent of smokers in the UK and 24 percent in Canada block the ventilation zone, to some extent, for at least one puff. Do you have that, Your Honour?

THE COURT: Yes,

A. Yes.

10 THE COURT: It's at the top of the page. The first paragraph for me starts, "Image Analysis."

Q. Okay.

THE COURT: Anyway, I've found it.

Q. Okay.

A. Yes.

15 Q. Would you agree with me that there are about six millions smokers in Canada?

A. There are approximately.

20 Q. So, if 24 percent of smokers block the holes that's 1.5 million Canadians?

A. Well, you, you can't use that calculation because not all Canada, not all of those six millions smokers are in fact smoking ventilated brands.

25 Q. Would you agree with me that most cigarettes in Canada are ventilated?

A. Ah, in terms of total sales?

Q. In terms of total sales.

A. Well, I sir, can't agree or disagree. I know that the major selling brands are not ventilated.

30 Q. Would you agree with me that the light, mild, ultra light, extra mild cigarettes, these are ventilated?

A. Ah, yes.

Q. And...

A. Ah, yes, I do.

Q. And Imperial Tobacco has about 70 percent of the market in Canada for sales?

A. Yes.

Q. And about half your products are light - by sales are light and extra light, mild, ultra mild cigarettes. Correct?

A. Half of them?

Q. About half of your sales are in the light and mild category.

A. I mean, again, I can't agree or disagree. I don't have the figures in front of me to be able to do that.

THE COURT: He is a research scientist yet you are asking all kinds of marketing questions and sales questions. I mean, I am not surprised that he doesn't know the answers. Why should he?

MR. LENNOX: Well, I am actually asking him to do some maths, Your honour. But if it will assist the court I have the research numbers right here or the marketing numbers right here.

THE COURT: Well, fine, if there are in evidence, already, then you save that for argument. I mean, you are asking a scientist about marketing. Did you ask Mr. Brown? He is the President, he is supposed to know everything.

MR. LENNOX: No, I didn't ask...

THE COURT: Well, there you go.

MR. LENNOX: Q. What I would ask Dr. Massey is, do you accept my propositions that no matter how you do the

math, that's a lot of Canadians hole blocking?

5 A. I think this 24 percent figure is a combination of those where it is completely blocked and partially blocked. And, I think the figure that was quoted for Canadians where, I mean, coverage as opposed to blocking, was 3.7 to 10 percent was completely covered. And that when it is completely covered it's 50 percent of the ventilation area that is blocked. So, that doesn't quite justify the use of a 24 percent of Canadian smokers pro-rated for market-share of that.

10 THE COURT: Of ventilated cigarettes, because that's 24 percent of smokers who smoke ventilated cigarettes blocked?

A. Yes.

15 THE COURT: It seems to me if you read the whole paragraph, it's not 24 percent of all cigarettes, all smokers...

20 A. That's, that's correct. You are correct. In other words, you cannot take the total number of Canadian smokers, prorate for our market share and take 24 percent and say that's the number of smokers who block the holes in Canada therefore it represents a large number.

It is a finite number, as I said earlier. Some people block some of the holes on some occasions to some degree on some cigarettes.

25 Q. You recall last week's testimony was led that the holes are about 12.5 mm up the cigarette?

A. Yes.

Q. And we have a testimony last week that the average insertion depth for a smoker is 11 mm?

A. Ah, yes.

30 Q. Plus or minus, I think it was 4.6 mm?

A. Well, I'll have to check the...

THE COURT: On page 42, says, "Insertion depth ranging from 3 to 25 mm and a mean of 10.1 to 11.5, smokers in 4 of the 5 countries." Whatever that means.

5 Q. If you turn, Your Honour, and Dr. Massey to Tab 25.

A. Yes.

Q. And the second page into the article where it says, "Introduction."

10 THE COURT: Yes.

Q. There's a paragraph there. I am reading a few lines down. "The reported degrees of partial or complete vent blocking were in the range of 32 to 69 percent. In a 1984 study 647 butts, 41 percent of them ventilated, collected from three shopping malls in the Montreal area was carried out by McBride." That's Cathy McBride is it?

A. That's correct.

Q. And she is an employee of Imperial Tobacco?

A. That's correct.

20 Q. And then it says, "The maximum depths of insertion were determined by visualizing the lip imprints," and we get down to those numbers of 11mm plus or minus 4.8.

A. But, that was in 1984.

Q. 1984?

A. Yes.

25 Q. So, Cathy McBride, she collected these butts and she looked at the saliva readings on the butts?

30 A. Yes, which is different to - that is a comparison within this paper. The method of visualizing was different and numbers quoted for insertion depths are also different, although not significantly so, according to what is written here.

5 But the conclusion of this particular study being reported is on page 85. And it talks there about ventilated browns (Ph) being a 10.6 with a standard deviation of 3.6mn. That was what was measured in the study recorded here as opposed to what was measured in 1984 by a different method of visualization.

Q. This paper is a study by Patrick Dunn and an A. Porter (Ph) of Imperial Tobacco.

A. Yes.

10 Q. And then they've just cited this earlier study by Cathy McBride.

A. That's correct.

Q. And if you turn to page 91 of the article..

A. Yes.

15 Q. ...there's a footnote there. "Cathy McBride, Imperial Tobacco, Unpublished 1984."

A. Yes.

Q. So her study wasn't recorded, you just cited her conclusions in that articles, or, sorry, Patrick Dunn did?

20 A. That's correct. It was reported, but it wasn't reported in the published literature.

Q. Now, at footnote 22 of Mr. Collishaws' paper, now, I've printed it off and I'll give it to you, has a reference to Cathy McBride's paper. And you see, I've numbered the printout - handwritten numbering at the top.

25 A. Yes.

Q. And if you turn to page 7, there is an abstract of Cathy McBride's paper. Do you see that?

A. Yes.

30 Q. And at the bottom, the last paragraph says, "In general there was no significant difference in the maximum insertion depth for ventilated and non-ventilated cigarettes.

The butts' lengths were found to be slightly longer than those associated with standard machine smoking conditions. Insertion depths were greatest for cigarettes in the very low delivery category." Do you see that?

5 A. Yes.

Q. That last sentence in her conclusion "Insertion depths were greatest for cigarettes in the very low delivery category," that sentence doesn't appear in the published paper we just looked at.

10 A. No, because, if you - it talks in, on page 86 about there being really no significant difference in statistical terms, even though cigarettes had - more ventilated cigarettes had come onto the market, and there was a reduction in the Sales Weighted Tar over that period, 1984 to 1986.

15 So, really this conclusion, that is here - I mean it does say that, "It was greatest," but it doesn't say by how much or what it was. And I don't know exactly what it was, but that doesn't mean to say that it was significantly greater. And in fact if you turn to page 89 of that same paper, you would see that the most frequently used maximum insertion depth, according to these histograms is in fact at 8mm.

20 Q. These graphs don't tell us though where people with the most highly ventilated cigarettes fall in that range.

25 A. Ah, no. But they are split between ventilated and non-ventilated. And, you can see that the distribution is broadly similar. And in fact in the - at the start of the paper they do quote different values of 10.6 with a standard deviation and 11 with a standard deviation, but say that there is no statistical difference between them, between ventilated and non-ventilated.

30 Q. Now, you wrote to Allan Heard to ask

permission to publish this paper of Cathy McBride. Did you not?

A. Did I actually...

Q. You communicated with Allan Heard.

A. ...ask for permission?

Q. Yes. You asked permission.

A. Where did I say that?

Q. Turn to page one of this printout that I've given you. There's a...

A. Yes, but my letter is the second page.

THE COURT: Yes. What date is it?

Q. I've numbered it as "Page 1" at the top - hand written.

THE COURT: June 5th, right?

Q. Yes, I believe that's....

THE COURT: The first page.

Q. I believe that's June 5th, 1985.

THE COURT: Yes.

Q. Is that the date there on the telegram, Dr. Massey?

A. Yes, yes, that's correct. And that is in response to my letter which is on your numbering, "Page 2..."

Q. Yes.

A. ...where in fact I was not, in my view, I was not asking for permission to publish these papers. I was merely asking if there were any objections or comments that he had on these on these papers.

Q. You wrote for objections or comments...

A. That's correct.

Q. ...and your letter is dated May 29th, 1985.

A. Correct.

Q. And it's handwritten number "2."

A. That's correct.

Q. And he, I guess it's a telexed back or a...

A. Yes, it is a telex.

5 Q. Yes. And just starting at the beginning of his telex, he says "In view of the short time given for a reply, I have not had full opportunity to discuss your proposals. Instinctively I question the idea of publishing papers in relation to smoking behaviour."

10 So, Mr. Heard, at any rate, he didn't agree with the idea of publishing papers on smoking behaviour?

A. You could conclude that. I don't think that was true. But, you could conclude that from this letter. I don't believe it to be true though.

15 Q. Was this your understanding when you got this telex that he didn't like to publish papers on smoking behaviour?

A. No, that was not my understanding. My understanding was that the issue that had been raised by Kauslovksy (Ph) was thought to be a complete 'red herring' and - with regard to insertion depths was carried out.

20 And I believe the general view, although it was favourable in terms of the technical input, the general view was that it wasn't worth raising the issue at such conference because it really was of an insignificance.

25 Q. You've mentioned...

A. At the time.

Q. You've mentioned the Kauslovsky (Ph)...

A. Yes.

30 Q. ...thesis. The Kauslovsky (Ph)thesis is that people block the holes?

A. Yes.

5 Q. And further down in this same telex, it says, "The paper on depth of insertion for various cigarettes seems to confirm the Kauslovsky-type (Ph) ideas for low delivery products and could be problematic. I think it unwise to publish any findings of our studies on smoking behaviour on any smoking products."

A. Yes.

10 Q. So, Mr. Heard didn't think it was a good idea to publish papers that supported Kauslovsky? (Ph)

15 A. I think he - I don't think that was correct. I think what was correct was that he, in light of the work that had been done by Kauslovsky (Ph), which was based on interviews - it was soft Science, that he thought it inappropriate to raise the issue to play a technical level at that stage.

20 THE COURT: Who is Mr. Heard?

25 A. At that period of time, Mr. Heard was the Manager of Research and Development with BAT in the UK. I should also point out that similar letters were also sent to the other research managers in the other research centers in Germany, Brazil, the United States, Australia at the time as well.

30 Q. Another document off the CD from Dr. Massey.

..

THE COURT: Exhibit 21.

35 EXHIBIT NUMBER 21: TCRC papers, dated 85-06-05, 39th Tobacco Chemists' Research Conference - Produced and Marked.

40 Q. ...the Cathy McBride paper. If you go to the last page, this again is a summary of Cathy McBride's study?

A. Yes, I believe so.

45 Q. And item 3 says that "Ventilation-zone

blockage is more prevalent for ultra-low delivery products, 1 to 4mg tar delivery, than for low than the 7 to 9mg tar or mid 10 to 12 mg tar delivery products. Mid-delivery products were associated with the least insertion depths. Do you see that?

5 A. Yes.

Q. Do you agree with me that the Matinée Extra Mild is an ultra low delivery product?

A. It certainly falls within the 1 to 4 mg tar range.

10 Q. And would you agree with me that this conclusion didn't get published?

A. This conclusion did not get published. It was the subject of more detailed work which was carried out in 19 - I guess, 1997.

15 But, similarly I should point out that what was also not published, as a consequence of this, was the fact that the butt lengths to which cigarettes were smoked was indeed longer than the standard at the time--the fact which was brought to the attention of Health Canada in 1989, but which they chose to ignore when they put into place the Tobacco Products Control Regulations, for the then change in butt length for cigarette smoking. So that conclusion was not reported either.

20 Q. Have lawyers ever told you what research to conduct at Imperial Tobacco and what research not to conduct?

A. No, they have not.

25 Q. Have lawyers ever told you what research to publish and what research not to publish?

A. They have not told me that.

30 Q. Do you know someone above you that they've told that to?

A. No, I do not.

Q. Have lawyers edited your research or your

conclusions?

A. To my knowledge, no.

Q. Have lawyers ever told you not to investigate certain health problems with your product because of fears of litigation?

A. No.

Q. Were you at a Research Conference in Vancouver in 1989?

A. Yes, I was.

THE COURT: Exhibit 22 is the McBride Paper. Is that correct?

Q. Yes.

EXHIBIT NUMBER 22: McBride paper - Imperial Tobacco Ltd. - Research and Development Division - Montreal, October 84 to May, 1985 - Produced and Marked.

Q. This is footnote 84 in Mr. Collishaw's paper. Are these the original Minutes from the Conference in Vancouver in 1989?

EXHIBIT NUMBER 23:

Long version of the Minutes - Research Policy Group Meeting - September 18 - 22, 1989 - Produced and Marked.

A. As best I could judge, yes.

Q. And if you turn to page 9 of the Minutes.

A. Yes.

Q. There is a Heading "Project Day."

A. Yes.

THE COURT: He's already talked about that. Right?

A. Yes.

Q. Helsing (Ph) describe progress on Project

Day. That's you Dr. Massey?

A. That would be me.

Q. You give a detailed explanation as to what you are attempting to do on Project Day.

A. That's correct. I wouldn't say it's detailed, but there are, there are details in there.

Q. And there were other scientists within the BAT Group that talked about other projects aimed at making a safer product. Correct?

A. That's correct.

Q. And the fact - if you turn to page 7 the second paragraph, "ALH" - that's Mr. Heard, right?

A. That's correct. "Heard," yes.

Q. Yes.

A. Correct.

Q. "Proposed Strategy for Product Innovation that would respond to the negative perception of regulators and consumers." When he talks about negative perception, he is talking about disease?

A. I think he is talking about certain health affects, yes.

Q. And among the scientists at this conference was a "Jeffrey Wygan (Ph)?" Is that correct?

A. Yes, that's correct.

Q. Who is Dr. Wygan? (Ph)

A. Dr. Wygan (Ph) at the time was Vice President of Research and Development for Brown and Williamson Tobacco Company.

Q. So, he was a scientist who was also interested in making a safer product.

A. I assumed he was.

Q. This next document, Your Honour, is footnote

85, in the Manipulation paper. Now, Dr. Massey, is this also Minutes for the Vancouver meeting?

A. I believe so.

Q. Would you agree with me that these minutes are a lot shorter than the first Minutes, I showed you?

A. I would agree.

Q. The fact it's only three pages instead of twelve.

A. I agree.

Q. And these Minutes are prepared after the first set of Minutes?

A. I believe so.

Q. These Minutes are prepared by lawyers?

A. I don't know, I can't comment on that. I don't know - these were the Minutes that were sent to Imperial Tobacco by Mr. Heard.

Q. Mr. Heard sent you this three-paged set of Minutes?

A. Yes.

Q. And these Minutes make virtually no mention of work on making a safer product. Is that correct?

A. I believe so.

Q. Have you received any training for the purpose of giving your testimony here today?

A. No, I haven't.

Q. You've not been instructed by a professional consultant as to how to give testimony in a Tobacco Products Trial?

A. No, I haven't.

Q. You testified last week that some people believed that tobacco specific nitrophamines (Ph) are highly carcinogenic. And your testimony last week was some people

believed that?

A. Again, I think that that was Mr. Brown's testimony.

5 Q. Okay. Do you believe that tobacco's specific nitrophamines (Ph) are carcinogenic?

A. I know that there are tests that have been done to show as pure compound tobacco specific nitrophamines (Ph) are shown to be animal carcinogens. I also know that any such testing is very much on the dose of that material in order to generate a positive reaction in that test.

10 Q. The risk increases with the dose?

A. It does.

15 Q. Tobacco specific nitrophamines (Ph) are only found in tobacco?

A. Yes.

20 Q. And you will recall the letter that Sir Patrick Sheehy wrote to Purdie Crawford...

A. Yes.

25 Q. ...dated December, 1986...

A. Yes.

30 Q. ...in which Sir Patrick state that BAT has research project the ability to remove the nitrophamines (Ph) from tobacco?

A. Yes.

35 Q. Mr. Brown, you'll recall, stated that Imperial Tobacco will begin removing the nitrophamines from the tobacco crop in the year of 2001?

A. Yes.

40 Q. So that is only fifteen years after Sir Patrick's letter.

45 A. That's is correct. But, I do have to point out that the issue of nitrophamines has been known for many

5 years, certainly to British American Tobacco. It was known to myself. There was documentation on the presence of such materials, certainly when I joined in 1971. And, I in fact was involved in my time in South Hampton on developing methods of analysis for nitrophenamines. I was also involved in the evaluating of particular types of filters for the removal of nitrophenamines. I was also involved in experimentation in the curing of tobacco and the fertilization of tobacco over the years.

10 So, although, yes, you cite Mr. Sheehy's letter of 1986 and you talk about fifteen years, subsequently Mr. Brown is talking about the potential modifications to the crop. Work has been going on for many years to look at nitrophenamines in tobacco and in tobacco smoke.

15 Q. Would you say that that fifteen-year gap is satisfactory scientific progress in terms of removing nitrophenamines?

20 A. Well, given the difficulty of analyzing for those materials and finding acceptable ways to reduce it with modification of the subjective character of the cigarette, it does not surprise me that fifteen years have elapsed.

I think, it is also - tobacco's specific nitrophenamines seem to be taking on the role as did benzopyrene (Ph) in the 50s which is one of the sort of magic components of cigarette smoke that will render it harmless.

25 I think it is yet to be proved that the complete elimination of tobacco specific nitrophenamines will render to all who might wish to pronounce on it tobacco smoke completely harmless.

30 Q. Well, let's not talk about completely harmless, do you agree that it is worthwhile to remove carcinogens...

A. Yes.

Q. ...from tobacco when it becomes possible to do so.

5 A. Yes, I do, when it becomes possible to do so.

Q. Do you agree that it is worthwhile to do that as soon as it becomes possible?

A. Yes, I would agree.

10 Q. You would be familiar with the mice studies that Dr. Ernest Winer (Ph) did in the 1950s?

A. I am aware he did studies. I can't claim to be familiar with them.

Q. These were published studies...

A. Yes.

15 Q. ...were they not?

A. Yes.

Q. And they were published as far back as 1951?

A. Yes.

20 Q. And these studies found that mice who had their back painted with tar contents got cancer and developed tumors.

A. They developed tumors on the skin, yes.

Q. And it was Dr. Winer's thesis that, based on these mice studies, that smoking caused disease.

A. I believe so.

25 Q. And this was some forty-seven years ago?

A. Yes.

Q. And on June 8th, 2000, Imperial Tobacco President, Bob Bexon appears in the Senate and he says that smoking causes disease. Do you recall that?

30 A. Yes, I do.

Q. Is that forth-nine year gap satisfactory

scientific progress?

5 A. Ah, well, we are talking about two sets of circumstances. Firstly we are talking about a test, which generally is no longer used, which is the use of mice or hamsters to determine carcinogens, not of simple compounds but of complex mixtures. One has to translate that to the effects on human beings. Secondly, I believe that Mr. Bexon's testimony said that in light of the overwhelming evidence we now recognize the association between disease and smoking.

10 Q. But, nothing has come along in the intervening forty-nine years that's seriously disputed Dr. Winer's thesis.

15 A. Oh, maybe not his conclusions, but certainly his broad conclusion. But certainly the methods of testing have certainly fallen into question over the years, which is why they are not generally used these days.

Q. So, what study between 1951 and 2000 tipped the balance for Imperial Tobacco?

20 A. It was recognition really on the part of the Food and Drug Administration that there was a role of tobacco's specific nitroamines in, in cigarette smoke. And, it was coincident with a company looking at different ways of curing tobacco - and I'd have to point out these are only flukiol (Ph) tobacco to which this, this, different curing process applies - that has come together to actually do something now, which appears to be agreed by people like the FDA to be worthwhile to pursue.

25 Q. And, so this FDA Study, what was the date of this FDA Study?

30 A. It wasn't an FDA Study, it was an acknowledgment by the Food and Drug Administration that nitroamines may have a role to play in the disease

associations with smoking as opposed to the general tender of smoke as a whole.

5 Q. I just want to make sure that I understand this. Mr. Bexon, says June 2000, that smoking causes disease. When did Imperial Tobacco come to that realization?

A. I guess in the last few years with the weight of evidence from epidemiological studies.

10 Q. What was the epidemiological study that tipped the balance?

A. Oh, this is the sheer numbers of this association and the fact that it was a recognition of really what the public had thought was - was thought to be the case for many years.

15 Q. The sheer of numbers of epidemiological studies - how many epidemiological studies did it take?

A. I, I can't answer that. I don't know how many it took.

20 Q. So, you weren't waiting until a hundred studies had been done and then the hundred and first study that's what did it?

A. That's correct, and in fact you talked about the Minutes of the meeting. I believe there is a - I am not sure which copy, but there was a recognition in there somewhere that...

25 Q. Which Minutes are we talking about?

A. The Minutes of the Vancouver Meeting, I believe there was a recommendation in there that further epidemiological studies should be conducted.

30 Q. This is the longer Minutes, not the edited Minutes.

A. I am not sure which ones, but....

Q. You are looking at a lengthy document, it's

more than three pages, so it's the unedited Minutes.

A. Somewhere in there, I believe, there is a reference.

Q. So, couldn't you just...

A. In one or the other of these Minutes.

Q. Could you find it in the unedited Minutes for me?

A. I'll do the best I can.

THE COURT: Exhibit 24 is the Short Minutes.

EXHIBIT NUMBER 24: "Short Minutes" Research Policy Group Meeting - September 18-22, 1989.

A. I am not able to find the specific term, but certainly the issue of genetic predisposition was addressed by Professor Idle (Ph) at that meeting. And I believe there was discussion about the need for further detailed review of that with epidemiological studies. And that work was in fact carried by Peter Lee (Ph).

Q. Page 11, when you talked about genetic predisposition.

A. Yes.

Q. That's a thesis that people get lung cancer because of their genes?

A. Yes.

Q. And that thesis was advanced by the Tobacco industry to say that smoking didn't cause lung cancer?

A. I don't know that it was advanced to say it didn't cause. It was advanced and still exists to say that it is one of the factors that can contribute to the development of cancer.

Q. Just so I understand your evidence. Your evidence was that the issue of whether smoking cause disease was discussed at the Vancouver meeting?

A. The issue of - it is my recollection that the issue of the need for further epidemiological studies and review of those studies was discussed at that meeting.

5 Q. Okay. So, at this 1989 meeting then, you weren't satisfied that there were enough epidemiological studies to show that smoking caused disease?

A. Not, to show in a way that there was, and there still isn't, to show in the way of a cause and effect relationship. That's correct.

10 Q. So, you don't believe that smoking causes disease?

A. I didn't say that. I said that there still isn't a cause and effect relationship. I do accept that there are epidemiological studies which link smoking to disease.

15 Q. Was Imperial Tobacco doing research to confirm these epidemiological studies?

A. Ah, Imperial Tobacco was not. These sorts of studies are done through a group called Scientific Research Group, which is a group of people who deal with the scientific issues related to smoking within BAT and comprise membership of the various companies that - like Imperial Tobacco.

20 Q. So, the Scientific Research Group wanted to know whether these epidemiological studies were true or not?

A. They wanted to fully have them reviewed and to look at them in - to have them updated and fully understand what they were saying. Yes.

25 Q. And Imperial Tobacco wasn't doing this work. The Scientific Research Group was doing this work?

A. That's right. Imperial Tobacco doesn't have the capability to do that sort of work itself.

30 Q. You recall that you had forty-five scientist in Montreal. Is that how many you have?

A. That was the number that was cited in one of these documents, yes.

Q. And, none of these scientists could read these epidemiological studies for themselves?

5 A. That's correct. You have to remember that forty-five scientists are involved in things other than research. They are involved in product development. They are involved in process development. They are involved in the routine monitoring of products, the analysis of products, the
10 development of analytical methods for all sorts of reasons. And they, they certainly are not all, by any means, involved in research projects per se.

Q. When did this Scientific Research Group come to the conclusion that smoking caused disease or hasn't come to that conclusion?

15 A. Oh, I couldn't, I couldn't put a date on when it has. I think from a strictly scientific-angle point of view, they say, "Yes there is epidemiological evidence there to link cigarette smoking with disease." But you have to remember that these studies are long-termed studies. The development of
20 these diseases can be twenty or thirty years from the - in the case of smoking - the onset of smoking.

We are not dealing with epidemiology such as well you have here in the contaminated water situation here in Ontario where there is a very clear cause and effect relationship. It takes
25 a much shorter time for issues to develop there than it does in the case of smoking.

Q. Do we need more studies to be sure, to be really sure if smoking cause disease?

30 A. I, I think Mr. Bexon has stated the position of our company on that issue.

Q. I was asking you. Do we need more studies?

A. And I answered by saying, I believe Mr. Bexon has stated our position on that.

Q. Are you currently undertaking any studies to find this question out?

A. To find out the question of...

Q. To find out...

A. ...whether there is?

Q. ...to find out if smoking causes disease?

A. No, but we are continuing to do epidemiological studies. They are looking at the effects of low-tar cigarettes.

Q. I'd take you to Tab 4, Volume 1, page 58. This is the....

A. Page 58, did you say?

Q. Yes.

A. Volume.

Q. It's stamped at the top, "58."

A. Oh, Okay, Okay.

Q. I am using those numbers. And a letter to Dr. Green from Dr. Giette (Ph) and the quote is sort of just above the heading, "Development of Safer Cigarette," and the quote, "The question as to whether such cigarettes are really safer, does not matter, although privately even our health people wonder whether low tar and nicotine cigarettes are a good idea." And last week you provided some context to that quote.

A. Ah, yes. I can't find the quote.

THE COURT: The third quote in the paragraph from the bottom. You are looking too high up.

A. Oh, I am.

THE COURT: Look at the underlined, "Safer Cigarette." That's the paragraph immediately

above those words, on page 58.

A. Well, am I on the right page here?

THE COURT: Well, I don't know.

A. It says, "Some...

MR. BARNES: I think he is down there.

A. Oh, okay. "The question is to whether such cigarette are really safer does not matter, although privately the health people wonder whether low tar and nicotine cigarettes are a good idea." Yes, I have it.

Q. And Mr. Collishaw had wondered if health people within Imperial Tobacco were worried about the safety of low tar and nicotine cigarettes. And you said that, "No, it was Health Canada."

A. That is my understanding, yes.

Q. Was it the case then, that you didn't have any health people of your own?

A. At that point - what year would that have been?

THE COURT: 75.

Q. 1975.

A. 1975, I don't believe we had any medical specialist, epidemiologist, within Imperial Tobacco at that time.

Q. So, you weren't employing anyone to look at the health question involved with the product?

A. Ah, Imperial Tobacco, at that stage, would, as it very much does now, have relied on consultants which would come through BAT.

Q. Let's talk about one of your BAT consultants. If you go to the top of that page.

A. Yes.

Q. There is a quote from Dr. F.J.C. Rowe (Ph)..

A. Yes.

Q. ...assigned to be a consultant to BAT. It says, "In 1978, perhaps the most important determine of risk to health or to a particular aspect of health is the extent to which smoke is inhaled by smokers. If so, then deeply inhaled smoke from a low-tar-delivery cigarette might be more harmful than un-inhaled smoke from a high tar cigarettes."

A. Yes.

Q. Do you agree with that statement?

A. Do you have the original quote there?

Q. Well, let's...

A. The original document from...

Q. It's...

A. ...Francis Rowe?

Q. It's footnote 55. Your Counsel, I am instructed has printed off every last page on the CD-Rom. So, perhaps your Counsel can provide that to you.

THE COURT: Is this a good time for a break?

MR. BARNES: It might take a minute to find that document.

MR. LENNOX: Sure.

THE COURT: 15 minutes.

R E C E S S

U P O N R E S U M I N G :

THE COURT: Found?

MR. LENNOX: It's found.

MR. BARNES: We found the documents. There is a copy there for Your Honour and everybody has a copy.

MR. LENNOX: Q. Dr. Massey, the reference of Dr. Rowe is found under heading number 4. "League Tables For Tar and Nicotine".

EXHIBIT NUMBER 25: Integrated League Tales -
D.F.J.C. Rowe - Jan. 6/78 - Produced and Marked.

A. Yes.

Q. Now that you have the complete document in front of you does that assist in interpreting that statement I put to you earlier?

A. Yes. Yes, this is a document, prepared by Francis Rowe, who was a consultant, still is a consultant of British American Tobacco and it is on the subject of what we term, "Integrated League Tables."

These are League Tables which are based on more than one component of cigarette smoke than the traditional way of tar which includes indexing for nicotine and carbon monoxide and in some cases, as in Switzerland, other components as well.

And the quotation that has been put to me is contained in this document. And it is, it is really a question. But I think probably a relatively obvious question. It is perhaps the most important determinant of the risk to health or to the particular aspect of health is the extent to which smokers - smoke is inhaled by smokers.

And then goes on to talk about - and this tends to be the way Francis Rowe writes, something which is relatively obvious, which is if you don't inhale smoke at all then there is the possibility that smoke inhaled from a low tar cigarette might be - what is the quote - "might be a greater health risk."

And I did mention in my testimony the 1994 Surgeon General's Report, when we talked about low-tar cigarettes and people switching from high tar to low tar cigarettes. In the 1984 Surgeon General's Report they say that there is little

change in the inhalation pattern.

But, I agree, yes, he is stating the obvious that smoke from a high-tar cigarette not inhaled potentially could be less hazardous than smoke from a low-tar cigarette which is inhaled.

5 Q. Let's, let's go one step further. Is it obvious that a low-delivery cigarette which is smoked intensely is potentially more harmful than a high-delivery cigarette which is not smoked intensely?

10 A. Well, only if it is inhaled more intensely. And, as I just said in the 1984 Surgeon General's Report, when people switched cigarettes. In there, they cite that there isn't a significant change in the inhalation pattern.

Q. Dr. Rowe, he is a consultant hired by BAT to advise them on health issues?

15 A. That's correct.

Q. And, this, this document is 1978?

A. That's correct.

Q. And if you turn to page 2, it talks about health risks from smoking.

20 A. Yes.

Q. Would you agree that this health consultant is telling BAT, at least, in 1978 that smoking causes disease?

25 A. Well, to quote him he says, "Epidemiological evidence has suggested associations between cigarette smoking and a wide variety of diseases and causes of death. But only five of these associations merit really serious consideration." Yes.

Q. You are the Director of Research at Imperial Tobacco?

30 A. No. I am the Director of Scientific Affairs.

Q. Director of Scientific Affairs and you advised Mr. Bexon on scientific issues?

A. I have done so.

Q. And when Mr. Bexon says in the Canadian Senate that smoking causes disease you advised him about that statement?

5 A. I discussed with him - discussed the issue with him. I have discussed the issue with him on occasions, yes.

Q. And you are in agreement with that statement?

A. Yes, I am.

10 Q. And something that wasn't clear for me from your testimony earlier this morning...

THE COURT: I am sorry. What tab is that?

MR. LENNOX: Certainly, certainly. It's Volume 2.

15 THE COURT: The cancer....

MR. LENNOX: Q. Let me just go to the statement. Volume 2, tab 22, page 340, where it says, "Mr. Bexon, I think we would say that in the weight of the evidence that is before us today, we agree that cigarette smoking causes disease in some people." Do you agree with that statement?

20 A. Yes, I do.

Q. And you advised Mr. Bexon before he made that statement?

25 A. I didn't advise him specifically of that; I have had discussions with Mr. Bexon on this subject for over - quite some time in his previous position with Imperial Tobacco.

Q. Previous position with Imperial Tobacco - he was in the United States between '95...

A. Correct.

30 Q. ...and '99, so you had discussion with him prior to 1995.

A. Correct.

Q. Okay. The question that wasn't clear to me from your evidence earlier this morning, what was the date - give me a year if you can - when Imperial Tobacco realized that smoking causes disease?

5 A. It's impossible for me to give you a date in terms of so-called realization. I mean, clearly the statement Mr. Bexon made to the Senate was this year when he stated this to be the company's position.

10 Q. How far back does that, at least privately, how far back does that company position go?

A. I guess it would be - I haven't seen that statement from a previous president and it's the first time I've - that that statement has been made publicly by Mr. Bexon.

15 Q. It's the first time that statement has been made publicly.

A. Right.

20 Q. But, privately, how far back does that awareness go?

A. I, I can't - I don't have a date.

25 Q. Okay. Well, you've been with Imperial Tobacco since 1982, correct?

A. That's correct.

30 Q. Has that recognition been with Imperial Tobacco for all the time that you've been with Imperial Tobacco?

A. As a formal policy, I don't believe so, no.

35 Q. So, sometime between '82 and 2000 there was this recognition, at least privately?

A. Well public, if you take the date of Mr. Bexon's statement to the Senate committee.

40 Q. I want to know....

A. Yes, And I say, I don't - I cannot give you

a date on that.

Q. Okay. You don't know.

A. I don't know.

5 Q. Have you ever been instructed by anyone at Imperial Tobacco to generate research for the purposes of discrediting Government's attempts to improve the tar and nicotine numbers on the package?

A. No.

10 Q. So, no one's ever told you, 'We don't like the BC's Government intense smoking test, come up with some research that would undermine it?

A. No.

15 Q. This is also on the CD-Rom, Your Honour. The first page - you see this is a conference in Rio de Janeiro in 1983?

A. Yes.

20 Q. And is Patrick Dunn of Imperial Tobacco one of the attendees?

A. Yes.

25 Q. Turn to page 8. The heading is "Smoker Compensation and Machine Test Procedures"

A. I am sorry, you say page 8

Q. Page 8.

THE COURT: The numbers are in the centre at the top.

25 A. Okay, now I see. Yes, yes. Okay.

30 Q. And, paragraph 16, "Compensation is now attracting the interests of government and medical authorities in many parts of the world. This is based on increasing number of new studies and in part by the evidence submitted by the industry to the FTC in the Bartley (Ph) investigation much of which has been further communicated to the Government

authorities in Australia, Belgium, Finland, Holland and Switzerland and the US.

5 So paragraph 16 is saying that governments are concerned about the phenomenon of compensation. Would you agree with that statement?

A. It would appear so, yes.

10 Q. And then paragraph 17. "There is now an urgent need to assess whether there are ways in which the industry can either counter the situation or alternatively turn it into a commercial advantage." Do you see that?

A. Yes, I see that.

15 Q. And paragraph 18. "A direct consequence of this growing interest in compensation is a possibility that the FTC and other authorities may call for a change in the standard machine test procedure for all products." When it says, "other authorities" would that include Health Canada?

A. In 1983, I don't believe so, no.

Q. No?

A. No.

20 Q. When they say FTC and other authorities, they are talking about governments might want to the change the smoking test machine. Is that - smoking machine test - is that what that statement reads to you?

A. Yes.

25 Q. Okay. Then it continues, "If this were simply to be a modification to the existing standard procedure the effect would be to increase delivery levels, but it would probably have little effect on the League Tables. A more extreme possibly is that an entire new test procedure could be developed, eg. Biological index or Hurtsfelt (Ph) Type Multiple
30 Delivery Index."

A. Yes.

Q. So, in that paragraph they are talking about perhaps adding information about the biological reactivity of the product?

A. It would seem so.

5 Q. And, that would be the cancer-causing potential of the product?

A. I don't believe that was the case.

Q. It would be the sort of information - the "Ames" (Ph) Test, I think it was, you test that.

10 A. I believe the Independent Smoking Committee on Smoking and Health in the UK have had discussions with regards to an Ames (Ph) mutagenicity index.

Q. Okay.

THE COURT: When was that proposed?

15 MR. LENNOX: Sorry?

THE COURT: It's nice that you guys know what you are talking about. But I haven't. I don't even know how to spell what you've been talking about.

MR. MASSEY: No.

20 MR. LENNOX: "Ames" is A M E S, Your Honour.

THE COURT: "Ames" what?

MR. LENNOX: Ames test.

MR. MASSEY: It was....

25 THE COURT: No, that wasn't simply Ames test. That was not what was said. The Ames what test?

MR. MASSEY: A. Your Honour this is a laboratory test, not involving animals to determine mutagenicity that was invented by Professor Ames, I believe, at the University of Berkley in California.

30 THE COURT: "Neutrogenicity"

A. "Mutagenicity" as in "mutugen."

THE COURT: Why are we talking about this?

A. I don't know.

Q. I will come to it in a second, Your Honour.

THE COURT: Okay, because, I know we were talking about biological index (Ph) and Hurtsfelt-type Multiple Delivery Index - whatever they mean.

MR. LENNOX: Q. The two proposals that the government were considering, from that paragraph, Dr. Massey, were either (a) to change the puff volume duration in interval on the text or (b) to include a biological reactivity test on the package. Those were the two proposals.

A. When you say, "To change the puff volume, etc....,"

Q. Yes.

A. ...are you referring to this Hurtsfelt-type Multiple Delivery Index?

Q. No.

A. You are referring to the section above....

Q. The sentence....

A. Yes, okay.

Q. The sentence reads, "If this were simply..."

A. Yes.

Q. ..."to be a modification of the existing standard procedure..."

A. Yes

Q. ..."increase puff duration or interval."

A. Correct.

Q. Okay. Now paragraph 19...

A. Yes.

Q. ..."Either move," that's either the puff volume or the biological test, "would weaken the

5 concept of low tar and would both confuse and concern the smoker. Around the group the strategy therefore should be to do everything possible to maintain the present standard test procedure."

10 "If however the FTC or any other authority take action to change the procedure, this strategy should then be to stretch out the discussions both with the authorities and later at ISO until exhaustive studies have been established that an alternative procedure was in fact more relevant."

15 Q. Have you ever been instructed to stretch out discussions with government on testing procedure?

A. No. I certainly haven't. And, in fact you asked my - the question earlier about British Columbia.

Q. Yes.

A. The regulations in British Columbia didn't take effect until 1998 and this is a 1983 document.

Q. Yes.

A. Okay.

20 Q. And, you'll recall that there was a Toronto Star article in 1981 that talked about the, the ventilated brands and how people might get more tar and nicotine from ventilated brands. Do you recall that 1981 Toronto Star article?

25 A. Was this the article you presented me with this morning?

Q. No, no.

THE COURT: No, it was last Friday.

30 Q. We can go to that article. That, that was.

...

...

A. Okay, yes, yes, yes, yes, I know.

5 Q. Yes. So, the question is, between 1981 and this year were you ever instructed to stretch out discussions with government concerning changes to the tar and nicotine numbers on the packages?

A. No, I was not.

10 Q. No. And you were never instructed to conduct research for the purposes of undermining governments efforts to change the numbers on the tar and nicotine packages?

A. No.

15 Q. Your Honour, could I just have a moments indulgence please?

THE COURT: All right. This is exhibit 26.

15 EXHIBIT NUMBER 26: Document from Research Conference - August 22 to 26, 1983 - Produced and Marked.

20 MR. LENNOX: Your Honour, my client would like to ask some questions of Dr. Massey, and I have instructed him that as a witness in this Proceeding it is not appropriate for him to do so. But those are my client's wishes and I am in your hands.

25 THE COURT: He has got a lawyer. You tell your lawyer what questions you want to ask and let him ask them or not in his wisdom. No.

MR. LENNOX: In that case, Your Honour, those are my questions.

THE COURT: Re-examination.

30 MR. BARNES: I have about a half-dozen questions Your Honour.

THE COURT: Well, let me ask mine first.

MR. BARNES: Okay.

THE COURT: I guess you answered this one. In Exhibit 21 they talked about very low delivery category as being one where there's....

A. I think they said 1 to 4mg.

THE COURT: And that is defined as 1 to 4mg?

A. I can only say that in that document that's how...

THE COURT: In that document, yes.

A. ...it is defined, yes.

THE COURT: Matinée Extra Mild came out in about 1984.

A. The "Slim" version.

THE COURT: "Slims," yes.

A. Yes.

THE COURT: I am sorry, "Slims." Have their nicotine and or tar numbers changed in that period of time - up or down?

A. I - the tar numbers have not changed. I believe that's partially because, well because of crop changes and the rounding, that the nicotine on the 100s have changed from .4 to .5.

THE COURT: That's not that you are adding nicotine to make sure people keep wanting to smoke?

A. No.

THE COURT: Well, if everybody stopped smoking you wouldn't have a job, right?

A. I wouldn't presume not.

THE COURT: Okay, that's it. I don't have any other questions. Any questions arising out of mine Mr. Lennox?

MR. LENNOX: No, Your Honour.

THE COURT: Re-exam.

5 MR. BARNES: Q. Could we look for a moment - I'd just like to ask you to turn up Tab number 16 in Volume 1, please.

A. Yes.

Q. And, you were talking to Mr. Lennox about the deliveries that are noted on Page 183.

A. Yes.

10 Q. I think you were chatting to Mr. Lennox about the mouth-smoke deliveries. Could you tell me what was the author's conclusions as to in fact whether these mouth-smoked deliveries were in fact good indications of what the individual smoker would inhale?

15 A. Ah, based on the measurements of carbon monoxide, re-breathing carbon monoxide which is termed alveola (Ph) carbon monoxide concentrations, it was found that the correlation between the alveola (Ph) carbon monoxide and the mouth-tar deliveries was poor, therefore for the inhalation versus the mouth level was poor.

20 Q. And why would that be?

THE COURT: I am sorry...

Q. Sorry.

THE COURT: ...You've lost me. You are talking so quietly.

25 Q. Could you....

A. I'll answer....

Q. ...repeat?

THE COURT: Are you reading from someplace in the paper?

30 A. Yes. It's page 180, just above "Conclusions."
"However the actual correlation" - Oh sorry,

5 maybe we should go, "If all subjects inhale to the same extent, then there would be a good correlation between the mouth deliveries of carbon monoxide and the aveola carbon monoxide concentrations. And aveola carbon monoxide concentrations would be inhaled."

THE COURT: Inhaled. Okay.

10 A. "levels and are a market for the tar and nicotine inhalation." It then goes on to say, "However the actual correlation which is shown in figure 5 is quite poor, and it must be concluded that the mouth deliveries of carbon monoxide cannot be used to predict actual uptake of this smoking permanently. Not surprisingly the correlation between aveola carbon monoxide and mouth tar deliveries is equally poor."

15 Q. Now, does that go back to the evidence that you were giving the other day about there's quite a difference between the puff volume and what is in fact inhaled by each individual smoker?

20 A. Yes, it does. That's correct.

Q. And, in fact we see that as, well, Dr. Massey, on page 1 of that document, page 176 in the opening summary.

25 A. Yes.

Q. Do we not? The very last sentence, last sentence of the summary on page 176.

30 A. "The weak correlation between mass and aveola carbon monoxide concentrations suggests absorption of smoke by the smoker is only partly determined by the mouth levels obtained from the cigarette."

And if you recall the testimony I gave on Thursday, I was

saying that puffing and inhaling are two separate processes.

Q. And that's when you were talking about the spillage...

A. That's correct.

5 Q. ...ventilization. Thank you. I'd also asked you to go to another document that you looked at with Mr. Lennox. Would you please turn to Tab 27 of the Red Volume?

A. Yes.

10 Q. And, Mr. Lennox was talking to you about page 43. Would you turn to page 43 of that document?

THE COURT: The page numbers are at the bottom.

Q. I am sorry.

A. Thank you, Your Honour.

15 THE COURT: I am just telling him where to find the page numbers. We are really the only ones who don't know where we are going.

20 Q. And you gave significant evidence in answering my questions as to the effect of this ventilation blockage. And, Mr. Lennox came to you and put to you the statement on the top of page 43. "For the two largest studies the results indicate that 15% of the smokers in the UK and 24% in Canada block the ventilation zone to some extent for at least one puff" - emphasizing the one puff.

A. Yes.

25 Q. I then ask you to turn back to page 2 of that document and just would you tell the court what the conclusions were? Because when I read this conclusion it's consistence with what you were saying about your summary of the evidence on vent-blockage that it occurs in some of the people with some of the puffs.

30 A. Yes.

Q. And da-de-da (Ph). So, would you just see

if that conclusion is the same as the evidence you've previously given this study?

5 A. Yes, it is. And, perhaps, I should just repeat maybe what I said on Thursday, that the method of looking at the cigarettes butts depends on visualization of the saliva and therefore if the smoker has on only one puff insert of the cigarette that visualization would give the maximum extent, even though it may be only one puff...

10 Q. This second sentence...

A. ...of the cigarette.

15 Q. ...then or let's start, "The incidence of vent-zone blocking by fingers is quite low and relatively insignificant. The most reliable estimate for lip-blocking is that up to 25% of smokers may cover the vent zone during at least one puff..."

A. Yes.

20 Q. "...and for the most the coverage is partial."

A. Yes.

25 Q. "Ventilation-zone blocking as it occurs in practice is only a relatively minor effect, if any, on human smokieos (Ph) compared to other smoker-behaviour factors."

A. Yes. And we went through them.

30 Q. "When a human" - I'd like to just ask you about the second sentence - "When a human smoker inadvertently, partially, or completely blocks the total ventilation zone during smoking he and she adjusts by taking smaller and fewer puffs. Do you agree with that?"

A. Yes. There is evidence there which comes from a publication by Kauslovsky, (Ph) I believe, in 1996.

Q. Thank you, Dr. Massey. There was some discussion with you - and I know that you are not a marketing

person - about the percentage of light products that represent Imperial's market share. I just want to ask you on two particular products, are Players Light and du Maurier Light ventilated products?

5 A. I - du Maurier Light is and I am not sure whether the product's on the market exactly at the moment, but certainly up until relatively recently, Player's Light was a ventilated product.

Q. Was what?

10 A. It was a ventilated product.

Q. Okay. And, in one of the answers to the question by Mr. Lennox when you were debating this epidemiological evidence, you stated in response to a question by saying that there has not been a cause and effect relationship demonstrated. I am wondering if you could explain what you meant when you responded.

15 You indicated that there were epidemiological studies, but that there was an issue with respect to cause and effect, which you said continues until this day. What did you mean by that?

20 A. Well, I, I, am talking from a scientific point of view as opposed to a general acceptance in the public's minds and many people's mind. I am talking about the evidence does not clearly point to a direct link as to what causes the incidence - the disease in people which is related to cigarette smoke.

25 Q. All right. And, you were talking about work that is being done for the last several years in which you are involved with respect to nitrophenamines?

A. Yes.

30 Q. What I would ask you is whether you believe that during the period of time that you've been working you've been doing everything that you can to move this matter over to

some sort of a successful resolution.

5 A. I guess we have. But I do, I do have to point on that Canadian tobaccos are among the lowest - at the lowest levels of tobacco specific nitrophamines of tobaccos that are available around the world. Certainly lower than
fluckio (Ph) varieties that exist in the United States.

10 So, that doesn't mean to say that the matter is taken lightly. But, the fact of the matter is that the level that's present in Canadian tobacco and is reflected in the smoke delivery are lower than you would find for US products or indeed products made from other fluckio (Ph) tobacco.

Q. So, there are already lower in this country?

A. That's correct.

15 Q. And, finally, I just wanted to ask you another question about the two Minutes, which I believe are Exhibits 23 and 24. And, I just want to be clear on this. You said that Exhibit 24, which is the shorter version of the Minutes...

A. Yes.

20 Q. ...you received that from Mr. Heard. Is that correct?

A. That's correct.

Q. Right. And the version that we have which I believe is Exhibit 23, which I think is the longer version...

A. Yes.

25 Q. ...that is the version which is in the Imperial Tobacco's file, isn't it?

A. That's correct. That's right.

30 Q. And, Imperial Tobacco had absolutely no input into how the version which is now Exhibit 24 came to be prepared or for what purpose it was prepared.

A. Not at all.

Q. And the Minutes that we've looked at in the Exhibit 23 are the Minutes that Imperial took and placed in their files. Isn't that correct?

A. That's correct.

MR. BARNES: Those are my questions.

THE COURT: Okay. Thank you very much.

MR. MASSEY: Thank you, Your Honour.

THE COURT: Okay. We'll break for lunch now, but where are we going? What's next?

MR. BARNES: We have one more witness which should take us, Ms. Glendinning, probably about twenty-five minutes - twenty to twenty-five minutes in Chief, and then that will complete our case.

THE COURT: And then I expect you are going to have some reply evidence.

MR. LENNOX: I, I,

THE COURT: But, I am not telling you what to do. But I would just be surprised if you didn't. But that's okay.

MR. LENNOX: I, I wouldn't rule it out, but I am still thinking about it. Give me another....

THE COURT: All right.

MR. BARNES: Your Honour, if we don't have any reply will we start to argue today, or will we put it over to tomorrow morning?

THE COURT: No. We'll put it over.

MR. BARNES: Thank you.

THE COURT: If we can finish the evidence today, that would be wonderful.

MR. BARNES: Our witness is quite brief.

THE COURT: Okay. So, we'll adjourn until a

quarter to two. Would that give you enough time to get over to the Sheppard Centre?

MR. BARNES: Would 2:00 o'clock be okay?

THE COURT: 2:00 o'clock.

MR. BARNES: Thank you.

R E C E S S

U P O N R E S U M I N G:

THE COURT: Okay.

MS. GLENDINNING: Thank you, Your Honour. I would like to call Dr. Harvey Hammer to the stand please.

HARVEY M. HAMMER: AFFIRM

EXAMINATION IN CHIEF BY MS. GLENDINNING:

Q. Thank you Dr. Hammer. I understand you are a clinical psychiatrist and you practice in Morristown, New Jersey. Is that correct?

A. That's correct.

Q. And you've practiced for an excess of thirty-five years?

A. That's correct.

Q. Okay. Do you have a copy of your Curriculum Vitae there?

A. Yes, I do.

Q. Okay. I'd like to give one to the Judge please.

THE COURT: Thank you. Where do you practice?

A. Morristown, New Jersey, Your Honour.

THE COURT: Okay.

Q. Now, Dr. Hammer, in your thirty - in excess of thirty-five years of practice, can you give us an approximate number of how many patients you've seen?

A. I've seen in excess of ten thousand patients.

Q. And how would this compare, do you believe, to an average patient load for a physician working that number of years? Do you know?

A. I would estimate that the patient population that I've seen over thirty-five years is approximately doubled that of the average psychiatrist.

Q. And of the excess of the ten thousand patients that you have seen, I understand that a number of them have come to you to talk about substance abuse problems. Is that correct?

A. That's correct.

Q. And could you give us an idea of what percentage of the ten thousand plus patients you've seen have come to see you about substance abuse issues?

A. I would estimate 40 percent of that total.

Q. Okay. And of that sub-group would that include people who would come to you, and among other things, talk to you about smoking and quitting smoking and issues of that nature?

A. I think people who came to me or do come to me to see me about quitting smoking, are a cross section of those people who would come to see me about substance abuse problems or other psychiatric problems.

Q. Could you give us - the Court an approximation of the number of patients you've talked to about quitting smoking over the years?

A. Over thirty - I am sorry.

Q. Just a 'ball-park' number.

A. Thousands.

Q. And I understand that you've held various teaching positions, throughout your professional career. Is that correct?

A. Yes, I have.

Q. And could you just explain to the Court the various Institutions that you've held these positions at.

A. In the 1960's, Your Honour, I was teaching Fellow and Psychiatry at the John Hopkins University, John Hopkins Hospital. From approximately 19....

THE COURT: I am already on page four.

A. Page four. I am back on page 2. From approximately 1971, to the present time, I've held teaching positions at Records (Ph) University School of Medicine, New Jersey, Columbia University College of Physicians and Surgeons in New York City. And currently is in the process of teaching at U.M.D. & J, which is the Medical School, College in New Jersey, Newark, New Jersey.

Q. And I understand the courses that you are teaching include, at least, one course on substance abuse and substance dependency. Is that correct?

A. That's correct.

Q. And in terms of your professional experience, you practice out of Morristown Town Memorial Hospital. Is that right, Dr. Hammer?

A. I practice out of Morristown Town Memorial Hospital; I've been Chairman of the Department of Psychiatry of Morristown Town Memorial Hospital, which is a teaching Hospital. I have been at Columbia University College of Physicians and Surgeon and the Medical College of New Jersey. I am on the consulting staff of other hospitals. And have been on the consulting staff at Presbyterian Hospital in New York

City.

Q. And I understand that you were the Chief of Psychiatry at West Point at some point in time. Is that correct?

5 A. Yes. That's correct. I served as Chief of Psychiatry and Neurology at the United States Military Academy at West Point, 1965 through 1967.

Q. And did you have any exposure to working on substance abuse problems when you were Chief of Psychiatry at West Point?

10 A. Yes, I did.

Q. And, I also understand that you were the Director of one of the first substance abuse clinics in New Jersey. Is that correct?

15 A. Yes, that's correct. The Morristown County, so-called "After-care clinic or Substance Abuse Clinic, was a pioneer clinic in the State of New Jersey for the treatment of patients with substance abuse problems.

Q. And you are also the Directors of one of the first closed Psychiatric units in New Jersey. Is that correct?

20 A. That's correct. Morristown Memorial Hospital was one of the first hospitals to have a closed voluntary and open voluntary Psychiatric unit, which was one of the reasons I went to Morristown, New Jersey. It had a thirty-bed unit. And I have been the Director, Chairman of the Department of Participant for over thirty-five years.

25 Q. And your expertise in Clinical Psychiatry lies, in among other things, diagnosing and treating patients with substance abuse disorders. Is that correct?

A. That's correct.

30 Q. I would like to submit Dr. Hammer's credentials and suggest that he is qualified to give expert

opinion evidence on the matter of substance abuse, Your Honour.

THE COURT: Mr. Lennox?

MR. LENNOX: I don't have an objection to Mr. Hammer providing his opinion.

EXHIBIT NUMBER 27:

Dr. Hammer's Curriculum vitae - Produced and Marked.

THE COURT: Okay, well given his experience, I don't see any publications on this issue.

MS. GLENDINNING: No, Your Honour. Dr. Hammer is submitted as a clinical expert. He is not a researcher or an academic. His experience comes from...

THE COURT: clinical....

MS. GLENDINNING: ...clinically treating and diagnosing and assisting patients with substance....

THE COURT: Is that another word for anecdotal?

DR. HAMMER: No, Your Honour.

MS. GLENDINNING: May be you can explain what 'clinical' is, Doctor Hammer.

A. 'Clinical,' Your Honour, is very much like the Infantry men in the army as opposed to the officer, who does administrative work or does the strategic exercises. 'Clinical' means 'hands-on,' patient care.

So, what I've done for my professional life besides doing some hospital administration and teaching is, I've treated patients. I've seen patients. And therein lies whatever expertise I may bring before this Court.

Q. And, is that Dr. Hammer, one of the reasons why you suggested that in fact your patient load is sufficiently greater than many psychiatrists is because you've

spent so much more time in your office simply seeing and treating patients?

5 A. That's correct. It's not only been in my office but it's been admitting to a thirty-bed psychiatric unit, running that unit, having admission rates of over 150, 175, 200 patients a year; many of them are substance abuse patients.

10 We had one of the first detoxification units in the region that I lived in; which is, Your Honour, just west of New York City and due north of Philadelphia. So it is not a rural, it's a bit...

THE COURT: Yes.

15 A. ...it's a bit of a metropolitan area, though it may not sound so. So, we do have a very busy hospital. I've had a busy hospital practice; a busy outpatient practice.

20 Q. Okay, thank you. Now, although you've spent the majority of your time, seeing patients in hospital and in your office, Dr. Hammer, you have had some experience giving expert evidence in cases such as the one you're here to testify in today. Is that correct?

A. Yes, I have.

25 Q. And, I understand that in fact, although it may only occupy about five to ten percent of your time, you have appeared as an expert witness in several hundred cases where you've had several hundred court appearances over your career. Is that correct?

A. Over thirty-five years, that's correct.

30 Q. And, just in terms of how you came to become involved in giving expert testimony in cases such as this one, perhaps you can assist the Court with the background.

A. Your Honour, I first became involved in doing Forensic Psychiatry because I am a qualified Child

Psychiatrist as well as Adult Psychiatrist.

When I went into practice, I was requested by the Courts to do custody evaluations and present them to the Courts. From my work there, I was recognized by some of the communities in the area and I was recognized as an expert in psychiatry--in the field of psychiatry by the Judges in various Counties in the state of New Jersey.

So I was called upon for expert opinions. Subsequently, I was appointed as an impartial expert to the Supreme Court of the State of New Jersey, by Justice Robert Clifford, and about the same time, I became Chairman of the Department of Psychiatry at Morristown Memorial Hospital, which is a large psychiatric group - large group of psychiatrists. And, as a result of all of the above, I have been requested many times to extend opinions, expert opinions on various matters.

I have done so, both for Plaintiffs and Defendants. I have maintained that part of my practice as no more than ten percent of my clinical work.

Q. And, you have in fact, been called on to give expert evidence on behalf of the Tobacco company on two previous occasions, I understand in the United States. Is that correct, Dr. Hammer?

A. That's correct.

Q. At trials - two times you testified at a trial on behalf of the Tobacco company.

A. That's correct.

Q. And, in addition to that, I understand that you have been deposed twice as a witness in the United States litigation involving the Tobacco company.

THE COURT: You have been 'deposed'?

MS. GLENDINNING: 'Deposed.'

THE COURT: As in thrown over?

5 MS. GLENDINNING: Q: No, Your Honour, I believed the reference 'deposition' is similar to the term for "Discovery" here, although the "Discovery" rights are broader in the US. So, he has been put up as a potential witness on behalf of the Tobacco Company twice in the United States. Is that correct, Dr. Hammer?

A. That's correct.

10 Q. Okay. And, in fact, you have on one occasion filed an Affidavit, on behalf of Imperial Tobacco, the Defendant in this matter on one other occasion. Is that correct?

A. That's correct.

15 Q. Right. And, that's out of the hundreds of cases that you have given expert evidence in, over the course of your career.

A. That's correct.

20 Q. Now, I know Mr. Lennox is going to ask you about this, so, why don't we start off with it? Dr. Hammer you are charging the Defendants for the time spent on this case and for your court appearance today. Is that correct?

A. Yes, I am.

25 Q. And, I understand that the amount that you are charging Imperial Tobacco, is \$7500US a day. Is that correct?

A. Yes. That's correct.

30 Q. And, is that any different than your standard daily fee for any other client, whether that be Plaintiff or Defendant, in terms of providing litigation support and expert advice?

A. That fee for service has been the same for the past eight years. I have not changed it. It is the same fee for any appearance out of state, requiring me to remain

overnight and testify and change my clinical practice. And, what I bring to bear is my thirty-five years of experience and my expertise. Yes, that has been my fee and is my fee.

Q. For the past eight years?

A. For the past eight years.

Q. Now, I just want to review with you briefly, Dr. Hammer, the information and the materials that you were able to review before coming to Court today to testify.

First of all, I did provide you with the three different versions of the Statement of Claim in this matter, and you've had an opportunity to review those. Is that correct?

A. Yes, I have.

Q. Right. And in addition to that, I provided you with some Affidavits that were filed by Mr. Battaglia, and I believe, Your Honour, we've looked at, at least one of these. The first Affidavit was in the Soffer (Ph) Motion Record. We reviewed that last week. And it's an Affidavit that was sworn by Mr. Battaglia, on March 18, 1999. Is that correct? I am showing you a copy of that Affidavit and asking you if you recall reviewing that.

A. Yes, I have.

Q. Okay. And in addition, you reviewed a document that's also enclosed, in the Soffer (Ph) Motion Record, Your Honour, called "Information Given by Joseph Battaglia," on March 18. You reviewed that before coming here today?

A. Yes, I did.

Q. Okay. You also reviewed another Affidavit sworn by Mr. Battaglia. I don't believe this one has been referred to yet, but it was sworn on the 3rd day of February in the year 2000. And, I am just going to show you a copy of that. Do you recall looking at that and reviewing that before

giving your evidence today?

A. Yes, I did.

THE COURT: February the....

5 MS. GLENDINNING: 3rd, 2000, Your Honour, and that Affidavit is in the file of a large Motion Record that was filed by Mr. Lennox, earlier this year in support of Mr. Battaglia's Motion to amend the Statement of Claim to get it to where we see it is today. If necessary, what I can do is simply make a separate copy for the file and you can identify it from there.

10 THE COURT: I've got one sworn the 18th of March. That's it - okay, not bad. I think we're getting better.

15 MS. GLENDINNING: And if you've got the Motion record that that appears in you'll also see the Memorandum of Information.

THE COURT: No. Yes, I've got Mr. Soffer's (Ph) and I have....

20 MS. GLENDINNING: Okay, if you've got Mr. Soffer's (Ph) Affidavit, then the March 18th Memorandum of Information is attached...

THE COURT: Yes.

MS. GLENDINNING: ...to that. Okay.

THE COURT: Now that's a February one.

MS. GLENDINNING: Right.

25 THE COURT: Unless it's in this thing which is for the November 7th Motion.

30 MS. GLENDINNING: No. This would have been in the Motion that was returnable in February of this year, before Judge Godfrey. It's at - yeah. I can give you a loose copy of the Affidavit, Your Honour.

THE COURT: No. I don't have it.

MS. GLENDINNING: It's a large binder. I've got an extra copy of the Affidavit here.

5 THE COURT: Yes. Okay. And the Affidavit of Mr. Soffer (Ph) is the one - I've got one that's relatively short, sworn 19th May '99? Or is there another one?

MS. GLENDINNING: It's actually - what I was referring to - that's right. It's Mr. Soffer's short Affidavit...

10 THE COURT: Yes.

MS. GLENDINNING: ...and the Affidavit of Mr. Battaglia and the information Memorandum...

THE COURT: Yes.

MS. GLENDINNING: ...are Appendix to his Affidavit.

15 THE COURT: Yes.

MS. GLENDINNING: Q: Now, in addition to that Dr. Hammer, you also had an opportunity to review the medical records that have already been made an exhibit in this case. Correct? You reviewed - if you can turn to that Volume 2 in the white Volume - right. That's it in your right hand.

A. This Volume 1

Q. That's Volume 2. Just turn it over.

A. I am sorry. It says Volume 1.

25 THE COURT: Oh, it was two Volumes.

A. Yes. The second Volume is right here.

Okay.

Q. Right. Tab 20. Those are Dr. Graham's...

A. Yes, I reviewed those.

30 Q. ...notes and records. And if you go over to

Tab 21...

A. Dr. Downsky. Yes.

Q. ...and there are some records of Dr. Sharpe and Dr. Parker in there and Dr. Penniston (Ph), I believe. You reviewed all of that material?

A. Yes. I did.

Q. In addition, Dr. Hammer you had an opportunity last Tuesday, when Mr. Battaglia was giving his Evidence-in-Chief in response to the questions from Mr. Lennox, to sit and listen to that evidence. Is that correct?

A. I did.

Q. And in addition, that afternoon, you had the opportunity to hear Dr. Graham's evidence as well.

A. I did.

Q. Okay. You have not had an opportunity to examine or do a psychiatric examination of Mr. Battaglia.

A. No. I have not.

Q. Now, Mr. Battaglia in this Action, Your Honour, claims that he is addicted to smoking. Do you in your Practice diagnosed people as addicted to smoking or addicted to any substance?

A. No. I do not.

Q. And why not?

A. The term, "addiction" is no longer used in a medical context because of its overuse in a general way. It implies a person's immersion in an activity or a substance. And more significantly than that, it implies that a person has no choice: that a person has no free will. It also casts with it an aspersion of someone who is in that part of our society who is not to be accepted or rejected. It had a very negative connotation.

Q. So, I just want to examine that a little bit with you, Dr. Hammer. When you say, addiction is a term that's

come to be overused, can you give me examples of things that people claim to be addicted to today, in terms of this overuse of the concept?

5 A. People become addicted to eating; people become addicted to chocolate. People become addicted to biking; people become addicted to, I might say, 'bad movies', in quotes. People can be addicted to bungee jumping. I mean the term, 'addiction' to day, is so frequently used for any activity in which compulsive behaviour is exhibited, that it fails to have a significant medical psychiatric meaning.

10 Q. Okay. And when you dealt with this concept of saying, it's not used because it connotes people not having a choice or presumably not having a control over their behaviour, why is that a reason that we don't want to use the term 'addiction'?

15 A. The reason - the very reason being is that by using that term and implying that concept, what we are telling people is that they are helpless; that they are have no choice; that they have no control; that they have no ability to motivate themselves to give up the 'addiction'.

20 I was very concerned, if I may say so, by Dr. Graham's comments last week, when he stood here, with all due respect to his being an extremely fine cardiologist, and said that he had looked up the term 'addiction' in the dictionary, and what he presented to this Court was that 'addiction' defined by the dictionary, was "being a slave" to a substance.

25 That is entirely incorrect. No one is a slave to a substance. People have choices; people make choices. Substances do not enslave people. People choose, in the sense, to use substances in a fashion which may appear as if they are enslaved.

30 Q. And this enslaving definition, suffers from

the same problem that the common definition of addiction does, i.e., it suggests to people that they don't have any control over their behaviour.

5 A. That they have no choice, they have no control, they may as well not try to do anything.

Q. So, you don't use the concept of 'addiction' in your Practice. What concept do you use with diagnosing people with substance abuse problems?

10 A. The concept that I use is the concept that used both by the American Psychiatric Association, the Canadian Psychiatric Association and that is substance dependency.

Q. And just without getting into too technical a diagnostic explanation of what 'dependency' is, could you explain to us what 'dependency' really means?

15 A. Just basically - in basic terms, 'dependency' means the repetitive use of a substance, which leads to a clinical syndrome, of mal-adaptation.

20 'Mal-adaptation' means it doesn't fit a normal life pattern; it interferes with a normal life pattern. It prevents people from having normal relationships and pursuing a life that doesn't center on the substance. And the final part of it is that, that substance dependency has the potential for medical and psychiatric impairments.

25 Q. And there is such a thing that is recognized by the Psychiatric community as 'Nicotine Dependency'. Is that correct, Dr. Hammer?

A. That's correct.

30 Q. But, does being nicotine dependant or does diagnosing somebody as having nicotine dependency means that that person cannot control their smoking behaviour or cannot quit smoking?

A. No, it does not. And I think that is the

5 very point that is so troublesome to me about the use of the term, 'addiction'. And that is, that it implies again, that someone cannot control their behaviours, that their behaviours are out of their control, and that is not what is meant by any form of dependency.

10 The first thing - if I call it 'thing' forgive me. But the first concept that is imputed to anybody who is recovering from a substance usage is, "I am responsible for my own behaviour." And once I learn that I am responsible for my own behaviour, then I can motivate myself to control that behaviour.

15 I don't mean to make it sound simplistic, but that is a basic psychological concept which is not new today, ten years ago, twenty years ago, thirty years ago. It's been in evidence for many, many, many years.

Q. What in your view, Dr. Hammer, is the key factor in successfully quitting smoking or behaviour - particularly smoking.

20 A. There's one word that is the key factor in quitting smoking or any kind of compulsive behaviour and that word is 'motivation.' It's as basic as that.

Q. So, by that, do you mean that if somebody is properly motivated they will be successful in quitting?

25 A. If someone is self-motivated to stop doing something, they will apply their abilities to stopping it.

Q. Now, with specific reference to Mr. Battaglia in this case, do you know whether he is nicotine dependent?

A. No, I do not.

30 Q. But, he claims that he is addicted, in the sense that he can't quit smoking: he can't give it up. Do you have opinion about that claim?

A. In reviewing Mr. Battaglia's medical records,

I was very much struck that he stopped smoking, I believe for two significant periods of time, one being two years in duration, the second being, approximately, six months in duration.

5 His return, at least in the medical evidence being reviewed, his return to smoking behaviours were precipitated by external stresses in his life.

10 I remember specifically that he stopped smoking because the woman company he was with did not smoke and did not want him to smoke. He returned to smoking because the woman he was dating smoked. On another occasion he returned to smoking because he had a business failure. These are external circumstances outside the individual psyche.

15 Q. And, in addition to the medical records, you've heard Mr. Battaglia give evidence about that...

A. Yes, I did.

20 Q. ...last week. Is that correct? So, given this belief and your opinion, Doctor, that you believe Mr. Battaglia can quit because he has on previous occasions quit smoking, do you have any idea why he perhaps is smoking today if he says he wants to quit? Is there any assistance you can give us on that point?

25 A. Unfortunately, and I've see this in a number of patients, in recent years, Mr. Battaglia, I believe, believes that the term, 'addiction' means that he can't stop smoking. And I have people that come into my office now who didn't come in that way before, who say that, "You know doc, I wish I can give up smoking, but, you know, it's addictive." And I ask them what that means. And that means, "I can't do anything about it."

30 Now, I truly believe that Mr. Battaglia believes that he can't do anything about his addiction. And that's why he

continues to smoke.

5 Q. And from the evidence that you've heard and the medical records that you reviewed, are you convinced that if Mr. Battaglia believed he could quit today, like he believed he could quit, when he quit for two to three years at that one point or for six months at another point, that he would be successful?

10 A. I believe that Mr. Battaglia very admirably stopped smoking for two years for one period of time, six months for another period of time, and I truly believe if he were so motivated he could stop again.

15 Q. And when Mr. Battaglia did have that success and he had quit for the period of two to three years, after a length of time, like two to three years, would there have been anything about the physical affects of the nicotine or the cigarette which would have caused Mr. Battaglia to take up smoking again?

A. None.

20 Q. And on what basis do you say that?

25 A. On basis of - on the basis of everything we know, psycho-form, ecologically about the effects of nicotine; on the basis of everything we know about the distress signals associated with the absent of smoking, there is no evidence, none whatsoever, not even in animals studies, to substantiate the fact that nicotine has a long lasting effect on the biochemistry of the brain.

30 As a matter of fact, animal studies that have been done of a more recent nature, have demonstrated that the nicotine receptor sites - and I don't want to get too technical about this - but the nicotine receptor sites extinguish themselves back to a normal stance within a period of thirty to sixty days at the most.

5 Q. So, just to put it in simple terms that I can understand. If there is any impact of the nicotine on somebody who's continuing to smoke, it certainly would have gone away in a period of thirty to sixty days after they've stopped smoking. Am I understanding that correctly?

A. I am sorry. Just repeat that for me again.

10 Q. If there was - I am trying to make it simple. I guess not.

A. I was still back there on the nicotine. I am sorry.

15 Q. Okay, Okay. Let's try this again. Am I understanding your evidence correctly to say, that after a thirty to sixty day period, there is no more physical effect of nicotine on the body? And that's not having an impact on somebody who's taken up smoking.

A. That's correct.

20 Q. Dr. Hammer, is there any such thing as far as you are aware of a 'heightened addiction' or in your terms a heightened state of dependency? Is that a terminology that exists in psychiatry or that you are aware of?

A. It's not a terminology that I am familiar with or I have ever heard before.

25 Q. So, if as in Mr. Battaglia's case, he says he was addicted or dependent or whatever the status is...

THE COURT: Let's use the word a "dependent." That's his word so we can use it.

Q. "Dependent?" Okay.

THE COURT: Yes.

30 Q. ...in the mid 1970's or at least by 1993, if Mr. Battaglia was dependent, do you believe the level of nicotine that he would have received in the products he started to smoke in 1994 would have any impact on his status of being

dependent?

A. No, I do not.

5 Q. The concept of "quitting," Dr. Hammer, may be a relative thing, but based on your thirty-five plus years of clinical experience, is there any doubt in your mind or are you aware of any example whatsoever where an individual who has stopped smoking for periods of between six months and two to three years is not considered to be somebody who has quit smoking?

10 A. I've not had the experience of believing nor have the many associated psychiatrists that I practice with have the experience of believing that anyone who has abstained from cigarette smoking for the periods of time that you've mentioned have done anything but quit.

15 MS. GLENDINNING: Thank you. Those are my questions for this witness, Your Honour.

THE COURT: "Cross" Mr. Lennox.

CROSS-EXAMINATION BY MR. LENNOX:

20 Q. Dr. Hammer you mentioned that you were here on Tuesday, last week?

A. Yes.

Q. And you were here on Wednesday of last week as well?

A. No.

25 Q. No. And so you are here today and so that's two full days that you have been working on this trial?

A. So far.

Q. And reviewing the material before, how much time did you spend reviewing the material that you were given?

30 A. In terms of when, Counselor? Is that the proper term used?

Q. Yes. In Canada, "Counselor".

THE COURT: "Counsel" not "Counselor."

Q. Counsel. I'll take "Counsel."

A. Counsel, okay.

5 Q. Just in terms of from the moment you were retained to work on this case.

A. I believe I spent approximately forty-five minutes to an hour reviewing the materials. There may have been another hour involved in reviewing the medical records.

10 Q. Okay. So, two hours in New Jersey reviewing the materials and then two days here?

A. So far.

Q. All right. I don't plan on keeping you long, Dr. Hammer. It's intrepidacious.

A. Not at all, Counsel.

15 Q. So, this is the time you've been able to "tear away" from your clinical practice?

A. Well, you say "tear away" from my clinical practice. We've had Thanksgiving in-between, in the United States. And, yes, I have been absent from my clinical practice

20 for this period of time.

Q. And you mentioned that there were a couple of other lawsuits that you've given evidence in, in both the United States and in Canada. I just want to be sure that I know which ones those are. You've given a sworn Deposition in

25 the Angle (Ph) Proceedings in Florida?

A. That's correct.

Q. Did you also testify at that trial?

A. Yes, I did.

Q. Okay. So that was one. What was the other

30 Proceedings that you gave sworn Depositions in?

A. The New York State Class Action.

Q. Yes. Is that the *Simon Case*?

A. I am sorry, I don't recall names.

Q. Okay. You gave a Deposition in that. Have you also testified at the trial in that one?

A. No, I have not. The case was dismissed.

Q. The Case was dismissed. So, there was another case in the US that you gave trial testimony in?

A. Not another case, Counsel. In 1994 there was an Administrative Hearing in the Angle matter.

Q. Yes.

A. And I appeared at that Hearing before the Administrative Judge in Miami, and then appeared in the Trial, last year, I guess it was.

Q. Okay. Two different Proceedings in Florida and one Proceeding in New York?

A. Okay.

Q. And then you've given evidence in Affidavit in a Class Action in Ontario.

A. That's correct.

Q. You mentioned that some people refer to chocolate as addictive.

A. Yes.

Q. And do you treat many people for chocolate addiction?

A. I treat any one of a number of patients who tell me they can't stop eating chocolate.

Q. Okay. Do you have patients who eat chocolate twenty-five times a day seven days a week?

A. Oh yes.

Q. Yes?

A. Oh yes. I've had patients who have eaten more than that amount of chocolate.

Q. You mentioned that the "key" to quitting is motivation.

A. Yes.

5 Q. And, you mentioned that people are getting information that is interfering with their motivation. I think you said that people are hearing that smoking is addictive and that's interfering with their motivation.

10 A. Yes, Counsel, I've said that myself and other psychiatrist that practice in the community I practice in...

Q. Yes.

15 A. ... at meetings have recorded more patients who come in for a variety of reasons who when they address the issue of smoking behaviour address it as saying, "You know I am addicted to tobacco," or "You know I am addicted to smoking, so I can't do anything about it."

Q. Yes.

A. I find that, frankly, alarming.

20 Q. Yes. So, if we use the term "nicotine dependant" then that's a better way of describing it and it doesn't defeat people's motivation. That's your thesis. Isn't it?

A. Well, it's not my thesis...

Q. No.

A. ...at all.

25 Q. No.

A. My thesis is that we are somehow sending a message to the people that whether you are calling it addiction or dependence you are saying, "I am helpless. I can't do anything. I am powerless."

30 Q. We are sending the wrong signal and people are using that as an excuse for not quitting. Is that

basically your evidence?

A. I think that's a reasonable statement. Yes.

Q. So, the information that we send to smokers is important because it impacts on their motivation.

5 A. It's important to every human being certainly.

Q. Yes. So if smokers were receiving information that light cigarettes are safer than regular cigarettes that would impact on their motivation.

10 A. Counsel, I have sat in this Courtroom for the days you mentioned...

Q. Yes.

15 A. ...I've heard about light cigarettes; I have heard about ventilated cigarettes; I have heard about holes in cigarettes. I really am not an expert and present no expertise on whether it makes the slightest bit of difference what kind of cigarettes someone is smoking. I am talking about cigarette behaviour - smoking behaviour as such - not what kind they are smoking.

20 Q. Yes. I am not asking you about cigarette design. I am asking you if smokers receive that information that light cigarettes are safer, does that impact on their motivation?

25 A. I don't know Counsel, because no one has come to my office and said to me that; "I smoke light cigarettes. I guess that's okay, Doc?" No one has said that to me. Perhaps you're right. I can only speak of my own experience.

30 Q. And if smokers received information that smoking had not been proven to cause disease, it was just some statistical association that hasn't been established fully through some epidemiological research, would that sort of information impact on smoker motivation?

5 A. I am not an epidemiologist and I am not here to comment about the many variables which have been raised relative to the causation of disease process. No. That's not my expertise.

Q. No. And I am not asking you to.

A. As a physician, as a physician, I believe smoking is unhealthy behaviour.

Q. Yes.

10 A. I believe it has adverse health effects and that much I can say.

Q. But....

THE COURT: Well, he's trying to focus in on your expertise as someone who knows about motivation. Surely it's part of your expertise?

15 A. Yes, it is Your Honour.

Q. So, let's take Joe for example who worked for the Tobacco industry, If somebody is telling him that all those health warnings is a load of propaganda, does that impact on his motivation?

20 A. Well, I am not going to call you "Joe," sir, because I haven't been introduced to you, but, sure it impacts on his motivation. But then again, without examining this gentleman, how am I to know what else impacts on his motivation? How am I to explain the times that he quit smoking and began smoking when he was aware of certain adverse health effects, or continues to smoke in the face of sitting in this Courtroom and hearing about adverse health effects? I can't comment, Your Honour, on what goes into the complexity of a person's motivation without examining them.

25 Q. Now, Joe gave evidence that he had cravings even during the two years that he had quit. And, without talking to him you are saying today, that that's impossible.

30

A. No. I am not saying that's impossible at all. I am sure ex-cigarette smokers do have cravings. But, I also think it's a craving for the behaviour that goes along with cigarette smoking.

5 I heard Mr. Battaglia talk about his "buddy" in his side pocket. And I've heard people talk about "lighting up" and having a cigarette in their hand.

10 Smoking behaviour is a complex behaviour. It's not just the craving for the tobacco. So, do smokers or ex-smokers have the craving? Sure - certain to admit that. Does that mean they shouldn't stop smoking if they feel it's not good for them? They should stop smoking if it's not good for them, even if they have a craving. That's my opinion.

THE COURT: Should?

A. Should, Your Honour.

15 THE COURT: Can?

A. Can. Do, in my practice.

MR. LENNOX: Q. Do you agree that some people find it harder than others to quit smoking?

A. Yes, I do.

20 Q. Do you agree that some people attempt to quit smoking many, many times before they are successful?

A. Yes, I do.

Q. Do you agree that some people try and never succeed at quitting smoking?

25 A. I've perhaps have been very fortunate in my practice because I haven't met any of those people who have tried and not succeeded. That may just be my good fortune, but I am sure there are people who have tried and failed.

30 Q. So, your evidence is that you have a hundred percent success rate?

A. In my own practice, Counsel, those people

5 who are motivated to stop smoking, and again, I have to insert that word, they do stop smoking. Those people who are not motivated to stop smoking and go through the mechanisms of, "I wouldn't light up in the morning, or I spent three days without it or whatever," that's not a real attempt. That's not the motivation I am talking about.

Q. So some of your patients don't manage to quit?

A. That's correct.

10 Q. What percentage of your patients fail at quitting?

A. I'd say that it would have to be five percentage of my patients that never make an attempt to quit.

15 Q. No. What percentage of your patients fail to quit?

A. I couldn't even estimate...

Q. Okay.

A. ...the number.

20 Q. Dr. Graham talked about treating people on their deathbeds and he said he had about a fifty-percentage success rate. How does your success compare with Dr. Graham's?

25 A. Well, you know, I think that's kind of unfair. I don't know, listening to Dr. Graham, whether you treat someone for smoking behaviour on their death-bed, is hardly what I consider to be the appropriate treatment environment. I am talking about helping people to become motivated, understanding the consequences, taking the responsibilities for their actions.

30 I found it a little - well just a little unusual to hear about someone bringing statistics as to who you are going to get to give up smoking when they are lying on their death bed? That's hardly a time I think, when people are concerned about

smoking. I think they are more concern about dying.

Q. Do you treat patients who have undergone surgery for a disease related to smoking?

A. Yes, I do.

5 Q. Have you treated people with tracheotomies and amputations and lung removable? Have you treated those sort of patients?

A. I've had a large hospital practice and the answer, to every one of those questions, is yes.

10 Q. Okay. And, do all of those patients of yours manage to quit after you have treated them?

A. No.

Q. No. And the ones that fail, in your opinion, fail because they are not motivated.

15 A. Counsel, let me ascertain something. I don't treat people for cigarette smoking.

Q. Okay.

A. I treat people for psychiatric problems.

Q. Yes.

20 A. Among those psychiatric problems are those mental problems associated with cigarette smoking. So, if I see an amputee with Buerger's disease, who is depressed and we discuss his depression and also discuss his desire to stop smoking, I would focus on motivating that person to stop smoking.

25 If that person has Buerger's disease and has had an amputation, and is interested in talking about his depression, about losing a limb, but is not interesting in talking to me about his smoking behaviour, then I don't pursue that path.

Q. Are any of your patients Canadian smokers?

30 A. I've had a Canadian or two who have been smokers. Yes.

Q. They travel down to New Jersey?

A. I guess they have traveled down on business and have been relocated in New Jersey. I can think of two people. Yes.

5 MR. LENNOX: Two people. Those are my questions, Your Honour.

10 THE COURT: One of the substance you didn't mention is alcohol, and I noted it. It just seemed strange to me - maybe it didn't to you. You talked about bad movies, eating, you didn't mention alcohol.

15 A. When I talked about addiction, Your Honour, I was talking about the way it's spread from the classical issues of opiates, alcohol, cocaine, amphetamines, barbiturates, benzodiazepines (phon), marijuana, and a host of illegal drugs. I omitted it because it is quite obvious that there is dependence to me. I am sorry. It was obvious to me that those are things - those are issues which we understand human beings to have problems in terms of substance dependence.

20 But, one picks up a newspaper today and hears about the addiction of young people to a certain kind of movie. I was really using an example that showed how addiction no longer has a medical application.

25 THE COURT: Well, I must use the word, "dependence."

A. "Addiction" is fine if we are using it in a medical sense, Your Honour.

30 THE COURT: No, no. So, we have dependence on chocolate, and so on. But you still didn't mention alcohol. And, I am not talking about your illegal drugs. Alcohol isn't illegal. Liquor - I am not talking about rubbing alcohol.

I am talking about liquor.

A. Right.

THE COURT: It's not an illegal substance. And don't we talk about alcohol dependence?

A. Sure we do.

THE COURT: Is there a difference between alcohol dependence, chocolate dependence and smoking dependence.

A. This is where I would place it, Your Honour.

THE COURT: Okay.

A. I would place alcohol - I would be happy to explain why, if you want me to...

THE COURT: Yes.

A. ...alcohol, opiates, barbiturates, amphetamines, cocaine over in this column. I would put smoking and caffeine over in this column.

THE COURT: Okay.

A. So, there's a dividing line between these dependencies.

So, in my experience someone who stops smoking is much more closely associated with someone who has been drinking caffeine for a long and stops drinking coffee.

THE COURT: Right.

A. Not someone who stops drinking alcohol.

THE COURT: Why?

A. Because, Your Honour the withdrawal effects, the physiological effects, medically are so...

THE COURT: I understand.

A. Pardon?

THE COURT: I understand we are talking medically...

A. Yes..

THE COURT: ...as opposed to sociologically.

A. Right. The effects of withdrawal are the clear-cut issue in separating the two.

5 If you withdraw from alcohol you expose yourself to serious medical events, such as DTs. If you withdraw yourself from cocaine, you expose yourself to serious medical events: EG paranoid delusions. If you withdraw from barbiturates or opiates there are other medical events, like seizures that are associated with those withdrawals.

10 Now I am just mentioning the serious medical events. I am not mentioning psychological events.

THE COURT: Yes.

15 A. In all my thirty-five years of practice, I have never seen a smoker who has stopped smoking who has had a significant medical event - not once. And I certainly have seen enough people with delirium treatments, with seizures, with paranoid delusions, with all kinds of other things that probably you needn't describe - you needn't have described.

20 THE COURT: Well, that's going to provide an interesting dinner discussion with my husband. Thank you.

DR. HAMMER: I wouldn't ask you, Your Honour, if with a drink or without a drink.

THE COURT: Any questions arising out of mine?

MR. LENNOX: No, Your Honour.

25 THE COURT: Okay.

MS. GLENDINNING: No thank you, Your Honour.

THE COURT: Nothing. Then no re-examination?

MS. GLENDINNING: No, thank you.

30 THE COURT: Okay. Good. Thank you very much sir.

DR. HAMMER: Thank you, Your Honour.

THE COURT: Safe trip home.

DR. HAMMER: Thank you.

5 THE COURT: Are you the only witness that came up for the Defence that doesn't smoke, or do you smoke also?

DR. HAMMER: No, I don't smoke, Your Honour.

THE COURT: The others did. Everybody else smoked.

MR. BARNES: Mr. Crawford said he didn't smoke.

10 MR. LENNOX: Oh, he came up for Plaintiff.

MR. BARNES: So, you are right, Your Honour.

THE COURT: Well, there are people that don't smoke - who are non-smokers, but smoke. Now, do I give you a few minutes to decide whether you want to do reply evidence or...

15 MR. LENNOX: Yes, I have one witness to call for rebuttal evidence. I would like to recall Mr. Collishaw.

THE COURT: Yes.

20 MR. LENNOX: I don't expect it will be very long.

THE COURT: Okay.

MR. LENNOX: And, actually, perhaps if we take the afternoon break now...

THE COURT: Sure.

25 MR. LENNOX: ...five or ten minutes, and I can set things up to do that.

THE COURT: Sure, okay. And then we'll hear argument tomorrow.

MR. BARNES: That's fine, Your Honour.

30 THE COURT: Do you think we'll finish the arguments tomorrow?

5 MR. LENNOX: I proposed just to submit a Brief of Authorities with - I think I have maybe ten cases to refer to and then to Oral Submissions. I wouldn't think my Oral Submissions wouldn't be very long.

THE COURT: You mean it wouldn't be all day?

MR. LENNOX: No, I wouldn't take all day.

THE COURT: Good. Speed and efficient, still the words in here. Okay, fifteen minutes.

10 R E C E S S

U P O N R E S U M I N G :

THE COURT: Okay.

15 MR. LENNOX: I would like to call Mr. Collishaw back to the stand, please.

THE COURT: Mr. Collishaw has been absent some period of time since you were where you are now. But you've been here the whole time?

MR. COLLISHAW: I have been.

20 THE COURT: And, you understand that you are still under oath?

MR. COLLISHAW: I do indeed.

25 NEIL COLLISHAW: PREVIOUSLY SWORN

EXAMINATION IN-CHIEF BY MR. LENNOX:

THE COURT: All right.

MR. LENNOX: Q. Mr. Collishaw, what have you learned from this trial?

30 A. Well, I very pleased to have learned a number of things. I think there were areas where my knowledge

5 was deficient. I didn't, I didn't have all of the documents and I think I explained that in my report. We had some documents and we could see some things and I think I've learnt a few more things that I find interesting and helpful in improving my understanding and other people's understanding of this whole problem of how tobacco is made and how it affects people.

10 Some - I've just scribbled down a few notes of some of the things that I noted that I - were news to me. I learned that the entire crop, in Canada for next year, will be processed in such a way that it's lower in nitrophanines than, than it is now.

15 I learned that - I believe it was Mr. Brown who said in their market research some of their consumers actually told them that smokers actually put tape over some of the, over some of the holes.

I had seen some marketing reports before, but I'd never heard, I'd never heard, heard that reported. I found that, that interesting as well.

20 In the paper entitled, "Manipulation" just from memory, I - at the end of the paper, I think it had been indicated that we - we saw some documents that indicated that elastic cigarettes were being....

THE COURT: Marketed.

25 A. Well, they were - we saw documents which showed that they were being used in research projects. And I entered into some speculation as to whether they were being marketed or not, without really knowing. But, I did say that the material I had reviewed strongly suggested that they were being marketed, but there were no documents to indicate that.

30 I think I heard quite definitely from, from a couple of gentlemen and I have no reason to doubt them that indeed no

cigarettes, no elastic cigarettes are being marketed, so that "question mark" that was in the paper has been answered.

They are being used in research or they were being used in research and they are not being marketed. And I think that's improving our understanding.

I learned from Mr. Crawford's testimony that while he was the CEO of Imasco, with his style of management, he placed great trust in the people below him. And actually didn't know much about the day to day workings of the, the tobacco business.

I - some other facts that came to light that I found very interesting. Some, some of are facts I may have once known. And, since it's been a while that, since I worked at this full-time in Health Canada, some of them I might have known and just re-learned them. One of them is - but I, I don't know, I don't know, which of these might be in that category, but I learned that all cigarettes below 10mg are probably ventilated because it would be very hard, if not impossible, to achieve yields that low without...

THE COURT: Yes.

A. ...ventilating the cigarettes.

THE COURT: You could get to 11 without....

A. ...11 - 10 or 11, I think was what was said - somewhere in there. But I also learned that some cigarettes, like Players Light and du Maurier Light - Players Light certainly is higher, but it is also ventilated. So there's quite a few cigarettes that are ventilated.

I had made reference to a graph. It was in both in the "Manipulation" Paper and the from "Brights to Lighter Brights".

..

THE COURT: Yes.

A. ..."Lights to Brighter Lights" paper. And

this graph I had seen it in the, in the document. But, there was very little description in the document in which, which it occurred. And so....

THE COURT: Are you talking about this one?

A. Yes. That one. It goes like that.

THE COURT: Yes.

A. And we learned from Dr. Massey that in fact it referred to a switching study. So, that helped clarify the narrow purpose to which that graph could be put, and, how it should be interpreted with reference to the study in which it was done. So, that was very helpful.

We learned that Imperial Tobacco did not have health people. And I had...

THE COURT: Until....

A. Well, I am not so sure that Imperial Tobacco does yet have health people unless I misunderstood.

THE COURT: No.

A. There was reliance on consultants - British American Tobacco.

THE COURT: Well, there you go, you see. What you said about what you hear.

A. I, I made....

THE COURT: We had, in reference to Exhibit 1, Tab 4, page 58. "We had no medical specialist epidemiologist." "We relied" - that was past tense - and then present tense - "we rely more on BAT consultants."

A. We rely more on BAT consultants. Yes, I agree.

THE COURT: It doesn't say they don't have health consultants now.

A. That's true. I did note it was "our" - the

phrase "our health people..."

THE COURT: Yes.

A. ...in fact turned out to refer to people at the Department of National Health and Welfare.

THE COURT: Okay.

A. I learned that Imperial Tobacco no longer does Human Smoking Behaviour Studies. The - and we have new research on hole-blocking that allows for refined estimates on how much hole-blocking goes on. I think the conclusion still remains, much as I had understood it before, some people block holes some of the times. There are some estimates of what that might be. And, and, I am sure there will be continuing evaluation in the scientific work in that regard.

I also saw some documents that I hadn't seen before. And some questions were asked of me about some of those documents. And the ones that particularly intrigued me, I supposed because of my history working as a public servant, the "Memorandum Cabinet" from 1996. And then there was another document that I found interesting, just after that also from 1967- those documents at Tab 3 and Tab 4 of the, of the...

THE COURT: Red Book.

A. ...the Red Book. And they, they show me that quite early on, relative to other countries there was concern and the government was at least trying to do something in the, in the early, in the 1960; and that was at a time when very few countries had, had taken much action to control tobacco use.

There may be some other, some other facts I've picked up along the way, but those are the ones that I did note.

MR. LENNOX: Okay. So, Mr. Collishaw this new information, how does it alter your fundamental conclusions, if at all?

5 A. I think the question of - where I was speculating about elastic cigarettes and that they might be marketed, I think that has been put to rest. The elastic cigarettes are not being made and marketed by Imperial Tobacco.

10 However the, the issue that is of greater concern to me is, well, how do people use these products? And I think the concerns I have about compensation remain. I think the - what I have seen and heard either supports or at the very least does not contradict the general conclusion that people who smoke the very low yield cigarettes are more likely than not to engage in some compensation behaviour. Perhaps not all of them will compensate.

15 We heard evidence that compensation may not be complete. It may even be less likely to be complete when you compensate that way, up towards a higher yield. But, nevertheless, I think the conclusion reached from, from many research sources points to this general conclusion.

20 If these low-yield products are smoked people are more likely than not to get more than it says on the package. It, it would still be very hard to predict what would happen in an individual case though.

25 Q. Now, there was a letter produced by the Defendants' during Dr. Massey's testimony - a April 1986 letter referring to a visit that you made.

THE COURT: 86?

Q. 1986.

THE COURT: Okay.

30 Q. A visit that you made along with Dr. Sommers to Imperial Tobacco's lab. What is your recollection of that visit and what transpired?

A. Well, it is some time ago. And, my recollection is not perfect but it is - it was memorable event

and I do remember some things about it. I remember indeed, as was described, I saw people smoking and their puffing behaviour being recorded, and then the recorded information being used to, to feed into the puff duplicator.

5 THE COURT: Yes.

A. I didn't get a complete understanding of, of what went on. But my - the hosts were very cordial and, and did explain some of the workings of a - how this work was done and since it was - no instrumentation like this was available through the laboratory that the government used, I found this particularly fascinating.

10 I didn't - it was just one afternoon so, or a day, I guess we were there, so there wasn't time to, to go into great detail. I am not sure that I would have been shown great detail in any case. But, certainly a broad understanding was received and it, it certainly struck me as a very interesting and fascinating way to study, and very ingenious way to study human smoking behaviour.

15 Q. During your visit in of April 1986, what information did you ask for and were not given?

20 A. Oh, I don't recall specifically asking for things, and specifically not being given them. But I do recall having explained to me that there was a system of sharing research among the various laboratories of British American Tobacco around the world. And, so research reports written up in one laboratory would be sent to the others so that the library which was right there - and I could see the library - in fact had research reports from, from all around the world.

25 Now, I was enthusiastic about the work I was doing at the time and very fascinated by this. And I was certainly hoping that I would be allowed to see some of these research reports but, I was not. But - nor did I have any real expectations.

30

THE COURT: It wasn't offered to you. Is this what you mean?

5 A. It wasn't, it wasn't offered and it was - the context of the visit was a cordial one and I wished to respect the politesse that was being extended.

THE COURT: H'mm.

Q. What information on safer cigarettes was communicated to you at that meeting?

10 A. You know, I saw the Agenda and that it was indeed listed on the Agenda, I have very little recollection of those discussions. I do not - they may well have taken place, but I can't remember too much about that part of the discussion. What is - it's more the puff duplication work that has remained with me over the years as a memory.

15 Q. During Dr. Massey's testimony he was asked and answered if there was lab - it was Labstat he was asked - Labstat to do a study of different yields from the Matinée Extra Mild. Do you recall that?

MR. BARNES: No, I don't believe that was the question....

20 THE COURT: I am sorry.

MR. LENNOX: Specifically what was the exact question - there was question put whether labstat could have been retained by the Plaintiff to study smoke yields from Matinée Extra Mild.

25 THE COURT: No, no, that was not what it was?

MR. LENNOX: I - so that we are clear on what the question was.

MR. BARNES: The question I asked him was about an elastic product, Your Honour.

30 THE COURT: Okay.

MR. BARNES: Just after we started this morning
Your Honour.

5 THE COURT: Yes. I didn't take an exact note.
The only thing I could see here is the question
about testing had something to do with where the
Plaintiff might be on that curve. But at any
rate ask your question and we can deal with in
re-examination.

10 MR. LENNOX: Q. Has Labstat done testing on
whether or not the Matinée Extra Mild is an elastic product?

A. I really don't know. I do know that Labstat
has done testing on Matinée Extra Mild. I know also that there
are several different ways in which elasticity has been
characterized in the documents I reviewed.

15 We focused on one, because it was, it was prepared by
Imperial Tobacco, the Defendants in this case, but there was
reference, earlier today, to another paper on elasticity by Mr.
Pengrist (Ph) and he has a more complex definition of
elasticity that frankly I don't completely understand.

20 And, then there were other documents where elasticity was
viewed as a more, more of a concept, an ideal that people had,
but was not operationalized. And it was described as - what
people, the marketers and the product developers wanted was
something that - what they termed a high taste-to-tar ratio.
So, if we could somewhat or other get more taste out of this
25 product for less tar they would, they would find that useful.

30 So, elasticity has, has been thought of in different ways
in Imperial Tobacco. As to the question - or I should say -
in British American Tobacco, because some of these thoughts
come from other arms of British American Tobacco. As to
whether Labstat has tested for elasticity by - according to the
definition that we've seen in the Imperial Tobacco documents or

by some other means, I don't know.

I do know they have tested Matinée Extra Mild King Size and many, many other brands under a whole variety of smoking conditions, using a smoking machine with the parameters set differently.

Q. Is this the Labstat report that was looked at - Matinée Extra Mild under different smoking conditions?

A. This is one. They are others, but this is, this is one from 1996.

Q. Who commissioned this report?

A. I believe this report was commissioned by Health Canada and done under contract to Labstat.

Q. Have....

THE COURT: Can you just hold on just a minute. The Affidavits and so on that were studied by Dr. Hammer would be Exhibit 29 - that way we don't lose them. And they were also referred to earlier in the cross of Mr. Battaglia. And, then this document will be Exhibit 30. (sic)

EXHIBIT NUMBER 28: Affidavit of Joe Battaglia in Mr. Soffer's (Ph) Motion record - Produced and Marked.

EXHIBIT NUMBER 29: The Matinée Extra Mild - Study of 1996 - Produced and Marked.

MR. LENNOX: Thank you, Your Honour.

MS. GLENDINNING: Your Honour, I think we ought to make Dr. Hammer's CV an Exhibit too. I don't think we did that.

THE COURT: I think we did that already, just a minute. We'll sort it out afterwards. I thought it had been made an Exhibit.

MR. LENNOX: Q. Okay. How did you obtain a

copy of this report Mr. Collishaw.?

5 A. I began working at Physicians for Smoke Free Canada earlier this year - in the spring of this year. And, when I arrived Physicians for Smoke Free Canada had previously obtained it. So, this is from the files from Physicians for Smoke Free Canada. And Physicians for Smoke Free Canada obtained it either - I am not sure - what the answer to this is, but it was either one of two ways. Either under an access to information request to Health Canada or simply by request to Health Canada for information that was obtained with public funds and is in the public interest.

10 Q. Okay. And what does this report tell us about Matinée Extra Mild performance under varying smoking conditions?

15 A. This paper was done to look at the performance of many brands under a variety of smoking conditions. Matinée Extra Mild Regular and King Size among them, but many other brands were tested as well under conditions that were varied from the standards conditions that, that we've heard about previously. And there were several different conditions under which the cigarettes were tested.

20 Q. And, at Table 1, what are the smoking conditions?

25 A. Table 1, which falls after page 34. On my copy the pages are a little bit out of order. I have 32, 34, 33 and then Table 1.

Q. Table is the....

A. In a perfect world, I think it would be 32, 33, 34 and then Table 1. I don't know...

THE COURT: Yes.

30 A. ...about your copies.

Q. Table 1 is the Appendix.

THE COURT: Yes.

A. Yes.

Q. So, what are the conditions on Table 1?

5 A. Table, 1 - Tar and Nicotine and Carbon
Monoxide were determined under non-standard conditions with a
puff volume larger than the standard. Instead of 35 it is 44
ml, a puff interval somewhat shorter than the standard of 58
seconds. It was 50 seconds. And, there was no obstruction of
ventilation; the holes were not blocked. And then Table itself
10 lists the results for a large number of brands. It goes on for
three pages.

Q. And, what was....

A. And we find the Matinée, the Matinée family
on page three of this document. So, we are interested in
Matinée Extra Mild King Size?

15 Q. Yes, let's do that.

A. Okay. That's brand number 82. So under
these conditions we see that the tar yield - looking over to
the second-last column, is 5.46. The nicotine yield, backing
up to the left, the fourth last column is 0.653 and the carbon
20 monoxide yield, about the middle of the page is 6.69 of
milligrams per cigarette.

Q. How much more is that result on Table than
what's on the package?

25 A. Somewhat more. I - From the memory the tar
and nicotine are 4 and .4 on the package. So, a little bit
more than 20% more for the tar and a little bit more than that
- about a third more for the nicotine.

Q. Okay. If you go along to the next page
which is Table 2...

30 A. Yes, that's right.

Q. And how have the smoking conditions been

altered in Table 2?

5 A. Table 2 looks to be very much like Table 1. It still has the same puff volume, 44 ml. The holes are still not blocked, ventilation is unobstructed and now the puff intervals decrease to 26 seconds. So, the difference between Table 1 and Table 2 is the puff interval is shorter again, 26 seconds.

10 Q. And, then if you go to Page 3 of Table from brand number 82, which is the Matinée Extra Mild Kings Size, what happens there?

15 A. Well, now the tar has increased again - 8.04 mg per cigarette and nicotine is .959 mg per cigarette and carbon monoxide 9.44 mg per cigarette. In every case, both in this Table and the last, there - because these are averages over 100 and 200 cigarettes there is some variation and that, that is reflected in the other column, "Standard Deviation."

20 Q. So, how much has these numbers increased over what's on the package?

25 A. The tar is about double to 8 mg and the nicotine is more than double. It is gone up to .959, nearly, nearly a milligram. And I can't remember what was on the package about carbon monoxide.

30 Q. Okay. If you go over the page to Table 3, how have the parameters been changed in Table 3?

A. Eh, in Table 2 we had unobstructed ventilation. We had puff interval of 26 seconds. Those have stayed the same, but the puff volume has been increased to 56 ml.

35 Q. Okay. And, again if we find page 3 of Table 3 brand number 82, the Matinée Extra Mild King Size, what's the result.

A. The tar has now increased to 10.75 mg per

cigarettes, the nicotine to 1.2 and the carbon monoxide to 15.23.

Q. So has much has the tar and nicotine increased in Table 3 over what's on the package?

5 A. Well it's, it's quite a bit now. It's - the tar is more than double. The nicotine is about triple.

Q. Okay. So if you go to Table 4 on the next page. How have the smoking parameters been changed there?

10 A. Okay - relative to Table 3 - on Table 3 we have puff volume of 56 ml, puff interval of 26 seconds and ventilation unobstructed--the vent holes were not block - this time they are blocked--they are all blocked.

Q. So, Table 4 is the first time that they actually blocked the holes in these tests?

15 A. In these - of these, these four tests that we've seen here, yes.

Q. So, with all these parameters, what is the impact for brand 82, which is page 3 of Table 4, the Matinée Extra King Size?

20 A. Now, the tar yield is increased to 23.26, the nicotine to 2.139, the carbon monoxide now reads 25.30. So, the tar yield is up around nearly six times what's on the package. And, the nicotine is a little more than five times as much.

25 Q. So, how does Table 4 compare with the Intense smoking conditions that the BC Government uses?

30 A. I think the conditions are very similar. They are very similar to what's in the new Federal regulations as well. I think the difference is the puff volume is 55 ml and I think the puff interval is a little bit different. I think in the new, new Federal regulations it's, it's 28 seconds with the duration being 2 seconds. So, they are close, but not

exactly the same.

Q. So, if Table 4 represents a maximum yield, what would Tables 1, 2 and 3 represent?

5 A. Well, Table 4 may still not represent a maximum yield. There - it may be possible to smoke with even larger puff volumes than 56. And, in fact some people do smoke at higher yields than that.

10 But, if I accept your thesis, that you put to me, that if this is the maximum then the other ones 1, 2 and 3 would intermediate. They would be less than maximum conditions under which people would smoke cigarettes.

15 Q. And in how likely is that some Canadian smoke cigarettes in accordance with some of the parameters at Tables 1, 2 and 3?

20 A. Well, if, if you are holding me to exactly those numbers, but were rather discussing that people would get values more than standard conditions and less than a maximum, I would say it is certain that some Canadian smoke cigarettes in, in some way that is more than standard but less than maximum. It is a certainty.

25 Q. Now I understand that Physicians for A Smoke Free Canada compiles information on Sales of different brands of cigarettes in Canada?

A. It has been done on, on occasion.

30 Q. And would this be a compilation of sales figures?

A. Yes, this is a summary. It was done, as you can see, some time before my arrival at Physicians for A Smoke Free Canada, July 1998, when I was still at the World Health Organization.

35 Q. And how was this data obtained?

A. I believe the information would have been

5 obtained from publicly available sources - the sales of, of cigarettes are all reported to Health Canada and can be obtained by members of public from Health Canada. Health Canada gets them from the Canadian Tobacco Manufacturers' Council. And, there is the classifications that are done in this short paper are with respect to the words that are on the package. So, the actual brand names, whether they are regular or light or extra light or, and so on.

10 Q. And for Imperial Tobacco, according to this chart, what percentage of it's sales are products where the word "light or mild" appears on the package?

15 A. Well, it includes those where the light or mild is preceded by the word, "ultra or extra" or "special" then we would add the percentages in column B in the first two categories. So, we would add 45 plus 15.5. So, it looks like 60.5%.

Q. So, where were....

THE COURT: 60.5% of what?

20 A. Of - 60.5% of all of the, the cigarettes sold by Imperial Tobacco bear the words, "Light or Mild" on - in their brand in the year for which...

THE COURT: Yes, in 1997.

A. ...in which this is published - '97.

25 MR. LENNOX: Those are my questions, Your Honour.

THE COURT: Exhibit 31. Which of you is going to ask questions?

MS. GLENDINNING: Neither of us.

30 THE COURT: None. Okay. And, the CV is Exhibit 27. And, that last one is Exhibit 30. I am one a head of myself.

EXHIBIT NUMBER 30:

Cigarettes in Canada in 1997 - Sales by yield-type - Produced and Marked.

5 THE COURT: Would Labstat have the ability to - before I ask that, when they talk about these numbers in here in this big study, when they are talking about yields and stuff like that, are they talking about what's been inhaled?

A. No. All of this work is done strictly with one of those smoking machines that we heard about.

10 THE COURT: So, essential mouth value or whatever?

A. Something approximately equivalent to that. You put the cigarette in the holder, in the machine, vacuum pressure is applied for a particular volume - in this case we saw volumes of 44 or 56 ml and that when people smoke they might take a puff of a similar size some of it gets to their lungs. But, I believe Dr. Massey was explaining to us that maybe not all of it gets to their lungs.

15 THE COURT: Could a smoker to Labstat and say, "I want to know what my tar yields are - me and my cigarette, as it were, me and my shadow?" Could they do that? Could that be done?

20 A. Ah, they could. Like many other people, I think people at Labstat would expect to get paid. They might have to think about how they were going to devise a means to measure smoke much like the puff duplicator that, that we saw. I think it would be not an impossible problem for them.

25 They may not have instrumentation available, but by consulting with colleagues they maybe able to come up with a way of doing it.

30 THE COURT: What about those machines you saw in '84 or '86? As I understand, the smoker's

behaviour was measured by a device.

A. Real people were smoking real cigarettes.

THE COURT: And then that data ...

A. The data...

THE COURT: ...was transcribed, translated into the machines, so...

A. In effect, yes...

THE COURT: ...the machine was attempting to duplicate what you smoke...

A. The machine would take all the information on how a person smoked...

THE COURT: Yes.

A. ...and then the machine would be programmed to smoke cigarettes in a similar way. I hope I do not do disservice to...

THE COURT: Like a person? When you say a similar way - a similar way to one of those smokers in the test line or similar to all the smokers mixed together in the test line.

A. I believed it would have been possible to do either one. You could...

THE COURT: Six machines, six...

A. You could do....

THE COURT: ...smokers, six machines.

A. You could duplicate exactly what one person did and do it for just one cigarette. You could take a group of people, construct an average, duplicate that average or, or a single person smoking repetitively and get some idea of how they, they smoke and duplicate that as well. I believed all of those techniques were possible, but I must defer to greater expertise among the people who, who actual developed and worked with those machines.

THE COURT: Yes.

A. But that was my observation and that's my understanding from what I've read.

5 THE COURT: What kind of dollars did this Labstat get for something like Exhibit 29. Now, I appreciate that that's after your time, and inflation and so on....

10 A. Well, I can, I can with if I can be indulged vagueness in my memory, I can report that during my time there we spent about, in the neighbourhood of about \$100,000 per year on contracts for laboratory work with Labstat, but that would have been to do four to five projects per year. All of them considerably more modest in their scale than, than that - what that particular project would entail.

15 I know that as a result of the efforts of myself and others when the *Tobacco Products Control Act* came in place in the late 80s along with that came increases in budget and there were further increases in budget and the money available to help Canada to do laboratory work increased considerably.

20 But, I don't think the rate of remuneration changed very much. People still got value for money. There was just a lot more research done in the 1990s. So, I think a \$100,000 for four projects that kept, kept the laboratory busy with a number of people working on these projects throughout the year gives an idea of the scale...

25 THE COURT: Yes.

A. ...at which they worked.

THE COURT: Okay. Any questions arising out of mine, Mr. Lennox?

MR. LENNOX: No, Your Honour.

30 THE COURT: We were freezing out Thursday weren't we? Thank you.

MR. COLLISHAW: Thank you, Your Honour.

THE COURT: Okay. Well, that's a good day's work. We'll start at 10:00 tomorrow?

MR. LENNOX: Yes, thank you.

THE COURT: Okay.

THE CLERK: This court is now adjourned.

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THIS IS TO CERTIFY THAT THE
FOREGOING IS A TRUE AND
ACCURATE PARTIAL TRANSCRIPTION FROM THE
RECORDING APPARATUS MADE HEREIN,
TO THE BEST OF MY SKILL AND ABILITY.

Harriett Bynoe

Harriett Bynoe, Court Reporter