

1

Wednesday, 23rd September 2009

2 **Afternoon session**

3 **(1.50 pm)**

4 **PAT ALEXANDER WERTHEIM (continued)**

5 **Further examined by MR MOYNIHAN**

6 MR MOYNIHAN: Mr Wertheim, what I am going to do is turn to

7 the Rosetta characteristic, the last point of difference

8 in relation to Y7.

9 For a reason that will become apparent just in a

10 moment, what I am going to do is not use your charting

11 but rather use Mr Zeelenberg's charting of Y7, which is

12 FI0170A. Again, if we could have it twice, just as

13 normal.

14 The reason for bringing up Mr Zeelenberg's chartings

15 is that in phase 2 responses I understand Mr Mackenzie

16 and Mr Swann to agree some numbers that will assist us

17 in locating points and they agree them by reference to

18 Mr Zeelenberg's charts so that the Rosetta

19 characteristic Mr Zeelenberg has charted as his point of

20 difference number 11. If I am wrong about this, then no

21 doubt someone will tell me. Mr Zeelenberg has charted

22 the Rosetta characteristic as number 11.

23 If I highlight that ... do you recognise that as the

24 Rosetta characteristic?

25 A. Yes, sir.

1 Q. Point number 11 in Mr Zeelenberg is the Rosetta
2 characteristic and you are aware that the significance
3 of the Rosetta characteristic is that if there has been
4 no movement in Y7, it is the product of a single touch,
5 then that is a feature of the print that is not to be
6 found in the corresponding place in Ms McKie's
7 fingerprint?

8 A. That's correct.

9 Q. Therefore, would be one unexplained difference
10 inconsistent with the identification of the print as
11 hers?

12 A. Yes, sir.

13 Q. I understand and you are probably familiar with the
14 counter-argument that Y7 is the product of more than one
15 touch and that the Rosetta characteristic is to be found
16 in a different location in Ms McKie's fingerprint and is
17 to be seen in Y7 where it is as a result of movement in
18 a multiple touch scenario.

19 Are you familiar with that position?

20 A. I've heard that hypothesis.

21 Q. To assist us, I understand that Mr Swann and
22 Mr Mackenzie -- again, I will be corrected if I am
23 wrong -- would point to what Mr Zeelenberg has
24 highlighted in Ms McKie's print as number 14.

25 Again, if I can highlight that with an arrow, number

1 14 as, if one might call it this, the source of the
2 Rosetta characteristic which has come to be located
3 somewhere else in Y7 in the position that we see in the
4 arrow. That is as I understand the argument.

5 What I want to do is discuss that proposition with
6 you.

7 A. Okay. If I can just throw in a comment for the record.

8 Q. Yes, please.

9 A. I've heard the phrase "Rosetta point". I find it
10 amusing but I would agree with the term for exactly the
11 opposite reason and that's something you mentioned at
12 this point alone. In the absence of a double touch,
13 this point alone is sufficient to disprove the
14 identification. So if I'm going to use the term Rosetta
15 point I would use it in that context, not the epiphany
16 movement or moment that shows the twist. I had never,
17 frankly, read Peter Swann's material because I don't
18 want to be influenced by it. I don't want to be biased
19 for it either against or in favour. I want my
20 interpretation to stand on its own. I want my
21 interpretation to be free of bias from any source.

22 So, with that comment, I'm eager to proceed and
23 interpret this and then see how my interpretation is
24 consistent or inconsistent with Mr Swann's
25 interpretation.

1 Q. Yes, please do. The only reason for looking at
2 Mr Zeelenberg's image is we can all agree in relation to
3 Y7 where the Rosetta characteristic is.

4 I just wanted some clarity in asking you questions
5 in the opposing case because I take it, as I started, I
6 assume that you say single touch, therefore a feature
7 inconsistent with Ms McKie. So I want to show you the
8 opposing case and I need to begin by giving you a clear
9 representation of the source in Ms McKie for this
10 particular characteristic and, as I understand it, this
11 is the clearest indication I can give you as to the
12 source of this particular characteristic.

13 Taking it just in stages, assuming I am correct, the
14 source is the feature number 14. What view do you
15 have -- we will come to how it has moved perhaps as a
16 separate point -- but simply looking at it as a feature
17 or point of characteristic in a fingerprint, do you find
18 any correspondence between point 14 in Mr Zeelenberg's
19 McKie print and the Rosetta characteristic in Y7?

20 A. No.

21 Q. Can you explain why not?

22 A. Once again I want to anchor this point to something that
23 we can all agree on. So, for purposes of this exercise
24 then, let me use point number 3 in this chart. If I'm
25 not mistaken, that corresponds to point number 3 in the

1 SCRO phase 1 chart.

2 Q. If you give me a second, I will just double-check that
3 for you.

4 Yes, Mr Zeelenberg's point number 3 is indeed SCRO
5 point number 3?

6 A. I choose that simply because we don't run into any
7 numbering conflict. It might be easier for me to use
8 Mr Zeelenberg's point number 6 but that is not the SCRO
9 point number 6 and for that reason it could result in
10 confusion, so we'll stay with point number 3.

11 Do you mind if, I erase --

12 Q. Please just erase as you feel fit.

13 A. I am going to erase the red arrows you put in there
14 because I think we all know now where we're talking.
15 I'm going to cut out the boxes. Okay, I've got the
16 Rosetta characteristic in Y7 at the upper left-hand
17 quadrant and I've got point number 3 in the lower centre
18 of this box. Before I proceed any farther let me mark
19 those points in the green so that we can be very clear
20 about where we're starting and how we're proceeding.

21 I made a bit of a misstep right there. Let me
22 remove this and start from the upper end of this ridge
23 **(indicated)** and trace it back down. This is one of the
24 problems of a fingerprint expert and that is in an
25 unclear image you have to resolve the image before you

1 can proceed with a comparison. This is part of the
2 analysis phase.

3 I think we can see the ridge I'm talking about in
4 the point labelled number 3 and now I'm going to go to
5 the Rosetta characteristic and I'm going to do the same
6 thing here. I'm going to do it in green. **(Indicated)**

7 So now in the Y7 I have outlined two ridges, each
8 with a bifurcation and these correspond to the lower one
9 being point number 3 and the upper bifurcation being the
10 so-called Rosetta point. Having done this now, I've
11 committed myself to those ridges and those points and
12 I'm now we're going to proceed with the analysis in the
13 inked print. So I'm going to try to outline as closely
14 as possible the same area of ridges. In this regard,
15 I'm using the bifurcation in SCRO chart as point number
16 9 as a reference. That's also Mr Zeelenberg's point
17 number 7. Just for clarification, I'm trying to explain
18 how I'm choosing the size of the box I'm drawing.

19 **(Indicated)**

20 So now we've clearly included Mr Zeelenberg's
21 point 14 and point 15 in the inked print. I'm not
22 entirely happy with what I've done here but we'll
23 proceed with it anyway. Then if needs be, we can come
24 back and look in a little more detail.

25 I'm marking point number 3 in green just as my

1 reference point and I'm coming up and suddenly I've run
2 into a problem here and that is that the ridge going up
3 from point number 3 stops and I see Mr Zeelenberg has
4 numbered that stop as a point and in Y7 the ridge going
5 up from number 3 continues all the way through the
6 latent, so we've got another difference there but we'll
7 forget about that one for now. We're talking about the
8 Rosetta point.

9 The question is whether this Rosetta point which
10 I've circled in yellow in Y7 matches the point in
11 Mr Zeelenberg's presentation which I have circled in
12 yellow and, if it does, then we must find a similar
13 point which I'm going to circle in magenta in
14 Mr Zeelenberg's inked print and that would be a
15 bifurcation or a ridge ending a short distance above
16 that so-called Rosetta point in the inked print. I'm
17 not going to trace those ridges because I think they're
18 clear enough without tracing them but I am going to
19 trace the ridges above in Y7 in green just for clarity.

20 The slight problem I said I observed was the fact
21 that I didn't go quite far enough on the left-hand
22 margin of this enlargement but I think we can go beyond
23 that if we need to.

24 I'm tracing the ridge above the Rosetta point on Y7
25 and what happens to it, tracing the second ridge above

1 the Rosetta point and I'm moving a little too fast so
2 I'm kind of moving down the ridge like a drunk driver
3 going down a one-lane road. But I think it's clear
4 which ridge I'm indicating. **(Indicated)**

5 Now I'm going along the next ridge. So what I'm
6 seeing in Y7 is a series of parallel ridges above it.

7 Now, I'm going to draw a blue line connecting the
8 yellow circle with the purple circle or the magenta
9 circle in the inked print in Mr Zeelenberg's
10 presentation and I'm going to try to roughly match the
11 length of that blue line in the latent print and now I'm
12 going to draw a purple circle in Y7. I thought I was
13 going to draw a purple circle in Y7 it didn't work --
14 magenta. **(Indicated)**

15 If we were to say that the characteristic in Y7
16 circled in yellow, the so-called Rosetta point, if we
17 were to say that that corresponds to the feature in the
18 yellow circle in the inked print, then we would
19 necessarily have to find a bifurcation in the area of
20 the magenta circle.

21 Now, let's conduct one other little experiment here
22 and that is I'm going to run a different coloured line,
23 and I believe I will use a light blue, and I'm going to
24 run that line from point number 3 in Y7 straight up to
25 the Rosetta characteristic **(indicated)**. Now I'm going

1 to run that same line from point number 3 in the inked
2 print up to the alleged Rosetta characteristic
3 **(indicated)** and we're going to count the ridges that we
4 have to cross between those two points. If we start at
5 point number 3 on that light blue line, we actually
6 follow the ridge, we don't cross it, so we cannot count
7 that as an intervening ridge. So in Y7 we begin
8 counting intervening ridges with 1, 2, 3, 4, 5. We
9 count 5 intervening ridges between point 3 and the
10 Rosetta characteristic.

11 In the inked print we count 1, 2, 3, 4, 5, 6, 7, 8,
12 9 ridges and, even if we discount that ridge ending, I
13 think the line clearly crosses it, but we've jumped from
14 five to eight or nine ridges difference.

15 I've never done this experiment before so I'm doing
16 it here for the first time and my question that I'm
17 trying to answer myself here is: is Mr Swann alleging
18 that the Rosetta characteristic rotated smoothly around
19 the one ridge to plant itself in a new location and
20 obviously that cannot be true because we've gone from
21 five ridges to eight or nine ridges. Therefore, the
22 Rosetta characteristic would have had to, necessarily
23 have had to rotate not only 66 degrees clockwise, it
24 would have also had to jump three or four ridges farther
25 out.

1 Therefore, if we are to accept that this is a double
2 tap or a twist, if it's a twist it had to be
3 accomplished without dragging any sweat whatsoever
4 through the furrows. If it is a simple twist, we would
5 expect the furrows to become occluded by sweat and show
6 up as a smear. Therefore, we cannot accept a twist.

7 If it is a double touch, then we would have to
8 accept that the first touch occurred, the thumb was
9 lifted, moved 66 degrees and then touched again three or
10 four ridges further out but with an absolute perfect
11 alignment of the ridges in the second touch and the
12 first touch so that there's no crisscrossing, there's no
13 overlap, there's no offsetting of the ridges and I find
14 that an utterly fantastic proposition and I reject it.

15 Q. I would like to show you -- if we could save those two
16 images we have just now.

17 MISS BAHRAMI: That's saved as FI2309.12.

18 MR MOYNIHAN: What I would like to do is to bring up some
19 images from a previous occasion in the Inquiry,
20 FI0707-07.

21 This is an image that was done on a previous
22 occasion by Mr Kent of the Home Office. As I understand
23 it, what he was indicating was that between the two
24 arrows, in the point between the two arrows, there is
25 something unusual going on and that what is unusual is

1 on the right-hand side, the right arrow, one can see a
2 number of ridges that are fairly widely spaced; whereas
3 to the left, the ridges are, in fact, more narrowly
4 spaced.

5 Do you see that?

6 A. Yes.

7 Q. He would agree with you I think in the middle sort of
8 top section there is what you describe as the blob?

9 A. Yes, sir.

10 Q. So to the right of the blob he says ridges that are more
11 widely spaced than they are to the left of the blob and
12 he's thinking there's something unusual going on here.

13 A. May I mark on this, please?

14 Q. Yes, please.

15 A. We're going to draw a yellow circle here to enclose the
16 blob more or less. Something of that range (**indicated**)
17 so the yellow circle encloses the area called the blob.

18 With all due respect to Mr Kent, Mr Kent is a
19 chemist and not a long-term experienced latent
20 fingerprint expert.

21 THE CHAIRMAN: I think he would be the first to agree with
22 that.

23 A. Well, that's good to know. But a fingerprint expert who
24 has worked extensively with fingerprints knows that it's
25 not uncommon for the ridges near the tip of the thumb to

1 be broader than the ridges down in the centre of the
2 fingerprint and I wish I had some examples of that.

3 If you don't mind, let me check my computer because
4 I may be able to point us to some that are already in
5 the Inquiry files. I believe in the Inquiry files we
6 were given a chart of thumb prints -- yes, we were.

7 Mr Moynihan, if you would, please, we were given a
8 sample chart of thumb prints from the Met demonstrating
9 how to chart a latent print identification.

10 Do you have that in electronic format that we can
11 put up here?

12 MR MOYNIHAN: No, I don't think we have reproduced the
13 styles that would ...

14 A. Would you please switch to my computer?

15 THE CHAIRMAN: We were just saying if we put your screen up
16 we can ...

17 A. Yes, we can do that.

18 I'm going to slide over into the screen in front of
19 us the thumbprint that was in those charts and what I'm
20 going to ask you to look at is the closeness of the
21 ridges towards the centre.

22 I don't seem to have my tools -- but I'm not on your
23 computer so I don't have the tools. If you'll notice on
24 this particular chart -- let's see if I can grab
25 this ... no, I'm not going to be able to move it down.

1 Yes, I can. I see something here.

2 Okay, it's point number 1 and point number 2. If
3 you look at the ridges in the area of points number 1
4 and 2 and look at the distance between those ridges and
5 now as we go to the tip of the thumb, look at the size
6 of the ridges and the distance between them near the
7 tip. You see exactly this imagined unusual feature of
8 Mr Kent's and it's nothing unusual at all. It is a
9 classic characteristic of the widening of the ridges as
10 you approach the tip of the thumb. There's nothing at
11 all unusual about that observation of Mr Kent's. That
12 is to be expected in a thumb print just as it shows up
13 in this chart provided by the Met to teach us how to
14 chart fingerprints.

15 MR MOYNIHAN: I do not know how we are going to capture
16 that. What I think we will do is by one means or
17 another put on to the computer database a copy of the
18 Met style so we will have that for the record in future
19 because we cannot copy across from your computer.

20 A. Right, but I believe since this is already one of the
21 Inquiry's exhibits it would be easy to adapt that.

22 I hope I have given my testimony clearly enough that
23 it can be observed.

24 Q. I will do only one other thing, Mr Wertheim, to give you
25 a chance to comment on the material that Mr Kent was

1 referring to.

2 In the course of his evidence, Mr Kent (this is day

3 19 on 7th July, hence the references to some of the

4 items) he referred to your tracing which is DB0172H.7.

5 It is a digital version of your own tracing, defence

6 production number 2.

7 If I understand his evidence correctly, what he was

8 observing was the spacing between the three or four

9 ridges that I am pointing to with the pen just now

10 **(indicated)**. I will just put an oval around them. The

11 spacing between the lines on the right, relative to the

12 corresponding lines on the left, either side of the blob

13 and the fact that there are more lines to the left than

14 there are to the right indicating, to his mind, I think

15 the phrase he used was, "It's not a typical mark and

16 there is something odd occurring in these locations".

17 A. Mr Kent is a brilliant chemist. What I'm going to do

18 here is use green to propose a solution to this problem.

19 I'm connecting the ridges on top of the blob with the

20 ridges on the bottom of the blob **(indicated)** and the

21 thing that is proven by Mr Kent's observation is that

22 somewhere in the middle of the blob ... that was not

23 exactly what I wanted to do. Let's do that again.

24 Somewhere in the middle of the blob there is simply

25 a bifurcation or ridge ending. You have three ridges

1 going into the blob you have four ridges coming out of
2 the blob. Somewhere in the middle of the blob there is
3 a feature. The blob occludes the detail to a degree
4 that prevents us from determining exactly where that
5 feature might be, but somewhere in the blob there is a
6 feature and that explains why you have more ridges
7 coming out than you have going in.

8 Q. What I am going to do next is to give you a chance to
9 comment in your evidence on those who rely on the
10 Rosetta characteristic as being explained by movement.
11 In other words, they agree with you that we view Y7 as a
12 single touch, the Rosetta characteristic is inconsistent
13 with Y7 being Shirley McKie, inconsistent if it is a
14 single touch.

15 For Y7 to match Shirley McKie there must be more
16 than one touch and the explanation for the Rosetta
17 characteristic is that that feature has moved in one way
18 or another.

19 You have already looked at it in one way by
20 reference, when you were drawing your drawing, to say
21 you don't think it could have happened.

22 What I want to do is to put to you the explanation
23 given by two others for your comment. These are two
24 individuals who say Y7 is Shirley McKie. In point of
25 time I am going to begin with Mr Mackenzie because

1 Mr Mackenzie, if I understand it correctly, was thinking
2 about the Rosetta characteristic -- he did not call it
3 that then -- thinking about the Rosetta characteristic
4 before Mr Berry came up with the 66-degree rotation
5 theory. So he is the first in point of time.

6 If I understand correctly, for Mr Mackenzie what I
7 should do is begin in his production -- sorry, save
8 that.

9 MISS BAHRAMI: That's saved as image FI2309.13.

10 MR MOYNIHAN: If we could bring up, please, the production
11 CO0059 and begin at page 06.

12 Sir, I have handed round to everyone again, for what
13 use they wish to make, a paper copy of Mr Mackenzie's
14 presentation which he will deliver in due course. I am
15 afraid I, for one, find it easier to work with the paper
16 rather than digital images so it is there for people to
17 use. People will just have to bear with me because the
18 digital page numbers are one page out relative to what
19 is on the paper because of the cover pages.

20 Mr Wertheim, just to explain to you, I am going to
21 take you through, ultimately, to an image that
22 Mr Mackenzie has created but if I understand
23 correctly -- and again I am looking to Mr Holmes just in
24 case I have got this wrong -- what Mr Mackenzie has used
25 is an image which I have on the page, which you will see

1 is page number 5 in the original paper version. It is
2 an image sourced from the net. In fact, it was an image
3 I believe published by your son. So it is one of your
4 son's images of Y7. It happens to have different
5 clarity yet again relative even to the Kent image or the
6 Inquiry's image. Mr Mackenzie is using this image.

7 If I understand it correctly, running through the
8 centre area, if I highlight it by an arrow (**indicated**),
9 and emerging across it runs in a bowed shape as a
10 lighter area in the photograph. I understand that
11 Mr Mackenzie attaches some significance to the
12 difference in the lighting within that area as
13 indicative of some sort of movement.

14 If I take you then to page 7 in the digital version
15 (page 6 in the manuscript), you will see, among other
16 reasons, I hope it has turned out in the copy that you
17 have, Mr Mackenzie has outlined a part of the print.

18 Do you see the box line?

19 A. Yes, I do.

20 Q. I understand Mr Mackenzie's position to be that there is
21 something about that boxed area which stands out as
22 being potentially different from the remainder of Y7
23 and, therefore, calling for explanation. This is as far
24 as it goes so far.

25 Then if I take you on to page 8 in the digital

1 version (page 7 in the paper), what we see coming from
2 left to right is a line, again indicating above the line
3 there seems to be something potentially different from
4 what is below, and to the right is a box drawn, an area
5 again where there seems to be something potentially
6 different relative to the rest of the print.

7 If I stop there and move on to page 8 in the digital
8 (page 7 in the paper), do you have any comment on the
9 proposition of Mr Mackenzie that in the boxed area I am
10 indicating just now -- perhaps I will enclose it within
11 a circle -- in the boxed area in the image there is
12 something different that requires an explanation?

13 A. No, I frankly don't. I believe -- and I'm saying this
14 without having had a chance to look and ascertain -- but
15 I believe the photographs that Kasey Wertheim posted on
16 the Internet were photographs that I had taken. I would
17 ask if these are photographs from Kasey's website or if
18 these are photographs from Ed German's website,
19 www.onin.com.

20 I sent my original negatives to Ed German and he
21 scanned them with a Nikon 35 mm negative scanner to get
22 the highest possible resolution so that the images
23 posted on Ed German's site are very high resolution
24 images scanned directly from the negative. If Kasey has
25 them on his website ...

1 Q. If you just allow me a second.

2 It is my misunderstanding, Mr Wertheim. If we take,
3 in fact, Mr Mackenzie's image as a scanned image from
4 the original -- so it is my mistake. So let us not
5 worry about the source of the image that he is using.
6 Let us treat it as a straightforward image of Y7. It is
7 entirely my mistake.

8 Is there anything in the area that I have
9 highlighted that does call for an explanation?

10 A. My point was that if these came off the Internet, then
11 the brush mark which I have been accused of causing
12 would result in a lightening of the image in
13 approximately that same area. Therefore, if these are
14 images off of the Internet, the brush mark was present
15 in those images. These are very contrasty, black and
16 white, with the shades of grey dropped out and it makes
17 it hard for me to interpret whether this was one of my
18 photographs or the SCRO photographs. That was my only
19 point. Now, either way my answer is going to be the
20 same --

21 Q. I can clear that up looking to my left just to
22 double-check. This is an SCRO photograph. We will just
23 proceed on that basis.

24 A. All right, very good.

25 Q. So it's an SCRO. You said the explanation would not

1 have made any difference anyway or the source would not
2 make any difference to your explanation?

3 A. If this is an SCRO image and the SCRO had access to the
4 full grey scale images that aren't so contrasty, then I
5 would question what is the purpose of removing the greys
6 and forcing us to see only the blacks and whites and
7 erase all greys from consideration. The shades of grey
8 are just as important as dark blacks and light whites so
9 I would question the motivation behind going to such a
10 contrasty image.

11 But the bottom line answer, Mr Moynihan, is that I
12 don't see anything in there to prevent me or to cause
13 any second-guessing on my original assessment that Y7 is
14 one single touch with every ridge flowing continuously
15 and uninterrupted through the print, except for the area
16 which we demonstrated in an earlier image as the blob.
17 The blob is a smeared area where resolution is not exact
18 but where we can conclude that there is some feature in
19 there.

20 However, in every ridge going through this print,
21 top to bottom, the ridge flows in a smooth uninterrupted
22 line all the way through the print. I've not been doing
23 this as long as some of the SCRO experts. I've only
24 been in the business for 36 years and in those 36 years
25 I have never seen a double tap, triple tap, twist,

1 smudge in which the flow of the ridges wasn't
2 interrupted. There will be a crisscrossing, an
3 offsetting, a thickening of the ridges but it is
4 virtually impossible to produce a double tap or a twist
5 that will accommodate a continuous, uninterrupted,
6 undetectable break somewhere in that print.

7 This is one single fingerprint, one single touch and
8 release, with some slight smearing in the centre area
9 referred to as the blob and with some very slight
10 feathering or shifting around the very outer edge either
11 during initial contact or during removal of the finger.

12 I see nothing in Mr Mackenzie's image to cause me
13 any concern, except the fact that he has removed the
14 grey scale and allowed us to only see black and white
15 and to me that still doesn't disclose any new
16 information at all.

17 Q. If I can just move it on specifically to the question of
18 the Rosetta characteristic then in these images. In the
19 paper version it is page 11; in the digital version,
20 page 12.

21 The digital version may not have come up as well as
22 the paper version. I trust that others have coloured
23 paper versions or paper versions which have the points
24 in colour?

25 THE CHAIRMAN: Yes.

1 MR MOYNIHAN: What I understand Mr Mackenzie's position to
2 be is that Y7 is the product of multiple, perhaps as
3 many as five, touches and the difference in colouring in
4 the numbers marked is indicative of a different
5 potential touch. If I begin at the bottom middle, you
6 will see the number 1, then I go clockwise round the
7 bottom part, 1 round to 22, there's one touch in the
8 area we have been primarily talking about.

9 As I carry on clockwise I get to 38 to 45, a second
10 potential area. I will come back to 38 because it is
11 the Rosetta characteristic. Then 23 round to 28 is
12 potentially a third touch. 29 to 32 perhaps a fourth
13 and 33 to 37 potentially a fifth.

14 Mr Wertheim, we will come back to the Rosetta
15 characteristic in a moment.

16 As to the theory that Y7 may be the product of as
17 many as five different areas of fingerprint
18 superimposed, what is your comment on that?

19 A. I would deem it virtually impossible for a double tap
20 that allowed all of the ridges to join continuously. I
21 would deem it utterly fantastic and completely
22 unacceptable to consider a proposition that five touches
23 had allowed all of the ridges to line up uninterrupted
24 and continuous. Impossible. I completely reject that
25 proposition. That is utterly impossible, totally

1 fantastic and unacceptable.

2 Q. What I would like you to do is, please, just look for
3 yourself and satisfy yourself, I understand that
4 Mr Mackenzie is pointing generally to the Rosetta
5 characteristic as point 38 on this chart. He has maybe
6 pinpointed the lower rather than the upper branch of it
7 but do you recognise it as the Rosetta characteristic?

8 A. Yes, I do.

9 Q. It is a little bit easier in the book form but if I
10 bring up as a double screen the digital page 33 (in the
11 book form it is 32) so that we can see the two things
12 side-by-side.

13 It is a little bit easier, as I say, in the book
14 form perhaps, one can flip backwards and forwards.
15 Perhaps the clarity is even a little bit easier in the
16 book form than on the screen.

17 What I understand the proposition to be and I would
18 ask you to comment on is that in Y7, the cluster from 38
19 to 45, that includes the Rosetta characteristic, is in
20 fact to be found sourced, as we see on the manuscript
21 numbered page 32, in the book, again with same
22 corresponding numbering 38 to 45, so that group has
23 moved across laterally from right to left and been
24 deposited.

25 Do you have a comment on that?

1 A. My initial comment is that if Mr Mackenzie had access to
2 clearer images I wish he would have used them in this
3 book.

4 Are you saying that 38 on the right side of the
5 screen now (page 11) is the same as 38 on the left side
6 of the screen which is numbered page 32?

7 Q. Yes. Mr Wertheim, that is what I am asking you to
8 comment on.

9 A. I'm not trying to make a grandiose show of this, I'm
10 simply trying to locate point 38.

11 Q. Mr Wertheim, wait just a second. My copies have page
12 numbers and I now understand that my page numbers are on
13 a sleeve not on the picture. I do not know if people
14 are able to -- if you give me a second.

15 THE CHAIRMAN: If you hold it up, we can see.

16 MR MOYNIHAN: I am sorry about that. I think you are
17 looking at the same one, Mr Wertheim.

18 A. Okay, I'm having trouble separating the purple line on
19 number 38. Number 38, as I see it -- may I use the
20 drawing tool on the screen, please?

21 Q. Mr Wertheim, if you give me just a second. I am looking
22 to my left. Mr Mackenzie may have the photographic
23 original which might actually help rather than using a
24 photocopy. We will give you it straight back. Page 32
25 of your presentation. **(Handed)**

1 A. My earlier comment stands. This is still an awfully
2 blurred, unclear image but let me do the best I can
3 here.

4 I'm going to circle in yellow what I perceive as
5 number 38. If I'm following this chart correctly -- let
6 me erase that and draw a slightly larger circle.

7 Okay, if I'm following this purple line correctly, I
8 believe the point that I've marked there is what
9 Mr Mackenzie is calling point 38. If that is indeed
10 point 38 -- well, that's a bit tiny.

11 I tell you what, in the Y7 image that we have in
12 front of us, I'm going to mark the Rosetta
13 characteristic with an arrow coming in from the bottom
14 so that I don't disturb the images above it, all right.

15 **(Indicated)**

16 THE CHAIRMAN: I wonder if it would be quicker if we took
17 the short adjournment and got Mr Mackenzie to mark what
18 he says is point 38 and that would save you speculating
19 where it is.

20 If we rise now until 3.00 and in the interim, if he
21 wouldn't mind, if Mr Mackenzie would mark what he says
22 is point 38, then it may speed things up. 3.00.

23 **(2.50 pm)**

24 **(A short break)**

25 **(3.00 pm)**

1 MR MOYNIHAN: First of all, Mr Wertheim, I will confirm
2 Mr Mackenzie is quite happy with the area that you have
3 marked on the screen as being an accurate representation
4 of where point 38 is.

5 Secondly, just in case I disorientated you I have
6 misrepresented Mr Mackenzie's position. The numberings
7 are, indeed, five different sequences of number. They
8 are not necessarily indicating five different touches.
9 There are multiple touches in fact but what he is
10 indicating is that these are five distinct areas of
11 interest to him; so not necessarily different touches.
12 Let us not get into the sophistication of that.

13 If I just ask you to look at point 38, the Rosetta
14 characteristic, and ask you to comment on the
15 proposition the Rosetta characteristic, on the
16 right-hand screen at the moment (page 11 of
17 Mr Mackenzie's numbered presentation), is in fact to be
18 sourced on Ms McKie's fingerprint at the position you
19 have marked with the yellow circle on the left-hand side
20 of our screen. So it has moved across from the yellow
21 circle to come ultimately to rest where the red arrow
22 shows on the right-hand side.

23 Is that something that you can comment on?

24 A. Okay, let me make sure I understand what you're asking.
25 Are you asking me to consider the cluster of 38 through

1 45 as a cluster?

2 Q. Yes.

3 A. Very good.

4 Then what I'd like to do, with your permission

5 again, is to separate a box for a little greater

6 enlargement in this area and I'm going to refer to

7 Mr Mackenzie's book here and in that regard I found the

8 copy in the book provided to me to be just as

9 enlightening as Mr Mackenzie original so I have returned

10 his original.

11 What I want to do is mark a box that I know includes

12 all of the points of interest (**indicated**).

13 Would Mr Mackenzie accept that the box that I've

14 marked does in fact include the points 38 through 45?

15 THE CHAIRMAN: I think we can see from the markings how many

16 are included.

17 A. I've tried to include them all there.

18 MR MOYNIHAN: It does seem to.

19 A. Now what I'm going to do is try to mark an equivalent

20 box, roughly equivalent, on Y7. Is it really that bad?

21 Let's try that again. Because even those little purple

22 lines were heavily pixillated and they shouldn't have

23 been.

24 Okay, what I'm going to do now is back out of both

25 of these and try to draw a larger box to better minimise

1 the confusion that's going to be caused by that
2 pixillation. **(Indicated)**

3 Q. It may be, Mr Wertheim, this was one of the reasons for
4 having the book. It may be simply the quality of the
5 image on which the points are charted is not
6 sufficiently good to permit enlargement to these sort of
7 scales unlike some of the other images we have been
8 using that have been scanned for that particular
9 purpose.

10 Perhaps if you just look at the paper versions and
11 see if you can make the point. If you can't make the
12 point because the images don't permit it, then so be it.

13 A. If images of this quality were submitted to me in the
14 laboratory for analysis, I would send them back to the
15 submitting agency and refuse to look at them and ask for
16 better quality images. The pixillation and the
17 degradation of the image, both in the inked print and
18 especially in the latent print here, makes it impossible
19 to draw any conclusions whatsoever from the points or
20 the alleged points that Mr Mackenzie is attempting to
21 demonstrate. I cannot comment on this.

22 Q. That is fair enough. It was simply to give you a chance
23 to comment insofar as the material permits.

24 That was Mr Mackenzie I'd said was the first point
25 in time.

1 The second individual, as you know, is Mr Swann who
2 has incorporated some of the work of Mr Berry.
3 Mr Swann, if I bring up his charting, it is in TS0004.
4 I do have the paper versions of this that can be made
5 available to you, photographic versions of it. I may
6 have a limited ability to enlarge these images simply
7 because of the format in which they have been submitted
8 to us. **(Handed)**

9 THE CHAIRMAN: Do we need to give back Mr Mackenzie --

10 MR MOYNIHAN: It's already been given back.

11 You have your original, Mr Mackenzie? You have the
12 original page back from your book?

13 MR MACKENZIE: Yes.

14 MR MOYNIHAN: If we look, please, in TS0004, it is a
15 PowerPoint presentation and if we go to slide L and
16 proceed through it to find ... we see this is chart C
17 with the letter at the top left-hand corner, TS0004.004,
18 chart C.

19 In the bottom right we will see a chart 3 which is a
20 representation of the Rosetta characteristic. Chart C3;
21 do you see that?

22 A. In the bottom right-hand corner --

23 Q. If you go back to the beginning, do you have in these
24 charts in the top left-hand side of each page a letter,
25 chart C?

1 A. Chart C. This one starts L, M, N, O ...

2 Q. Mr Wertheim, it is okay. You have just been given the
3 wrong one. **(Handed)**

4 You should find in that one a chart C.

5 A. Yes, now I have it in front of me, thank you.

6 Q. C and then in the bottom right-hand corner you will find
7 chart 3.

8 A. Yes, sir.

9 Q. Which is a representation of the Rosetta characteristic.

10 I am not going to go into any great detail in relation
11 to that one because I understand that one to be a
12 comparison between a Y7 mark and a copy of Ms McKie's
13 print taken from the Daily Mail on Tuesday October 24th
14 2000 which is in the box immediately above. I am not
15 going to take time over that.

16 What I am going to do is ask you -- it may be we do
17 need the other set of photographs that you were given.
18 I want to turn to chart L in the presentation,
19 TS0004.013 is chart L.

20 I understand Mr Swann to be indicating by way of
21 explanation that mark Y7, as he says:

22 "... has been twisted through an approximate
23 65-degree anticlockwise movement when contact was made
24 between it and the door standard. This has resulted in
25 the ridge characteristics to be found at the 2 o'clock

1 on the left thumb impression of Shirley McKie appearing
2 at 12 o'clock on the crime scene mark."

3 He has marked on this a movement anticlockwise that
4 does seem to be slightly more than 66 degrees, looks to
5 have gone from about 3.00 on the clock to 12.00, which
6 would be 90 degrees but that does not matter so much.

7 The areas I am then interested in he marks with the
8 letter N on the left-hand side. He says:

9 "This area is to be seen in prepared chart which
10 highlights the strong cluster of prominent sweat pores
11 and to the right the Rosetta characteristic, so named
12 because of its particularly unique shape and associated
13 detail. The second ridge below the cluster of sweat
14 pores ends a short distance to the right in a 128-degree
15 downward slope with an adjacent island ridge", is what
16 he says.

17 I then turn to photograph N or slide N. You will
18 have the original there.

19 N, if I understand it correctly -- and, please, you
20 tell me if I am wrong -- in the left-hand image the
21 Rosetta characteristic is marked as the point 7.

22 Would that be correct?

23 A. Let me play with this a minute because I'm trying
24 to ...

25 Hold on a minute now because I'm looking at chart M.

1 Oh, we've got N. Sorry, I misunderstood.

2 Q. Obviously lost in the translation from Scottish to
3 American. N for Nicholas?

4 A. I'm looking at the correct chart now so allow me just a
5 moment, please.

6 Q. What I will do, in fact, for others because this we will
7 not be able to mark in any way, if I could also bring
8 up, please, just to the side TS0002. If you go on the
9 right-hand screen to N --

10 A. If --

11 Q. Mr Wertheim, if you just bear with us.

12 What I have handed you is a photographic version but
13 we will be unable to mark it. I'm trying to bring up an
14 alternative version which we will then be able to mark
15 as appropriate.

16 What I have is a PowerPoint presentation on the
17 left, which is TS0004, and I have the scanned version of
18 the images that you have in the booklet form as
19 TS0004 -- it should be 0002 on the right.

20 With any luck the one on the right is something that
21 we can enlarge as appropriate. Could I have TS0002
22 brought up again on both sides of the screen because it
23 is one that we can actually play with. It is the better
24 one.

25 What I have done is taken from the Inquiry's scanned

1 version of the booklet which you have, chart N, I have
2 now brought those images up. What I was going to ask
3 you, if you look at the right-hand of the screen just
4 now, a point which is termed number 7, do you recognise
5 that as being the Rosetta characteristic?

6 A. Yes, sure I do.

7 Q. If I understand the chart, the proposition is that that
8 feature, the Rosetta characteristic, is sourced from the
9 position marked as 7 on the left-hand side of the
10 screen, again, if I mark by an arrow roughly in the
11 position I have indicated.

12 Do you see that?

13 A. May I ask for a point of clarification, please? We've
14 on the screen got in front of us the two images on page
15 N, as in Nora.

16 Q. Correct.

17 A. All right, I want to go through a wee bit of an exercise
18 here. Can I mark on this?

19 Q. Yes, you can.

20 A. All right, very good. Thank you.

21 I'm going to take my line -- and I'm going to use a
22 yellow line because I believe it will show up better
23 here -- and I'm going to start at the very core of
24 Shirley McKie's thumbprint and I'm going to run up to
25 the Rosetta point.

1 Are we all right with that?

2 Q. Yes, please do as you wish.

3 A. I'm going to count the ridges between the core and the
4 Rosetta point and when you do a ridge count, you do not
5 include the ridge on which the line starts nor the ridge
6 on which it ends. You include the ridges only between
7 those. So you have got 1, 2 -- just to make it a little
8 bit clearer let me mark those. I'm going to go back to
9 my green. I've got a purpose for doing this.

10 Here's 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,

11 14. I'll accept that I may be one ridge off in this
12 middle area because there's a little confusion but I've
13 come up basically with 14 ridge between the core and
14 point 7, the Rosetta point.

15 Now if I could ask your indulgence I would like to
16 erase the photograph on the right and put up the
17 enlargement of Shirley McKie's right thumb on page M, as
18 in Mary.

19 Q. So that would be 004 of that same document.

20 Is that what you want, Mr Wertheim?

21 A. Exactly. Thank you, Mr Moynihan.

22 I'm going to cut that a little bit more, if you
23 don't mind, for purposes of my little experiment here.
24 I wish to point out to you that I have never seen these
25 images before that I'm aware of in my life.

1 I'm going to use the yellow line again. I'm going
2 to start at the core, I'm going to run out to the
3 Rosetta point and now I'm going to repeat the ridge
4 count exercise and I'm going to count the ridges in
5 green. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14,
6 15, 16, 17, 18, 19, 20, 21, 22, 23, 24.

7 Mr Swann cannot have it both ways. It cannot be 14
8 ridges in one and 24 ridges out in the other. We're
9 using the inked prints for crying out loud. Mr Swann is
10 utterly mistaken and I reject both of his
11 interpretations.

12 Q. What we will do in that case is we will save this pair
13 as an image for today.

14 A. Mr Swann obviously doesn't even review his own work.

15 MISS BAHRAMI: That's saved as image FI2309.14.

16 MR MOYNIHAN: That, I think everyone will be pleased to hear
17 is my questions in relation to Y7. I now move on to
18 QI2. I want to do a similar but I trust faster
19 exercise.

20 In relation to QI2, again what I am going to do is
21 use the SCRO image for the same reason that some of the
22 numberings coincide in their points of similarity and
23 points of difference. In QI2 if I bring up, please, for
24 the SCRO it is FI0166A and bring it up twice as normal.

25 Again, I have observed, Mr Wertheim, if I understand

1 it correctly, that your points of difference coincide
2 with the points of similarity for the SCRO with, again,
3 two exceptions.

4 The areas of difference which are unique to your
5 analysis are 6 and 7. Otherwise, your areas of
6 difference seem to coincide with points of similarity,
7 so I will go through the SCRO points of similarity in
8 the order in which they are on the charts 1 round to 16
9 but I will tell you as we proceed what point of
10 difference or area of difference I understand these to
11 coincide with on your charts so I don't disorientate
12 you.

13 What I want to do is to begin rather eccentrically
14 at point number 1 but, in fact, I am going to start with
15 four points which are in a roughly similar area: 1, 2,
16 10, and 16. What I am going to do is to highlight the
17 central area. You will see why I begin with these
18 particular points.

19 The uppermost point that my cursor is on just now in
20 the Marion Ross print is point number 1 in the SCRO
21 analysis. Beneath that is point number 16. Below that,
22 again, point number 10: 1, 16, 10. Immediately to the
23 right of 16 is point number 2. So I am going to begin
24 by looking at 1, 16, 10 and 2.

25 My reason for starting is that 1, 16 and 10 are in

1 roughly the same area. In fact, if I understand it
2 correctly, they coincide with your area number 1, your
3 area of difference number 1.

4 Am I correct in my understanding they are area of
5 difference number 1?

6 A. Yes, I believe the points you've designated 1, 2, 10 and
7 16 are all within the area I designated as number 1.

8 Q. I think SCRO point 2 you deal with specifically in an
9 area of difference too?

10 A. Yes.

11 Q. I have highlighted the picture on both sides. My
12 understanding of the SCRO interpretation of Marion
13 Ross's print is that point 1 is a bifurcation, that
14 point 10 is a ridge ending and returning to point 16,
15 point 16 is a ridge ending. So it's bifurcation, ridge
16 ending, ridge ending. Perhaps the interpretation of 1
17 and 16 is that we have a bifurcation which, on the
18 right-hand side, terminates abruptly in what one might
19 call a spur?

20 A. Yes.

21 Q. First of all, as an interpretation of Marion Ross's
22 print -- I appreciate this is working the wrong way
23 round -- do you accept or would you dispute the
24 interpretation that 1 and 16 are to be understood as a
25 bifurcation and a spur with number 10 being a ridge

1 ending to the continuing leg of the bifurcation.

2 A. Normally in a spur (that is a bifurcation in which one
3 ridge ends very abruptly) normally in a spur I would --
4 if I were calling it a spur, I would want to see more
5 than simply one ridge unit appended to the other ridge.

6 To restate my earlier definition, a ridge unit is
7 one sweat gland and the surrounding tissue which is
8 represented on the surface of the skin by the sweat pore
9 and the little tissue surrounding it.

10 The point designated here as number 16 appears to be
11 a single ridge unit and it constitutes by itself the
12 spur. Normally I would not call that a spur but I can
13 see where one might, so I will accept that designation
14 as point number 1, a bifurcation; point number 16, a
15 ridge ending that constitute a spur in relation to point
16 number 1 down to point number 10 being the remainder of
17 that ridge.

18 Q. If I move across with that understanding, I do
19 appreciate I am working the wrong way round.

20 A. By the way, before we move on, Mr Moynihan, do you mind
21 if I trace that in green just to set it?

22 Q. Yes, please.

23 A. If you don't mind I would like to enlarge it a little
24 bit, just slightly more. The reason for doing that is
25 because it makes it easier to trace the ridges as we're

1 going around. So I think we've included sufficient area
2 of which we're discussing there.

3 I'm trying to make sure I include a roughly
4 equivalent area so we're on pretty close to the same
5 scale. What I'm going to do is we've only been talking
6 about inked print so I'm only going to trace the spur
7 and the ridge leading toward the spur, except I'm
8 tracing it away. **(Indicated)**

9 I don't know where that little line just came in
10 from, the little black line running to the right. That
11 just appeared out of nowhere. Let me try erasing that
12 and redrawing it. Let's see if we can redraw that and
13 not have that artefact. I'm trying to stay as close as
14 possible to the points marked there by the SCRO. Where
15 has that little line come from?

16 Q. Let's just ignore it.

17 A. All right, fine. I just want to clearly define what
18 we're talking about here. I believe that I've
19 accurately reflected point 1, point 16 and point 10.

20 Q. Yes.

21 A. Okay, very good.

22 Q. What I want you to do is, looking to Q12 on the
23 left-hand side, can you comment, please, on the fact
24 that the points 1, 16 and 10 are as now highlighted in
25 the Q12 and are points in agreement between the two.

1 Do you follow me?

2 A. Okay, so you want me to mark those points in QI2. Okay,
3 we're going to start at point 16, we're going to come up
4 and curve over to point 1, then we're going to come back
5 up and follow this ridge around. Now we're going to
6 come back to point 1 and follow this ridge back down
7 **(indicated)**.

8 You want me to comment on that?

9 Q. First of all, do you accept that that is an accurate
10 interpretation of QI2?

11 A. No, sir.

12 Q. Why not?

13 A. Because if we're to accept that interpretation of QI2,
14 we're ignoring a section of ridge that I've marked in
15 yellow and it would appear to me that, using light
16 green, it would appear to me that point 16 and point 10
17 are points along the same continuous ridge.

18 You cannot ignore the ridge that's in the yellow
19 circle in QI2. I question whether there is sufficiency
20 in QI2 -- sufficient clarity in QI2 to make an
21 interpretation of such fine detail as we see in that
22 spur but, further, if we are to consider that I have
23 another problem with it and, in red, what I'm going to
24 do is outline a shape here in the core of Marion Ross's
25 ink print and this is the ridge which to me would define

1 the centre of the core.

2 I'm drawing this thing in red and, for brevity's
3 sake, I'm just going to call that the chilli pepper and
4 if I outline the chilli pepper in Q12 I find that it has
5 grown substantially and, as a gardener, I wish I knew
6 what fertiliser was being used for this mark.

7 THE CHAIRMAN: Is it not on a larger scale because the green
8 line is much larger?

9 A. All right but here's my point, sir, and that is I've
10 tried to reproduce the scale but let me come to a
11 different colour here --

12 THE CHAIRMAN: I am just commenting that when you say it's
13 grown a lot, I am just wondering whether ...

14 A. If we consider the distance between point 1 and point 10
15 and we consider here the distance between point 1 and
16 point 10, in Marion Ross's inked print the size of the
17 centre ridge is slightly shorter in relation to the
18 distance between point 1 and point 10.

19 In Q12 the size of this feature is substantially
20 larger. No, I reject the SCRO's interpretation of the
21 centre of that print. I do not believe the clarity of
22 Q12 justifies the interpretation of a spur. That's my
23 first point.

24 My second point is that even if you accept the
25 interpretation of a spur in Q12, you have to conclude

1 that the ridge which I've circled in yellow simply does
2 not exist.

3 Number 3: if you accept the grouping of points 1, 10
4 and 16 then you cannot ignore the ridge to the left of
5 that which I've called this chilli pepper and which is
6 so much larger in Q12 as to be completely out of
7 tolerance.

8 MR MOYNIHAN: If we could save that image just now.

9 MISS BAHRAMI: That's image FI2309.15.

10 MR MOYNIHAN: What I want to do is I want to go through Q12
11 a little bit quicker. What I want to do now is
12 concentrate on point number 3 and if I bring up clean
13 images, we can concentrate on point number 3.

14 Your chilli pepper has still stayed there but the
15 point can still be seen. Point number 3 is indicated
16 where my cursor is in Marion Ross's print. Would you,
17 Mr Wertheim, describe that as a bifurcation or is it,
18 with the thinner line coming up, something that recurves
19 inside the otherwise descending ridge.

20 A. I beg your pardon, Mr Moynihan, I believe that's point
21 number 2 that you are indicating with the cursor.

22 Q. Sorry, I apologise. That is point number 2.

23 A. Yes, I accept that that is a bifurcation in both Marion
24 Ross's print and in Q12.

25 Q. I can be relatively brief with this one. You and some

1 of the others who dispute the identification of Q12 as
2 Marion Ross's print rely on the shape and width of the
3 two descending branches from the bifurcation. To the
4 right we see a relatively thick line descending in
5 Marion Ross; to the left, a relatively thin line.
6 Whereas the argument is in relation to point 2 in Q12
7 the branches as they descend, both right and left, both
8 seem to be of similar width.

9 Is that an encapsulation of your area number 2
10 point?

11 A. Yes, sir.

12 Q. The argument against that is, as I described to you
13 yesterday, the fact we will get variances due to a
14 variety of circumstances, even between two otherwise
15 identical features, due to chemical processes and
16 pressure or whatever, there can be variations.

17 Could that account for the left limb of the
18 bifurcation in point 2 being different as between Marion
19 Ross's print and Q12?

20 A. I will completely agree that different processes and
21 different touches might produce what appears to be a
22 very thin ridge in one print and a thicker ridge in
23 another print.

24 However, in a single print in which the entire print
25 was developed using the same means of processing, two

1 adjacent ridges should produce proportionally similar
2 ridges. So if you have a thick ridge and an adjacent
3 ridge which is very thin from one touch to the next and
4 one development process to the next, the ridges may be
5 thicker and thinner but the relative thickness and
6 thinness in any one image processed using a singular
7 development technique for that image, the proportional
8 width of the ridges, one to the other, should still show
9 you a large ridge on one side and a skinny ridge on the
10 other. So I reject the suggestion that the development
11 technique might have had anything to do with this.

12 Q. What I am going to do then is move on now to point
13 number 4 and I'll try and get myself clean images this
14 time.

15 Can we bring up, again, FI0166A both sides just to
16 make sure I get clean images without the chilli pepper.
17 We still have the chilli pepper on the right-hand side.

18 We have moved on to point number 4, Mr Wertheim.
19 Let us do this the correct way round. I have been
20 committing the mistake earlier on of asking you what the
21 points are in Marion Ross.

22 In relation to QI2, point number 4, do you see it on
23 the left-hand side of the screen?

24 A. Yes. I can see where the little ridge ends -- I'm
25 sorry, I didn't mean to touch the mouse.

1 Q. It's okay, 1, 2 --

2 A. Yes.

3 Q. It is point number 3 we are looking at. Point number 3.

4 You see what is pointed to in Q12 as point number 3?

5 A. Frankly, no. Do you mind if I do a slightly bigger

6 enlargement and put my little green lines on there? I

7 can't restrict us too much because this image of Q12 is

8 terribly out of focus. **(Indicated)**

9 I might mention while I'm doing this that I was

10 concerned when I was at the Procurator Fiscal's Office

11 in Kilmarnock reviewing evidence that in the booklet

12 production in which the chart is produced I found the

13 photograph that we see on the left here for Q12 which is

14 out of focus and the original small photograph in the

15 booklet with that chart was just as much out of focus

16 and in a completely different production of SCRO in the

17 evidence at the Procurator Fiscal's was a separate copy

18 of the photograph, a different photograph of Q12, that

19 was so crisp in its focus that the microscopic silk

20 screening on the surface of the sweets tin was

21 reproduced and I would question why for this chart SCRO

22 used an out of focus photograph when they had a crisply

23 focused photograph that showed much sharper detail. It

24 seemed to me disingenuous to use an out of focus

25 photograph when, in fact, there was a cleanly in focus

1 photograph in their possession.

2 Moving on to the discussion of point 3 now, I am

3 going to go back to my green line --

4 Q. Before we draw any lines, what is actually pointed to on
5 screen? Do you see any feature there at all that's open
6 to interpretation?

7 A. No, sir. What I see is a series of four or five
8 parallel ridges with no point in existence in that
9 location. If you would prefer not to spend the time
10 tracing the ridges as I see them I'll gladly forego
11 that.

12 Q. If you give me just a second. **(Pause)**

13 This is, again, one of these issues, Mr Wertheim,
14 whether one starts with the latent and goes across to
15 the known. Only if one sees a feature that is worth
16 taking across --

17 A. Yes, I can see how if one was to focus too heavily on
18 the bifurcation in the inked print one might trick
19 oneself into seeing the bifurcation in the latent. I
20 believe that in lieu of focussing -- in lieu of going
21 through the exercise of tracing the green lines, I might
22 refer the Inquiry to my phase 1 production and it would
23 be in the appendix in which I drew the pictures related
24 to Q12 because I've drawn the ridges as I see them in
25 area 3, area 4 ... yes, area 3 and area 4 both, by

1 coincidence, reflect that area of ridges, I believe, 1,

2 2, 3.

3 Q. I have noted your area 3 coincides with SCRO point 3.

4 A. So we can simply forego that exercise and refer to the
5 drawings that I have already prepared in my exercise. I
6 see no bifurcation at all .

7 Q. My reason for asking you this is whether, either in
8 producing what you have now as area 3 you have started
9 from the Marion Ross print to see if you could reproduce
10 that in QI2 rather than going the way you would
11 conventionally work as a fingerprint officer and start
12 with QI2 and see whether you see anything that's capable
13 of being taken across for interpretation.

14 A. Okay, I'm a wee bit confused.

15 Q. That's okay, if I help you. If I bring up, please, your
16 witness statement FI0118 --

17 A. Before we do that, please --

18 Q. Let us save this so we can come back to it.

19 MISS BAHRAMI: That's FI2309.16.

20 MR MOYNIHAN: If we could now go to FI0118.54, what I've
21 brought up, Mr Wertheim, is part of one of the
22 appendices in your witness statement. I think it might
23 be appendix 8. It is a copy of the report you did for
24 Mr Asbury's solicitors dated 30th March 2000. As I
25 would understand it this is your first report in

1 relation to Q12.

2 Would I be correct in that understanding?

3 A. Without the exact dates in front of me I can't say but I

4 would say that if the date on the top of this

5 30 March 2000 is the first date in the series then this

6 is the first report.

7 Q. We see the subject of your report is an analysis and

8 comparison of Q12?

9 A. Yes, sir.

10 Q. What I want to do then is to, on the same basis as

11 before, look to your earliest contemporaneous report to

12 see what you were thinking at the time.

13 If I turn within it to page 56, we will see that you

14 begin in paragraph 16 going through the points

15 one-by-one beginning at point number 1 and, thankfully,

16 on this occasion the numberings coincide with the

17 Inquiry reference numbers and you have begun with

18 point 1, 16 and 10. We see in paragraph d you reach a

19 conclusion about 1, 16 and 10.

20 If I take us on to the next page, you have dealt

21 with point number 2. Point number 3 you deal with in f

22 and you say:

23 "Point 3 in the mark is difficult to understand and

24 appears to be nonexistent. The red line ends in the

25 mark between two ridges in a location where there is no

1 point. Point 3 in the inked print is clearly a downward
2 opening bifurcation. This is a drastic difference
3 between the two prints."

4 That is my reason for trying to be short with you in
5 relation to Q12 and to ask you just to comment on the
6 possibility that in preparing your points of difference
7 for us, for this Inquiry, what you have in fact been
8 doing is working in the reverse. You have been looking
9 at the Marion Ross print to see if you could reproduce
10 in Q12 what is seen there rather than perhaps, as you
11 did when this report was written, simply see what you
12 could discern in Q12 itself.

13 A. Oh. No, I understand the question now, thank you. I
14 don't believe that's an accurate statement. I believe
15 that there may be some confusion in the way that I've
16 worded it with respect to which point I'm looking at
17 first in my report in phase 1 versus the way I've worded
18 it in year 2000 but I'm not even sure about that. You
19 may be correct in your assertion.

20 Q. What I want to do is, because of your first comment
21 about Q12, I want to start really in this simple
22 approach: were you correct in paragraph f of your
23 report -- we will go back to the images in a moment --
24 simply to have said you don't see anything at point 3 in
25 Q12 as charted. Bearing in mind this is not using the

1 Inquiry's charting; this is the one that was available
2 at the time of the criminal trial. But to see if the
3 new charting has made any difference, if I bring us back
4 to FI2309.16 again, the one which was most recently
5 saved -- it does not matter because I can start again.

6 A. Let me --

7 Q. Point number 3 in the left-hand image, if I put my
8 cursor on it, I will put a circle round it, roughly.

9 A. It's the left side of the circle.

10 Q. Do you see anything in that area?

11 A. No, sir.

12 Q. This is what has troubled me, Mr Wertheim. That's what
13 you said in the original report but as you correctly say
14 in the charting that you have done as part of your phase
15 1 contribution you have a very detailed drawing for area
16 number 3 would imply that there is clear detail to be
17 observed in the area of the yellow not quite circle, the
18 yellow oval.

19 A. In area 3?

20 Q. In area 3.

21 A. In area 3 of Q12 on the left side of the page I've got a
22 series of parallel lines and my comment that I've
23 handwritten is that the bifurcation in the inked print
24 has no corresponding bifurcation in Q12, only straight
25 ridges.

1 I remark in the area 4 discussion that in the latent
2 print, Q12, I -- but that's in reference to a different
3 area of the print. I'm sorry, sir, I'm not
4 understanding where you find a contradiction in my 2000
5 statement and my current statement. Both of them I
6 believe record simply an open area with no bifurcation
7 there.

8 Q. Maybe it is just simply my misunderstanding. If I am, I
9 suppose, more simple in relation to this, if your
10 evidence is that there is no feature to be observed in
11 the area of the yellow oval -- perhaps I should redraw
12 it to be more correct -- if there's no feature to be
13 observed within the yellow circle --

14 A. That's correct.

15 Q. -- then I find it as difficult or equally a
16 contradictory proposition to then say that a clear
17 picture can be drawn of what is occurring there to show
18 that what is occurring there is a series of straight
19 ridges and not a bifurcation.

20 The position should either be, "I can't see
21 anything" or, "I can see something but I say it's a
22 ridge and not a bifurcation". Do you understand now?

23 A. Yes, sir. I do understand now, thank you very much.

24 If I can draw a few lines on here, perhaps I can
25 help clear up my apparently contradictory statements

1 there. I'm going to start out with the green lines and
2 trace through Q12, trying to stay within the ridge, a
3 possible interpretation.

4 Now, this is one interpretation and here's --

5 Q. If I stop you, Mr Wertheim, right there because if I
6 show you what I am seeing, I am seeing some grey lines
7 coming straight down.

8 A. Exactly, and that's what I was going to demonstrate
9 myself now. I was going to mark them in blue but it's
10 irrelevant. But I see much what you do. I see starting
11 up here and coming down pretty much as a straight line.
12 I see these marks and you've done them in red and I'm --
13 we're at approximately the same thing, we're looking at
14 the same features. I see this whole series and it
15 extends considerably farther than what you've drawn.

16 Q. It suffices just for now --

17 A. I believe that's led to the two different
18 interpretations. At one point I rejected them and said,
19 okay, I'm not even going to trust anything in there and
20 then at the second point I said, okay, I'm going to try
21 to trace some ridges through that in spite of the
22 confusion.

23 Q. If you stop just now, the area that is now the straight
24 lines, red and blue, what might account for that
25 appearance of straight lines through this?

1 A. A smear.

2 Q. A smear?

3 A. An area of finger that has dragged. With regard to the
4 entire impression of Q12 I believe there are probably a
5 number of touches that overlap and in trying to
6 interpret Q12 in places you have to interpret ridges
7 flowing almost perpendicular between other ridges.

8 In a normal circumstance I would never try to
9 interpret such a situation because it's not reliable.

10 Q. That was a point I was trying to ask you because that's
11 the conclusion I had reached from your report back in
12 2000 that you, for whatever reason, deemed this
13 particular area unreliable, whereas in your charting for
14 the Inquiry you seem to be suggesting some very clear
15 detail was discernible. Which of the two is it?

16 A. Well, I'm not sure which interpretation is absolutely
17 correct. This is an area which is subject to
18 interpretation and I might go 51 per cent and 49
19 per cent one day and then 49 and 51 per cent the next
20 day. Either way I don't think it's entirely reliable
21 here.

22 Q. Again, we have now in this forest of red, blue, yellow
23 and green a feature which is given the number 3.

24 Given the evidence of smear running from top to
25 bottom through that area, what would be the responsible

1 conclusion of a fingerprint expert as to relying on that
2 point in the analysis.

3 A. If I were doing the original analysis, I would never
4 rely on a feature in that position.

5 Q. The next one I wanted to ask you about, which is just
6 below it -- I will double-check my copy -- is point 4
7 and I am indicating point 4 just now.

8 What I should do is let us capture what is on the
9 screen relating to point 3 before I start point 4.

10 MISS BAHRAMI: FI2309.17.

11 MR MOYNIHAN: What I want to do is highlight point number 4.

12 We can take that away because I may have obscured
13 something, a detail.

14 Again, looking at it as a fingerprint examiner
15 examining this print, is there something that is
16 noteworthy in the position of point number 4?

17 A. There may be.

18 Q. So there may be?

19 A. Well, let me show you what I'm looking at. I'm seeing a
20 ridge below it that I'm marking in green and I'm seeing
21 the possibility of a ridge above it that I'm marking in
22 green, **(indicated)** but now I'm going to highlight in
23 yellow what appears to be a smudge -- I didn't get it
24 quite as big as I wanted the first time -- what appears
25 to be a smudged area running down through the print.

1 In that smudge we may, indeed, have a third ridge
2 running through there that culminates in the ridge
3 ending shown. With respect to that, if we look at the
4 inked print and see in green the ridge below, the ridge
5 above and the ridge ending at number 4, then I'm going
6 to draw a red circle around an area here **(indicated)**.
7 I'm going to draw a red circle round there and I'm going
8 to draw a red circle around it over here.

9 The problem we're running into, if we accepted this
10 smudge exists and that the green ridge I've drawn in the
11 middle in Q12 is unreliable, then we cannot accept point
12 number 4. If we reject the idea there is a smear in Q12
13 where I've indicated it in yellow and if we're to
14 propose that point number 4 is a real point, then with
15 respect to the image of Marion Ross's fingerprint one
16 ridge removed -- oops, wrong tool -- one ridge removed
17 up and to the left there is another ridge and yet in the
18 Q12 I see nothing to indicate that.

19 As I see Q12, the ridge above that area will be
20 coming down without a divergence, the ridge in Marion
21 Ross's inked print is, in fact, diverging. I've done a
22 little sloppy job there. But I see nothing to support
23 the idea of an additional ridge above the point marked
24 as number 4. Consequently, my belief that there's a
25 smear running through there is reinforced.

1 Anyway, I don't think that the point number 4 and I
2 don't think that the ridge running down below it is
3 entirely reliable because I believe there is a smear
4 coming through there indicated in the yellow.

5 Additional support for that hypothesis might come
6 from the fact that we can draw additional blue lines
7 through here showing additional apparent straight
8 features. I'm not saying that these are absolutely
9 reliable, I'm saying simply that there is too much going
10 on in here to feel comfortable with those ridges.

11 Q. In that case if we finish there on point 4, we will move
12 now to points 5 and 6 and if we could save the two
13 images just now.

14 A. You might want to start over with some clean ones.

15 Q. Don't worry. That's why I am saving these.

16 MISS BAHRAMI: That's FI2309.18.

17 MR MOYNIHAN: Can I start all over again, please, with two
18 copies of FI0166A.

19 Point 5 and 6, in fact even I have to carry out an
20 enlargement to see point 5 because with point 5 the red
21 line seems to go into a black area and it's very
22 difficult to see where it ends. So if I can enlarge it
23 we will see where point 5 ends.

24 If I understand it correctly, point 5 ends where my
25 cursor is just now. Do see the line?

1 A. Yes, sir.

2 Q. And the red point. Point 6 is immediately below it. So
3 there are two points, 5 and 6.

4 Do you have any comment on the significance from a
5 fingerprint point of view of the upper of those two
6 points, point 5 shown where it is?

7 A. I'm tempted to say fiction.

8 Q. Sorry?

9 A. I see nothing there to support an interpretation of a
10 short ridge as is visible in Marion Ross's inked prints.

11 I see absolutely nothing in the area of 5 and 6 to
12 justify any interpretation that would be even remotely
13 consistent with the image in Marion Ross's inked printed
14 thumbprint.

15 Q. I keep making the same mistake, cropping it and losing
16 the numbers for the lines. If I try to bring it up so
17 that we can see 5 and 6. If you will allow me just a
18 second, I will double-check.

19 5 and 6 are said to be 5 a bifurcation, 6 a ridge
20 ending, perhaps a second example of a bifurcation and a
21 spur.

22 A. Okay, yes. I'd said a short ridge. I would accept a
23 spur.

24 Q. So 5 and 6 we can accept a bifurcation and a short
25 ridge. Going across to what we see on Q12, what is your

1 comment on saying that the two red dots coincide with
2 that bifurcation and short ridge?

3 A. No such feature can be concluded from Q12. There is no
4 spur; there is no short ridge; there is no
5 interpretation of Q12 that can justify labelling those
6 as valid points for a purpose of identification. I
7 utterly reject that.

8 Q. What I am going to do and probably conclude on this is
9 bring up again clean images.

10 If I understand correctly the report that I was
11 looking at earlier on (that is FI0118, pages 57 and 58
12 which I do not need to look at) I can ask you to look at
13 a series of points 7 through to 13 which you have not
14 actually yourself commented on as areas of difference
15 but may actually be capable of being dealt with
16 together.

17 If I highlight on Q12 the lower area so that we can
18 see the spread 7, 8, 9, 10 we've talked about so we
19 don't need to go back to it, 11, 12 and 13, what is your
20 opinion, Mr Wertheim, about the clarity of these
21 particular points, just going round them in the
22 numerical order round the clock beginning at 7 on Q12.

23 Do you see anything of sufficient clarity in Q12 to
24 be carried over for interpretation, looking at each of
25 these in turn?

1 A. No, and if I could add comment as to the reason why
2 here. I'm going to roughly outline in yellow some
3 problems I'm having here. The area that I'm outlining
4 right now (**indicated**) appears to be part of a print
5 completely unrelated to Q12, the area that I'm outlining
6 as a second area again has a mess that's unrelated to
7 Q12.

8 If I come over here (**indicated**) I've got a large
9 area that's unrelated to Q12. I've got some more ridges
10 up in here (**indicated**) that appear unrelated to Q12. So
11 I've got huge areas here of double taps, smears, other
12 fingerprints that are completely unrelated to Q12.

13 Now I haven't included directly the points we're
14 talking about but what I made reference to earlier this
15 afternoon was the fact that this whole area is a
16 hodgepodge of double, triple, quadruple, quintriple(sic)
17 prints just stacked on top of each others and I would be
18 loath to try to claim I could separate the ridges from
19 any of the overlapping prints. One of the reasons I've
20 stayed away from this area is I don't put much reliance
21 in it.

22 I am going to use a slightly different colour
23 circle. I will use magenta again. (**Indicated**) I see a
24 cluster -- once again I neglected to draw the circle
25 quite big enough. It's a little deceptive because where

1 you start the cursor is not where the edge of the circle
2 is going to be.

3 In the area that I've designated, I'm not sure that
4 all of the ridges within that purple circle come from
5 the same touch. I think there may be some double tap
6 production of ridges duplicating or -- not duplicating
7 but confusing in that area.

8 Q. If I can just stop you, please, there for two reasons.
9 First of all, we've lost some of the earlier charting so
10 let's save the two images we have on the screen just
11 now.

12 I have another reason for asking you to stop if you
13 will bear with me. First of all, we will save this.

14 MISS BAHRAMI: Image FI2309.19.

15 MR MOYNIHAN: Bear with me, Mr Wertheim. You have hit a
16 point that just by coincidence I was going to ask about
17 if I can find the cursor.

18 If you follow the numbers round, number 12 comes in
19 to a point. The next one around is, therefore, number
20 13.

21 A. Yes, sir.

22 Q. Do you see that?

23 A. Yes, sir.

24 Q. To the left of the point number 13, there is a fairly
25 strong feature which to me has the shape of something in

1 the nature of a hook. Do you see that?

2 A. Yes, sir.

3 Q. Point number 13 on Marion Ross appears to be a
4 bifurcation.

5 Would that be correct?

6 A. A bifurcation or ridge ending. I would accept either.

7 Q. Where is the hook?

8 A. Can I elaborate then? I see some ridges -- what I see
9 or one interpretation that I make that I think may be
10 correct is that there are some double tap ridges from a
11 separate touch running through there that approximately
12 a 45-degree angle to the ridge. They'd be coming down
13 from 2.30 towards about 7.30.

14 May I use a blue line to ...?

15 Q. Yes, please.

16 A. The ridges running along these two blue lines appear to
17 me to be a double tap impression of a few ridges on top
18 of that one that are interfering with it.

19 Q. If I stop you, Mr Wertheim, because this assists me.
20 First of all, what you would say is, "My hook is not
21 present in Marion Ross's print". Is that correct?

22 A. That's correct.

23 Q. The absence of the hook in Marion Ross's print is not
24 itself inconsistent with her fingerprint because the
25 explanation lies in the hook being the product of a

1 double touch. Is that correct?

2 A. The hook could be the product of a double touch. This
3 area, in my opinion, is too confused to draw any firm
4 conclusions.

5 Q. My reason for asking you that, and I am sorry to have
6 interrupted your flow, is in the immediate vicinity of
7 my hook, which is explained as the product of a double
8 touch, is point 13 which is said to be a corresponding
9 feature in Marion Ross.

10 What is your view about the reliability of relying
11 on something such as point 13 as standing out from the
12 hook?

13 A. I would never have relied on it. In the first place, I
14 don't see the divergence of adjacent ridges to justify
15 it. We've got the -- immediately to the left of the
16 point marked 13 we can see a ridge that curves, it
17 starts out going straight down and then curves slightly
18 to the right where it intersects the magenta oval.
19 Immediately to the right of point 13, beginning right on
20 the edge of the magenta oval and going down slightly to
21 the right, is another ridge and if we were to accept
22 point 13 then we would have to see a stronger divergence
23 than we see and yet at the bottom those two ridges don't
24 allow for two additional ridges between them which you
25 would have in Marion Ross's inked print.

1 Was that clear without me drawing the ridges? In
2 other words, I don't see any evidence of a bifurcation
3 on point 13 in QI2 that opens downward. I see nothing
4 to justify that interpretation.

5 MR MOYNIHAN: One last point if you will bear with me, sir.

6 First of all, I will save these images and treat us
7 to a clearer view.

8 MISS BAHRAMI: FI2309.20.

9 MR MOYNIHAN: When it is saved we'll start all over again
10 FI0166A on both sides of the screen, please.

11 Mr Wertheim, I have asked you to quickly look
12 through 7 through to 13 and we have had some
13 conversation about it. I want to ask you specifically
14 and, again, I will do it the wrong way round but I will
15 ask you to comment on 11 and 12. 11 and 12 in Marion
16 Ross appeared to me to be an enclosure or lake.

17 Would I be correct?

18 A. That's correct.

19 Q. 11 and 12 in QI2, can you comment specifically on those
20 and their correspondence to the lake or enclosure in
21 Marion Ross?

22 A. We have in QI2 not a great deal of compression or
23 stretching in the main part of the print. My objection
24 is that there are too many overlying prints and too many
25 smears to extend out much beyond a small area in the

1 core; that is to say, points 2 and the 1, 10 and 16 area
2 going straight up and straight to the right about three
3 ridges from there I can see some clear ridges. Nothing
4 else is really reliable.

5 In the area of 11 and 12, we're outside the area I'd
6 consider reliable and because I don't see sign of
7 compression or stretching of the skin, if the island or
8 enclosure in Q12 were to be said to match the enclosure
9 in Marion Ross's inked print I would expect the
10 proportions to be very close to the same.

11 I believe that the impression in Q12 is out of
12 proportion, it's out of tolerance in the overall shape
13 of it. I do not see a joining of the ridges at point 11
14 which occurs in Marion Ross's print, although I would
15 concede that in the disturbed deposition there I can't
16 be sure that there is or is not a joining. Q12 is just
17 not reliable in that area. I'm not happy with the shape
18 of it and I certainly don't trust the reliability of it.

19 THE CHAIRMAN: The print in general?

20 A. Q12 in general. The only area that I trust is up above
21 the core but I'm sure we will come to that later.

22 MR MOYNIHAN: Just for the avoidance of doubt, if you mark
23 the area that you regard as being reliable.

24 A. Okay. **(Indicated)**

25 This is not exactly correct but this encloses

1 basically the only area in which I feel the ridges are
2 sufficiently clear and uninterrupted by smearing and
3 double tapping and such nonsense. I would say the area
4 I've enclosed inside that right oval is not entirely
5 reliable.

6 I would highlight in yellow here an area on the
7 right side of the oval that is coming into question and
8 I'm going to highlight another area up at top of the
9 oval that is coming in question. The oval itself
10 doesn't exactly enclose it and on the right-hand side
11 I'm enclosing another area that comes into question.

12 So I would say that what is inside that purple or
13 magenta oval and has not been highlighted in yellow are
14 what I see as reliable ridges in this print. Everything
15 outside that oval I would distrust because of double
16 tapping and because of smearing.

17 Q. If we just finish, perhaps, on that.

18 I asked you to do a sweep round from 7 to 13 because
19 I discerned from your earlier notes we can deal with it
20 as quickly as that.

21 14 and 15 do those -- bearing in mind it is 4.40 --
22 admit of a relatively short explanation given what you
23 have just said? Would you be prepared to reach
24 conclusions based on what is shown as 14 and 15 in Q12.

25 A. Yes, sir. In Q12 I see what appear to be two

1 bifurcations at points 14 and 15 and I will readily add
2 that in my QI2 production for phase 2 I showed some
3 points in this area. I don't deem them to be reliable
4 and I would never use them in an examination on the
5 bench.

6 What I see in points 14 and 15 again, I see a smear
7 and I'm going to try to attempt to draw it -- I see a
8 smear coming in through the area that ... I thought I'd
9 highlighted that in yellow.

10 Q. Mr Wertheim, what I will do is the image that is on the
11 screen just now let us save before we lose the oval that
12 you have marked.

13 A. I believe you can go ahead and cut out a QI2, again, and
14 put it back at the same time.

15 Q. What I was going to do was save the images we have just
16 now and, since 14 and 15 require a bit more of an
17 explanation, come at it when I've got a degree more
18 energy tomorrow morning.

19 So, if you would not mind, if you would save what is
20 on the screen just now and I do promise to others who
21 are very interested in this that since I have reached
22 numbers 14 and 15 and I have covered 16, QI2 is about to
23 finish shortly tomorrow morning.

24 THE CHAIRMAN: As I understand it, we have the benefit of
25 Mr Wertheim for the day tomorrow. Is that right?

1 A. Yes, sir, I've been advised after lunch that a new
2 return flight has been booked for me on Friday and I
3 will be available to the Inquiry the entire day
4 tomorrow.

5 THE CHAIRMAN: Thank you very much indeed, that's very
6 helpful.

7 MISS BAHRAMI: The last image was FI2309.21.

8 THE CHAIRMAN: 10.00 tomorrow.

9 **(4.42 pm)**

10 **(Adjourned until 10.00 am the following morning)**

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