

1 THE INQUIRY RESUMED ON THURSDAY, 1ST OCTOBER 2026 AS
2 FOLLOWS:

3
4 RESTRICTED HEARING

5 10:04

6 CHAIRMAN: Good morning, Mr. Greaney.

7 MR. GREANEY: Sir, good morning.

8

9

10 INTRODUCTORY REMARKS BY MR. GREANEY: 10:05

11

12 MR. GREANEY: Today, as you know, we are scheduled to
13 hear evidence relating to Part 6 of Chapter 3. Part 6
14 deals with the explosion at 3:04 p.m. on 15th August
15 with the immediate aftermath. 10:05

16

17 we're going to begin by hearing evidence from
18 Hazel Hutson, the witness in the witness box who is an
19 expert in explosives. Following her evidence, and
20 after a break which will be necessary, we will return 10:05

21 to Part 5 for a short period in order to hear evidence
22 from Detective Chief Inspector McGuinness about the RUC
23 Net, before then returning to Part 6 with further
24 evidence from the interview with Detective
25 Superintendent Casserly of the AGS, and then possibly 10:06
26 the end of the day, the presentation of
27 Mr. Safranauskas.

28

29 Sir, can we make clear that the evidence of

1 Hazel Hutson contains very extensive reference to
2 operationally-sensitive material falling into
3 Category B as described in the Operationally-Sensitive
4 Material Restriction Order of 13th January this year.
5 Category B is as follows:

10:06

6
7 "Methods and strategies used by individuals in the
8 preparation and/or commission of suspected terrorist or
9 other criminal activities."

10
11 Sir, for us to deal with the evidence of Hazel Hutson
12 in an open hearing would provide information we are
13 entirely satisfied of assistance to those who would
14 wish us harm. As a result, we will be hearing the
15 whole of the evidence of the witness in an
16 operationally-sensitive restricted hearing. And, Sir,
17 that means that the only access to this hearing today
18 will be for those who are actually present within this
19 hearing room. And can I add, that, Sir, you will
20 continue to have access to the live transcript but no
21 one else should access the live transcript during the
22 course of this first part of the hearing.

10:06

10:07

10:07

23
24 Following the hearing, a redacted transcript containing
25 all of the open, that is to say the
26 non-operationally-sensitive material will be prepared
27 by the Inquiry Legal Team, together with the help of
28 the witness and her team. That redacted transcript
29 won't be final, because it can, of course, be the

10:07

1 subject of submissions from the Core Participants and
2 the media before then you, Sir, make any determination
3 that is necessary.

4
5 And, finally, before we start the evidence of the 10:08
6 witness, Sir, we need to be as clear as we possibly can
7 that during the course of the evidence of Hazel Hutson
8 we will be hearing detailed descriptions of the device
9 that was used to kill so many in Omagh on 15th August
10 1998, and we will also be looking on the screens at 10:08
11 photographs of the devastation to property caused by
12 that bomb. So could we caution everybody before we
13 make a start to just think about their own wellbeing
14 and to think about whether they wish to be exposed to
15 the material of that sort. 10:08

16
17 Sir, I can see that no one wishes to leave. If, at any
18 stage, anyone does wish to leave they, of course, are
19 free do so.

20 10:08
21 All of that said, could we ask, please, that
22 Hazel Hutson be sworn.

23
24 MS. HAZEL HUTSON HAVING BEEN SWORN WAS QUESTIONED BY
25 MR. GREANEY AS FOLLOWS: 10:09

26
27 CHAIRMAN: Thank you, good morning Ms. Hutson.

28 THE WITNESS: Good morning.

29 1 Q. MR. GREANEY: Good morning. would you begin by telling

1 us your full name, please?

2 A. It's Hazel Elizabeth Hutson.

3 2 Q. And in terms of qualifications, do you have an honour's

4 degree in chemistry?

5 A. I do. 10:09

6 3 Q. Are you a chartered chemist?

7 A. I am.

8 4 Q. A fellow of the Royal Society of Chemistry?

9 A. Yes.

10 5 Q. And a chartered scientist with the Science Council? 10:09

11 A. I am.

12 6 Q. Are you also a member of the Chartered Society of

13 Forensic Sciences?

14 A. Yes, I am.

15 7 Q. And an associate of the Institute of Explosives 10:09

16 Engineers?

17 A. Yes.

18 8 Q. What is your occupation, please.

19 A. I am principal case officer at the Forensic Explosives

20 Laboratory, which is part of Defence Science and 10:10

21 Technology Laboratory based at Porton Down, near

22 Salisbury in Wiltshire. Dstl is part of the Ministry

23 of Defence.

24 9 Q. And do you have over 31 years' experience as an

25 analytical chemist? 10:10

26 A. I do.

27 10 Q. What is your specialist area?

28 A. Particular regard to the examination of items for

29 breaches of forensic explosive significance.

1 11 Q. And we're going to hear in a moment that giving
2 evidence in proceedings and preparing reports before
3 giving evidence is far from the only thing that you do
4 in the course of your work and, indeed, it's not the
5 main thing you do in the course of your work. But 10:10
6 during your time at Dstl, have you prepared over 350
7 expert witness statements?
8 A. Yes, I have.
9 12 Q. And you have given evidence in Crown Court trials?
10 A. Yes. 10:10
11 13 Q. In coronial proceedings?
12 A. Yes.
13 14 Q. At a Military Board of Inquiry?
14 A. Yes.
15 15 Q. And have you done so on many occasions? 10:11
16 A. Yes.
17 16 Q. I said that we'd deal with what your general duties
18 include, and do they include the examination of bomb
19 scenes?
20 A. They do, yes. 10:11
21 17 Q. Resulting from all manner of types of explosion?
22 A. Exactly, yes.
23 18 Q. Does your work include giving expert opinion?
24 A. It does.
25 19 Q. Not just for the purposes of proceedings but for other 10:11
26 purposes as well?
27 A. At the FEL's output is an expert witness statement and
28 photograph booklet for use in the judicial proceedings.
29 20 Q. Do you carry out the peer review of the expert witness

1 statements of others?

2 A. I do, yes.

3 21 Q. Carry out the training of other colleagues at FEL?

4 A. I do, yes.

5 22 Q. We know that you've given evidence on many occasions 10:12

6 and at page 2 of your report, you provide a list of the

7 high profile, as you put them, cases that you've been

8 involved in?

9 A. I do, yes.

10 23 Q. I won't go through all of them but everyone will have 10:12

11 read them, but, were you involved in the examination of

12 items recovered following the rendered safe procedures

13 on an improvised explosive device left on a railway

14 line in Ealing in 2000?

15 A. I was, yes. The device included a detonator, a block 10:12

16 of TNT explosive, a timing power unit containing

17 batteries, a Coupatan timer and parts of another timer.

18 24 Q. And were you also involved in the preparation of a

19 forensic correlation statement in relation to an

20 operation known as Operation Benedict? 10:12

21 A. I was, yes, that encompassed an explosion a Hammersmith

22 Bridge, a find of an IED at Ealing, an attack on the

23 mi6 headquarters, two separate explosions outside a

24 post office in Hendon, an explosion in Ealing, one in

25 Birmingham and a find of bomb-making equipment in West 10:13

26 Yorkshire.

27 25 Q. Also, in cases related to another connected police

28 operation, one that we will become familiar with later

29 in our process, namely, Operation Petrone1?

1 A. Yes.

2 26 Q. And was it thought that all of those attacks and
3 attempted attacks were linked to violent republican
4 terrorism?

5 A. It was, yes. 10:13

6 27 Q. were you involved in the investigation into an
7 explosion at Edgware Road Tube Station as part of the
8 7/7 bombings?

9 A. I was, yes, I was a senior reporting officer for that
10 scene. 10:13

11 28 Q. And in due course did you view all of the bomb damage
12 to tube trains and the bus on Russell Square?

13 A. I did, yes.

14 29 Q. As I said, I'm not going to go into all of the work
15 that you've done but one final example; you were 10:14
16 involved in work of investigation following the suicide
17 bomb attack at Manchester Arena in May 2017?

18 A. Some trace work relating to that, yes.

19 30 Q. Have you attended many training courses?

20 A. I have, yes. I've attended a training course run by 10:14
21 the University of Ulster in conjunction with the
22 Forensic Science Agency of Northern Ireland in 1996; a
23 similar course run by the Federal Bureau of
24 Investigation in the US; civilian pyrotechnic device
25 construction for the forensic analyst course; and I 10:14
26 regularly attend practical explosives familiarisation
27 courses run by FEL in conjunction with the Royal
28 Marines.

29 31 Q. Have you also participated in explosives testing trials

1 'in various places around the world?

2 A. I have, yes.

3 32 Q. Including ones where very large ANS devices were
4 detonated?

5 A. I have, yes. 10:15

6 33 Q. And ANS devices are going to be of particular relevance
7 of the evidence you give today, is that correct?

8 A. That's correct.

9 34 Q. Just so we know from the outset what does ANS stand
10 for? 10:15

11 A. Ammonium nitrate and sugar.

12 35 Q. You have published extensively?

13 A. I have five publications and also co-authored a book
14 chapter in a book published by Springer.

15 36 Q. Have you received a number of personal Metropolitan 10:15
16 Police commendations?

17 A. I've received three.

18 37 Q. Including one for your professionalism, dedication, and
19 ingenuity in the scientific examination of explosive
20 trace material and explosive testing which contributed 10:16
21 to the successful outcome of Operation Vivace which was
22 an operation focused upon the failed 21/7 attacks?

23 A. Yes.

24 38 Q. Thank you very much for that introduction to yourself.
25 Now, did you receive instructions from the Secretary to 10:16
26 this Inquiry?

27 A. I did, on 21st July 2025.

28 39 Q. And, in general terms, was it indicated that your help
29 was sought with the preparation of a report on the

1 parts of the device detonated in Omagh in August of
2 1998?

3 A. Yes.

4 40 Q. And in your report you describe that device as an
5 improvised explosive device? 10:16

6 A. Yeah, correct.

7 41 Q. Often referred to as an IED?

8 A. Yes.

9 42 Q. And it would be helpful, at this outset, to have a
10 description from you of what an IED is and how it 10:17
11 differs from other types of device?

12 A. So, an improvised explosive device would be something
13 that is manufactured not intending for commercial or
14 military use. So, intended for misuse in certain
15 situations. 10:17

16 43 Q. So, there are explosives which have been designed for
17 that very purpose, such as Semtex?

18 A. So, Semtex has been used commercially and also has been
19 used in IEDs.

20 44 Q. And there are other explosives which are manufactured 10:17
21 out of something which has not been designed for that
22 purpose?

23 A. Absolutely, yes.

24 45 Q. Such as an ANS device?

25 A. Indeed. 10:17

26 46 Q. And that's why you would describe such a device
27 manufactured out of such things as being an improvised
28 explosive device?

29 A. Yes.

1 47 Q. I was asking you about your instructions, and were you
2 asked to answer a series of specific questions?
3 A. I was, yes, seven questions.
4 48 Q. And in due course in your report did you pose and
5 answer each of those seven questions? 10:18
6 A. I did.
7 49 Q. And is the content of your report which has the
8 reference FEL/095/25 true to the best of your
9 knowledge, information and belief?
10 A. It is, yes. 10:18
11 50 Q. In terms of the materials to which you had access for
12 the purposes of providing your report, they are listed
13 at pages 7, 8, 9 and 10 of your report, is that
14 correct?
15 A. They are, yes. 10:18
16 51 Q. And I'm not going to take you through each of those or
17 indeed any of those. In general terms, were you
18 provided with the material generated by the forensic
19 scientists who investigated the Omagh bombing?
20 A. Yes. 10:18
21 52 Q. Both contemporaneous investigations and other
22 investigations in the early and mid-2000s?
23 A. Yes.
24 53 Q. And when I say material I'm talking not only about
25 witness statements but also the underlying materials 10:19
26 that they generated, such as photographs and test
27 results?
28 A. Yes, I was.
29 54 Q. And did you also have access to materials that had been

1 generated by the Army in a similar way?

2 A. I did, yes.

3 55 Q. And, in particular, did you have access to what are
4 called WISRs relating to the Omagh bombing and series
5 of incidents that preceded the Omagh bombing? 10:19

6 A. I did, yes.

7 56 Q. What is a WISR?

8 A. It's a weapons intelligence specialist report. It's
9 basically written by explosive ordnance disposal
10 operators, so ATOs, which describe the location of the 10:19
11 scene, possibly any action taken by them and what they
12 think they found.

13 57 Q. We heard about ATOs yesterday, so everyone in the room
14 will be familiar with what they are. And was it
15 sometimes the case - and certainly the case in relation 10:20
16 to Omagh - that you had reports of forensic scientists,
17 and also reports of ATOs?

18 A. Yes.

19 58 Q. And so you were able to draw upon the findings,
20 conclusions of each of those groups of persons? 10:20

21 A. Yes.

22 59 Q. Well, let's turn to those seven questions that you were
23 posed. And for those following in your report I'm at
24 page 11.

25 10:20

26 Question 1 was:

27

28 "What was the type of homemade explosive mix (including
29 any likely ratios of the mix) that was used as the main

1 charge in the vehicle-borne IED used in the Omagh
2 bombing go on 15th August 1998?"
3
4 A. Yes.
5 60 Q. The term, used in that question, "main charge," what 10:20
6 does that term mean?
7 A. So, that would be the large quantity of explosive that
8 gives the explosive output and performs the damage.
9 61 Q. And so, we're going to get to this later on here, the
10 main charge would be describing the volume of ANS that 10:21
11 is believed filled the boot of the car of the Cavalier?
12 A. Yes.
13 62 Q. Now, so far as you understood it from the materials
14 that you saw, were any explosive traces discovered at
15 the scene of the Omagh bombing? 10:21
16 A. There were traces of PETN and RDX on one fragment but
17 no traces of any main charge.
18 63 Q. And did you, in reaching your own view, have particular
19 regard to a witness statement of Dennis McAuley with
20 the INQ reference 012120? 10:21
21 A. Yes.
22 64 Q. In which he stated:
23
24 "No particular explosive from the main charge necessary
25 for confirming the presence of the ammonium 10:22
26 nitrate-based improvised explosive likely to have been
27 used in this device was found?"
28
29 A. That's correct.

1 65 Q. Dennis McAuley being a prominent Northern Ireland-based
2 forensic scientist?
3 A. Yes, he was.
4 66 Q. With enormous experience of explosive devices?
5 A. Probably unparalleled, yes. 10:22
6 67 Q. So, in terms of the ANS, assuming that's what it was,
7 no trace was found at the scene, but in your experience
8 is that unusual?
9 A. No. So, ammonium nitrate and sugar are all water
10 soluble it would easily be washed away by rain or by 10:22
11 action of first responders at the scene, so, for
12 instance, Fire Brigade or passersby with hose pipes or
13 water, any water that contacts the traces will just
14 dissolve it and wash it away.
15 68 Q. So, in circumstances such as Omagh, where we know there 10:23
16 is a major response by the fire and rescue service,
17 where we know there was water because of a burst main,
18 is that typically the type of situation in which you
19 would not expect to find any traces?
20 A. Yes. 10:23
21 69 Q. So, that finding was not surprising. But nonetheless,
22 was there other evidence available to you which did
23 enable you to reach a conclusion about the nature of
24 the bulk explosive that had been used in the Omagh
25 device? 10:23
26 A. Yes. So, there were other items recovered from the
27 scene that suggested the use of a particular timing
28 power unit, which had been used in conjunction with ANS
29 charges previously.

1 70 Q. So, this is what we need to turn to next. Were you
2 provided with information about what Dennis McAuley had
3 said in evidence that he gave at the inquest into the
4 deaths of those who died in the Omagh bombing?
5 A. I was. 10:24
6 71 Q. So, this, so the transcript makes sense in due course,
7 is INQ 001644. And in his evidence, at the bottom of
8 page 11, did he describe items being recovered in the
9 vicinity of the bomb damaged Cavalier being "consistent
10 with having originated from an improvised timer power 10:24
11 unit of a type which has been used in explosive devices
12 by terrorists in Northern Ireland."
13 A. Yes.
14 72 Q. And we'll get to what those items were in a moment, but
15 he used the term "timer power unit"? 10:24
16 A. Yes.
17 73 Q. It's a term extensively used in Northern Ireland, is
18 that precisely the term that you at FEL would use?
19 A. So, we would still call it a TPU, but we call it a time
20 and power unit, it's essentially the same thing. 10:25
21 74 Q. The difference in terminology makes no difference?
22 A. No.
23 75 Q. And is a TPU - as I'll call it from now on - is that a
24 device which is capable of causing a delay in the
25 delivery of electrical charge to another item? 10:25
26 A. It is.
27 76 Q. We'll come to learn how that fits in to a bomb.
28
29 Now, back to the items that Dennis McAuley described,

1 did they comprise a slightly damaged toggle switch?
2 A. Yes, with wiring.
3 77 Q. And thermoplastic, so hot melt glue?
4 A. Yes.
5 78 Q. A partly blackened distorted and split blue plastic 10:25
6 lunchbox lid?
7 A. Yes.
8 79 Q. With an area in the top centre of that lid having been
9 damaged with a hot implement probably to erase the
10 brand name? 10:26
11 A. That's true, yes.
12 80 Q. That brand name being?
13 A. Addis.
14 81 Q. A-D-D-I-S. And the items also involving a damaged
15 snap-on black plastic battery connector with two 10:26
16 lengths of wiring, one red and one black?
17 A. Yes.
18 82 Q. Batteries?
19 A. Yes.
20 83 Q. Metal fragments consistent with having originated from 10:26
21 at least one booster charge?
22 A. Yes.
23 84 Q. And the remains of a timer assembly, including a
24 Coupatan brand electromechanical timer?
25 A. Yes, that's correct. 10:26
26 85 Q. Just pausing for one moment, that timer assembly,
27 including a Coupatan brand electromechanical timer,
28 that becomes particularly important in associating the
29 Omagh attack with other earlier attacks?

1 A. Yes.

2 86 Q. Because such a timer had been used in earlier attacks?

3 A. It had.

4 87 Q. And just to finish off the other items that were found.

5 Part of a second toggle switch? 10:27

6 A. Yes.

7 88 Q. A red light emitting diode, an LED?

8 A. Yes.

9 89 Q. An electrical resistor and wiring?

10 A. Yes. 10:27

11 90 Q. And all of those items which I've just rushed through,

12 we're going to understand what each of them means,

13 aren't we, when we reach the fourth of the questions

14 that you were posed?

15 A. Yes. 10:27

16 91 Q. But for the time being, what is relevant to note is

17 that those items were found near to the bomb car?

18 A. Yes.

19 92 Q. And did Mr. McAuley in his evidence at the inquest also

20 describe the configuration of the device used in Omagh 10:27

21 and expressed the view that similar devices used by

22 terrorists in Northern Ireland usually consist of a

23 main charge of a mixture of ANS-based explosive?

24 A. Yes, he did.

25 93 Q. So, was the point that he was making, as I understand 10:28

26 it, that the part of the device, the TPU that had been

27 recovered at Omagh, was the same or materially

28 identical to other devices that had been used in other

29 earlier attacks.

1 A. [Witness nods].
2 94 Q. And you're nodding your head.
3 A. Yes.
4 95 Q. And that in those other earlier attacks, it was known,
5 as we'll see in a moment, that the type of bulk 10:28
6 explosive used had been ANS?
7 A. Yes.
8 96 Q. The reasoning was, it was the same type of TPU, it was
9 likely to be the same type of main charge?
10 A. Indeed. 10:28
11 97 Q. And, did you have regard also in the conclusion that
12 you will tell us you came to, a witness statement dated
13 7th June 2006 of Dennis McAuley, INQ 006182?
14 A. I did.
15 98 Q. And was that a witness statement in which he compared 10:29
16 the remains of 13 TPUs from 13 explosives incidents?
17 A. Yes.
18 99 Q. Noting the similarities between those TPUS and the
19 items recovered from the scene at Omagh?
20 A. Yes. 10:29
21 100 Q. I'm just going to pause for a moment to explore a
22 slightly different but connected issue. What is going
23 to be become apparent through your evidence and through
24 evidence that in particular we will hear in a later
25 chapter of our work, is that there were these 10:29
26 similarities between the device used in the Omagh
27 bombing and other devices that were used in earlier
28 bombings, many, many of them. Even down to the fact
29 that a particular kind of container was the same brand,

Addis, and had the same letters written on it, "ABC," as we're going to see. So strikingly similar characteristics to the device.

In the view of FEL, when you have such striking similarities between different devices in different attacks or attempted attacks, does it become possible to say the same person made all of those devices?

A. No, the best that we would say would be that the devices appeared to have been made either by the same person or by a group of people working to a common plan. So, we would never say two devices were made by the same person, we would leave that to DNA, fingerprints, et cetera.

101 Q. This is approach that FEL always takes?

A. Yes.

102 Q. And has taken for many years?

A. Yes.

103 Q. We know, for example, that in the evidence that FEL
gave, not you but one of your colleagues, at the trial
of Sean Hoey that was the position that was adopted?

A. I believe so, yes.

104 Q. So, you are comfortable with the idea that when one has
a situation that I have described, it is reasonable to
say that they are attributable to the same group?

A. Reasonable, yes.

105 Q. But taking that step further to say the same individual
is not something that you subscribe to?

A. No.

1 106 Q. It would be different if identical devices all had
2 identical DNA on them, or the fingerprints of the same
3 person, or something like that; would you agree that
4 would be a different situation?
5 A. That would be for the jury to decide. 10:31
6 107 Q. Yes. But that would be an additional significance?
7 A. It would, yes.
8 108 Q. Now, I've taken you away from the question of the type
9 of homemade explosive. Where we were with the remains
10 of the 13 TPUS, hallmarked similarities to the Omagh 10:31
11 unit, did you also have regard to a WIS Rep describing
12 the Omagh scene?
13 A. I did.
14 109 Q. It's INQ 001041?
15 A. Yes. 10:32
16 110 Q. What was the significance of the WIS Rep in terms of
17 working out what the main charge was?
18 A. So, the WIS Rep mentions the receipt of coded warnings
19 in phone calls made prior to the attack, and also
20 additionally reference to the use of the same type of 10:32
21 TPU used by the Real IRA in numerous other attacks
22 across the province, and also supports this device
23 being one of a series.
24 111 Q. So, essentially, the Army explosives experts were
25 coming to the same conclusion as Dennis McAuley in 10:32
26 relation to --
27 A. Yes, they were.
28 112 Q. That Omagh was part of a series of attacks?
29 A. Yes.

1 113 Q. Now, taking the analysis further, were the main charges
2 in other IEDs in that series described in documents to
3 which you had access?
4 A. Yes, they were.

5 114 Q. And did those documents include a report of 8th January 10:33
6 1999, INQ 011469?
7 A. Yes, within that there was a preliminary report of
8 Gerry Murray describing the main charge of the device
9 in Armagh as crushed ANS.

10 115 Q. So Gerry Murray being a forensic scientist in Northern 10:33
11 Ireland?
12 A. Yes.

13 116 Q. He had assessed the device that had been found at
14 Blackwatertown Road in Armagh on 9th July 1998, and he
15 described the main charge as crushed ANS? 10:33
16 A. Yes, that's correct.

17 117 Q. What does "crushed" mean in the context of ANS?
18 A. So, ammonium nitrate as supplied is in what we call
19 prill form, so it's in small balls, and in order to mix
20 it properly with the sugar it would need to be more 10:34
21 finely divided than in those balls, so they're crushed
22 or ground to enable more thorough mixing.

23 118 Q. And was there, within that INQ reference I gave, also a
24 witness statement by Gordon McMillen relating to
25 another incident, namely a device found on Newry Road 10:34
26 in Armagh also in 1998?
27 A. There was, yes.

28 119 Q. And was that main charge also described as crushed
29 ammonium nitrate-based fertiliser mixed with sugar,

1 ANS?

2 A. It was. It was, yes.

3 120 Q. We know that in the history of the investigation into
4 the Omagh bombing there was convened a group called
5 "the Peer Review," appointed, I think, by Norman Baxter 10:35
6 once he became the senior investigating officer. And
7 did you have regard to the report of the Peer Review
8 Panel?

9 A. I did, yes.

10 121 Q. What were the principal relevant conclusions of the 10:35
11 Panel?

12 A. They also described the device as being in a series
13 where the main charge was ANS and the mixture either
14 placed loosed or in fertiliser bags. And, also, the
15 same document describes main and booster charges in the 10:35
16 link series consisting of an improvised mixture of
17 crushed ammonium nitrate fertiliser and sugar.

18 122 Q. So, really a developing evidential picture linking
19 earlier attacks to being ANS attacks?

20 A. Yes. 10:35

21 123 Q. During the 1990s, were a number of vehicles recovered
22 in England containing devices which were rendered safe
23 and which, therefore, did not function?

24 A. There were, yes.

25 124 Q. Were they all found to contain ANS? 10:36

26 A. They were, yes.

27 125 Q. Were there a number of devices which were detonated,
28 including those in St. Mary Axe and Bishopsgate in
29 London in '92 and '93, and in Manchester in '96?

1 A. Yes, there were.

2 126 Q. At some of the scenes were traces of ANS found?

3 A. Yes, some of them there were, some there weren't even

4 any looked for.

5 127 Q. But, again, this link between republican terrorism and 10:36

6 ANS is being found in England as well as in Northern

7 Ireland?

8 A. Yes, yes.

9 128 Q. As a result of the events in England, did FEL engage in

10 some testing? 10:36

11 A. Yes, we did, the explosive firing trials. We fired,

12 partly in conjunction with the FBI we tested three

13 1,000lbs of ammonium nitrate and sugar, followed in a

14 second set of testing three further calcium ammonium

15 sugar bombs of 1,000lbs and three also of 5,000lbs, and 10:37

16 these were meant to mimic lorry-borne or vehicle-borne

17 IEDs and they were designed to test witness material,

18 so we placed road signs and vehicles out as witness

19 materials and sampled afterwards to see whether

20 ammonium nitrate and sugar could be recovered 10:37

21 post-explosion.

22 129 Q. For our purposes, was the finding of principal

23 relevance that it was discovered that this type of

24 improvised explosive was capable of working and did

25 work in the tests with very substantial consequences? 10:37

26 A. Yes.

27 130 Q. So, drawing all of those strands together, what was

28 your opinion in relation to that first question which

29 asked you what was the type of explosive used?

1 A. So, it's my opinion that it is likely that the main
2 charge of the bomb which functioned in Market Street in
3 Omagh on 15th August 1998 comprised a mixture of ground
4 or crushed ammonium nitrate-based fertiliser, mixed
5 with sugar at certain ratios. 10:38

6 131 Q. And even here it isn't necessary to go into what those
7 ratios were.

8

9 Let's turn to Question 2, which asked you to identify
10 the likely quantity, in terms of weight or volume, of 10:38
11 ANS that was used in the attack in Omagh?

12 A. Yes.

13 132 Q. And just before we start to develop your opinion, is it
14 going to be necessary, for the purposes of obtaining
15 your view, to identify that the scale of physical 10:39
16 damage and human damage caused by that bomb?

17 A. Yes, it is.

18 133 Q. And I want to be very clear that obviously we are not
19 going to be looking at any photographs of any person
20 injured or killed or at any plans that show where they 10:39
21 were found, but you are going to be, first of all,
22 making some general observations about where those who
23 were deceased were found, are you not?

24 A. Yes.

25 134 Q. And it's also going to be necessary for us to look at 10:39
26 some photographs of the devastation caused to
27 Market Street?

28 A. Yes.

29 135 Q. So, I think you agree with me that it's very important

1 that we should emphasise that we are going to be
2 looking at materials and considering evidence that is
3 capable of causing significant distress?
4 A. Yes.
5 136 Q. So, Sir, I hope will be excused just emphasising that 10:40
6 warning I gave at the beginning and making clear that
7 no one will be concerned if anyone wishes to leave the
8 hearing room at this stage. And no one is, so let's
9 move through this as efficiently as we can.
10
11 were you provided with a series of colour images
12 showing damage to property on Market Street?
13 A. I was, yes.
14 137 Q. And did these have the INQ reference 013818?
15 A. Yes, they did. 10:40
16 138 Q. And I'm going to ask that we put that INQ on the
17 screen, these are images of the damage. I will give it
18 again, 013818. And we'll start at page 9, please.
19 [Short pause]. And we're going to look at four
20 photographs at damage to the shops and roofs of 10:41
21 buildings near to the scene of the explosive, is that
22 correct?
23 A. Yes, that's correct.
24 139 Q. 10 please?
25 CHAIRMAN: Mr. Greaney, I'm not just sure that the 10:41
26 images are coming up onto the main screens.
27 THE WITNESS: I can see it.
28 140 Q. MR. GREANEY: But those who certainly need to see it
29 are not able to. I'm going to pause for a moment to

1 ensure that's resolved. Thank you for drawing that to
2 my attention. As you will appreciate, there are lots
3 of people who can't see the small screens and can only
4 see a large screen and if they wish to, must be
5 permitted to see these photographs. [Short pause]. 10:42
6 Can I just check it is now? Thank you very much
7 indeed.
8
9 This was the first photograph we had shown, as I was
10 saying, we're going to look at four photographs showing 10:42
11 damage to the shops and their roofs near to the scene
12 of the explosion. And they tell their own story.
13 Could we see 10 next please? And 11. And then 12.
14 [Photographs shown].
15 10:43
16 And then in the photograph we'll put on the screen in
17 one moment, we're going to see photograph of the
18 roadway, including debris, that debris covering a
19 crater which appears to be filled with water. So,
20 photograph 13 please. [Photograph shown]. And at the 10:43
21 risk of asking to you to state the obvious, what would
22 that crater represent?
23 A. The seat of the explosion.
24 141 Q. And do we see the crater is apparently filled with
25 water? 10:43
26 A. Yes, it looks to be.
27 142 Q. And this would take us back to the point you made
28 earlier about the lack of significance of a trace of
29 ANS at the scene?

1 A. Yes.

2 143 Q. Now, the next series of photographs, we're going to see
3 the remains of the bomb vehicle and damage extending
4 further up Market Street and into other roads as well.
5 So, could we have 14 please? [Photograph shown]. And 10:44
6 just to the left of the white car are we seeing a part
7 of the bomb car?

8 A. We are, we're seeing the front part of the bomb
9 vehicle.

10 144 Q. And 15 please [photograph shown]. And 16 [photograph 10:44
11 shown]. Is that a closer view of the bomb car? And 17
12 [photograph shown]. Then, finally, so far as these
13 photographs are concerned, 18 [photograph shown].
14 Thank you. Those can now be taken from the screen.
15 10:45

16 were you also provided with a series of black and white
17 photographs?

18 A. I was, yes.

19 145 Q. And are those listed at page 13 of your report?

20 A. Yes, they are. 10:45

21 146 Q. And from all of the photographic evidence you saw, was
22 it obvious the devastation was, to say the least,
23 extensive?

24 A. Yes.

25 147 Q. Were you also provided with copies of colour Polaroid 10:45
26 photographs including images of parts of the bomb?

27 A. Yes, I was.

28 148 Q. And the ones that we will look at on the screen are
29 INQ 025394. [Photographs shown]. And so, these are

1 showing, is that correct, parts of the bomb itself?

2 A. They are, yes.

3 149 Q. Again, we can take that from the screen, please. And
4 was the extent of the damage a factor that it was
5 relevant not just for you but for others involved at 10:46
6 the time to take into account in calculating the size
7 of the bomb?

8 A. Yes, it would have been.

9 150 Q. Did the handwritten scene attendance notes of the
10 Ammunition Technical Officer, the ATO, contain an 10:47
11 estimation of the size of the main charge?

12 A. Yes, they did, he or she estimated it as 250 to 300lbs.

13 151 Q. And that ATO had also taken into account a description
14 of the bonnet of a car, one presumes the Cavalier being
15 on the roof of one of the buildings? 10:47

16 A. Yes.

17 152 Q. Did those notes also contain a description of the
18 dimensions of the crater?

19 A. They did. They described as 3m by 3.2m by 0.8m deep.

20 153 Q. And had that person, apparently, also measured the 10:47
21 distance between the engine and front wheels of the
22 vehicle that we've seen?

23 A. Yes. The notes say that it was 17 m from the crater.

24 154 Q. So, in other words one infers that the force of the
25 explosion had thrown it that distance? 10:48

26 A. Yes.

27 155 Q. 17 m?

28 A. Yes.

29 156 Q. Did you have regard to a WIS Rep namely INQ 000986?

1 A. I did.

2 157 Q. And what did that indicate?

3 A. So, it described the blast damage being confined to an

4 area of 100 m and a structural damage being confined to

5 an area of 20 m. 10:48

6 158 Q. And could you explain, if it's not clear, what is the

7 difference between the blast damage area and the

8 structural damage area?

9 A. So, I would assume that the structural damage is the

10 area over which there is structural integrity of the 10:48

11 building is affected by the explosion so, it's not safe

12 to go into that building because the walls and props,

13 et cetera, are damaged. And the blast damage would

14 include things like broken windows, damage from

15 shrapnel, et cetera, which would extend up to 100 m. 10:49

16 159 Q. Indeed, did you have a list of damaged properties

17 INQ 025382?

18 A. Yes, the damage extended over 57 premises, in addition

19 to some offices above.

20 160 Q. And in the WIS Rep did the Army explosives expert 10:49

21 express any view of the size of the main charge?

22 A. So, they estimated the size of the charge to be between

23 2- and 300lbs of homemade explosive.

24 161 Q. So, really very similar to the ATO officer's

25 conclusion, assuming it's a different person? 10:49

26 A. Yes.

27 162 Q. Did Dennis McAuley in his early witness statement and

28 in evidence to the coroner describe the damage as

29 severe devastation to Market Street which centred

1 around a crater in the roadway outside SD Kells
2 clothing shop?

3 A. He did, yes.

4 163 Q. So, the damage being an important, would you agree,
5 relevant factor to take into account in calculating the 10:50
6 size of the charge?

7 A. Yes.

8 164 Q. And we'll deal with this at a very high level summary,
9 but did you also have access to and have regard in
10 reaching your conclusions to a map that showed the 10:50
11 location of those who had been murdered in the Omagh
12 bombing?

13 A. I did.

14 165 Q. In the round, did the photographs, the written
15 descriptions of the damage and the location of those 10:51
16 killed all point to a clear conclusion?

17 A. Yes, it was a device of considerable size.

18 166 Q. Had Dennis McAuley himself expressed a view about the
19 likely size of the main charge?

20 A. Yes. So, in two documents, INQ 012120 and 001644 he 10:51
21 estimated from the damage to the vehicle and
22 surroundings that the charge was approximately 150 to
23 200 kgs of improvised explosive.

24 167 Q. Now, you had your own regard to all of that material,
25 but did you also seek the assistance of two specialist 10:51
26 teams within Dstl?

27 A. I did, yes.

28 168 Q. And were those two teams?

29 A. So, Combat Incident Exploitation (the CIE team), and

1 Collateral Damage Modelling (CDM team).
2 169 Q. And did you ask them to conduct an approximate
3 calculation on the size of the bomb?
4 A. I did, because this isn't something that FEL normally
5 does, and they have access to specialist software that 10:52
6 would allow an approximation of that calculation to be
7 done.
8 170 Q. In terms of the modelling that you wished to be carried
9 out, was it the position that modelling data was not
10 available for ANS? 10:52
11 A. Yes, there is very limited data available in the
12 published journals relating to ammonium nitrate and
13 sugar.
14 171 Q. But, was there data available for another
15 ammonium-based explosive? 10:52
16 A. Yes, ammonium nitrate and fuel oil, otherwise known as
17 ANFO, which is used commercially so there is better
18 data on it.
19 172 Q. And was it thought by you and your colleagues that
20 using that data was reasonable in the circumstances for 10:53
21 the purposes of the modelling?
22 A. I think it was the only option we had.
23 173 Q. But I believe that you would wish the Chairman to bear
24 in mind that because both ANS and ANFO are,
25 effectively, homemade, the precision of any assessment 10:53
26 has to be limited?
27 A. Yes. So, ANFO is made by pouring fuel oil on to the
28 ammonium nitrate, so even if it's used commercially
29 it's still effectively an improvised mixture.

1 174 Q. what you're not saying is, it's impossible to make an
2 estimation, you're simply inviting us to be cautious in
3 relation to the conclusion?
4 A. Yes.
5 175 Q. And would you also wish the Chairman to bear in mind 10:53
6 that there is limited information available on the
7 orientation of the device within the boot of the
8 vehicle as it is believed to have been, which would
9 influence, again, the conclusion that it is reached and
10 its reliability? 10:54
11 A. Yes.
12 176 Q. Was an assessment of the explosive charge also made
13 using the crater dimensions that we've dealt with
14 already?
15 A. It was attempted, however, the results had been 10:54
16 disregarded because there wasn't enough information
17 regarding other dimensions that are usually measured on
18 a crater at a bomb scene, and also about the substrate
19 beneath the crater.
20 177 Q. And did your colleagues have regard to the blast damage 10:54
21 and damage to the vehicle and witness vehicles?
22 A. They did, yes.
23 178 Q. And to the structural damage that we've looked at in
24 the photographs?
25 A. Yes, they did. 10:54
26 179 Q. I'm now at page 15 of your report. Taking all of the
27 assessments and using all of the tools available to the
28 teams, what conclusion was reached?
29 A. So, the conclusion was that the original NEQ

1 assessments made by those at the scene of somewhere
2 between 90 to 200 kgs of ANS were feasible.

3 180 Q. So, those who were at the scene at the time had made
4 what you've described as ENEQs, in other words,
5 effective net explosive quantity assessments? 10:55

6 A. So, the people at the scene probably made a net
7 explosive quantity assessment which is slightly
8 different to the effective net explosive quantity,
9 because the effective net explosive quantity, which is
10 determined in the calculations, only takes account of 10:55
11 the explosive that's detonated, and because it's
12 improvised mixture, parts of that explosive won't have
13 detonated, they will have reacted more slowly and
14 that's called a deflagration.

15 181 Q. There's a risk I've made this more complicated than it 10:56
16 needs to be. There were assessments at the scene of
17 between 200 and 300lbs in size and the conclusion of
18 the Dstl teams was that the conclusions at the scene
19 were feasible, is the way in which it's put?

20 A. Yes, correct. 10:56

21 182 Q. And the way in which they characterise the original net
22 explosive quantity assessments was 90 to 200 kgs of
23 ANS?

24 A. Yes.

25 183 Q. which equates to 200 to 440lbs? 10:56

26 A. Yes.

27 184 Q. I have done the maths, I promise you.

28 A. Good.

29 185 Q. So, the answer to the question is, that doing the best

1 that you and your colleagues could, the weight of the
2 main charge was 200 to 440lbs of ammonium nitrate and
3 sugar?
4 A. Yes, correct.
5 186 Q. The Question 3 is: 10:57
6
7 "How was the homemade explosive mix likely to have been
8 detonated?"
9
10 And, in particular, were you asked to focus upon the 10:57
11 use of PETN and RDX as precursor charges?
12 A. Yes, I was.
13 187 Q. We're going to need to understand, before we move
14 through this, what PETN and RDX are, please.
15 A. So, PETN is pentaerythritol tetranitrate and RDX is 10:57
16 also known as cyclotrimethylenetrinitramine, they're
17 both secondary high explosives so they're not super
18 sensitive to initiation and they're usually used as a
19 main charge or in a booster charge by military and
20 commercially. 10:58
21 188 Q. And what is a booster charge?
22 A. So, PETN and RDX are the secondary high explosives,
23 they will be used to initiate even less sensitive
24 explosives known as tertiary high explosives and these
25 would be things like ammonium nitrate and sugar which 10:58
26 won't respond to the stimulus just from a detonator,
27 they need a higher shockwave passed through them before
28 they'll initiate.
29 189 Q. Right. So, this is a different type of explosive?

1 A. Yes.

2 190 Q. But within the ANS main charge?

3 A. Yes.

4 191 Q. Which is designed to give the main charge sufficient
5 energy to cause it to explode? 10:58

6 A. Yes, it gives it a boost.

7 192 Q. It gives it literally a boost?

8 A. Yes.

9 193 Q. And you've used the terms I think, booster and
10 detonator and we'll look at an image in a moment but 10:59
11 before we get into the body of your evidence what is a
12 booster?

13 A. So, a booster would be a secondary high explosive that
14 is used to give that extra shockwave to the tertiary
15 high explosive, the ammonium nitrate and sugar. 10:59

16 194 Q. So, you have explained that. I, perhaps, therefore
17 ought to have asked, what is a booster tube?

18 A. So, a booster tube is an improvised device used to
19 perform the same function as a booster would be in a
20 military or commercial situation. 10:59

21 195 Q. And the detonator?

22 A. The detonator is a small metal-bodied device, it would
23 have been electrically-initiated. It contains a small
24 quantity of a primary high explosive, OS

25

26

27

28

29

OS

11:00

1 196 Q. And in some way an electrical charge is put into that?
2 A. Yes.
3 197 Q. And that will be the TPU?
4 A. Yes.
5 198 Q. So, let's just picture the boot of the Cavalier. It 11:00
6 contains the main charge of ANS, hundreds of pounds,
7 and we need to picture the booster tube and detonator
8 underneath or within or on top of the main charge?
9 A. For best results OS
10 199 Q. And then that booster tube linked in some way, 11:00
11 presumably by OS?
12 A. Yes.
13 200 Q. And we'll get to all of that in due course, we will see
14 how it all fits together. First of all, it may be
15 helpful for us to look at an image on the screen of a 11:01
16 booster tube, would you bear with me one moment and
17 I'll find the reference. So, this is INQ 038171, and
18 page 23 please. 038171, it's the presentational
19 materials of Hazel Hutson. It's the PowerPoint
20 presentation we were talking about earlier. [Short 11:02
21 pause]. If there's a problem not to worry and we will
22 come back to it later. Is that something that we would
23 need to sort out over the break? Oh, you've got it,
24 thank you very much.
25 11:02
26 I'm just going to ask you, please, to tell us what
27 we're looking at? [Photograph shown].
28 A. So, this is a metal booster tube with holes drilled
29 down its length. Within it is some OS

1 OS and running through it, which I don't think
2 you can see on this slide, but all the way through it
3 would be OS

4
5
6
7
8
OS

11:02

9 201 Q. Thank you. We can take that from the screen.

11:03

11 Now, very much earlier in your evidence I asked if
12 explosive traces had been found at the scene and you
13 explained that no ANS traces had been found but some
14 explosive traces had been found.

15 A. Yes.

11:03

16 202 Q. And could you explain what those traces were please?

17 A. So, a fragment of shattered black plastic, item
18 170 DMCA2 bore traces of PETN and RDX.

19 203 Q. So, those would be the explosives consistent with the
20 use of the type of booster tube and its nature that you
21 have described? 11:03

22 A. Yes.

23 204 Q. I'm now on page 16. In answering this third question,
24 did you also have regard to a witness statement of
25 Gordon McMillen, INQ 011649? 11:04

26 A. I did.

27 205 Q. And did that relate not to the Omagh bombing but to an
28 attack at Newry Courthouse on 13th July 1998?

29 A. It did.

1 206 Q. And what did he describe of relevance to this question?
2 A. So he described --
3 207 Q. I'm not certain what that was, Sir, but we'll carry on.
4 A. He described the improvised detonating cord found in
5 that device comprising a clear plastic tubing, **OS** 11:04
6 **OS**
7
8
9 **OS** And he identified the white powder as PETN and
10 RDX. 11:05
11 208 Q. So, was he describing, as you understood it, something
12 very similar to what you have described in that which
13 we've seen in page 23 of your presentation?
14 A. Yes, he was.
15 209 Q. And he was describing that in connection with an 11:05
16 earlier attack which is part of what is believed to be
17 a series of attacks --
18 A. Yes.
19 210 Q. -- by the same group. Was there also a WIS Rep in
20 relation to the Newry Courthouse event, INQ 001031? 11:05
21 A. Yes, there was. It described the improvised detonating
22 cord **OS**
23 **OS**
24 211 Q. And so, was the Army expert also describing a similar
25 thing? 11:06
26 A. Yes.
27 212 Q. And there is, I believe, a photograph of this, I'm
28 hoping that the INQ reference is 001031, page 6.
29 [Photograph shown]. And is that a photograph of the

1 booster tube assembly?

2 A. Yes.

3 213 Q. From the Newry Courthouse device?

4 A. I believe so, yes.

5 214 Q. Now, were any parts of a detonating cord recovered from 11:06

6 the device used in Omagh?

7 A. No.

8 215 Q. And is there a perfectly obvious explanation for that?

9 A. Because it would have been in the middle of a

10 functioning high explosive device and there wouldn't be 11:07

11 anything left to find.

12 216 Q. It would have been, as you described in the report,

13 fully consumed during the explosion?

14 A. Yes.

15 217 Q. And, again, drawing all of these strands together, were 11:07

16 you able to reach a conclusion about how the main

17 charge in the Omagh bomb was likely to have been

18 detonated?

19 A. Yes, it seems likely that given the makeup of the Newry

20 Courthouse device and the finding of RDX and PETN on an 11:07

21 item recovered from the Omagh scene, that at least one

22 length of detonating cord was used in the device in

23 Omagh.

24 MR. GREANEY: Sir, I'm moving on to a new topic that I

25 won't finish within ten minutes, which would take us to 11:07

26 75 minutes, and so we are going to have to have a break

27 during this witness's evidence, I'm afraid.

28 CHAIRMAN: Yes.

29 MR. GREANEY: Could I suggest that we take it at this

1 stage, please.

2 CHAIRMAN: Yes, alright. When should we reconvene,

3 Mr. Greaney?

4 MR. GREANEY: Could we reconvene at 11:20, please. Or

5 do you think later, Sir? 11:08

6 CHAIRMAN: I think maybe 25 past.

7 MR. GREANEY: Very well, Sir.

8

9 THE INQUIRY ADJOURNED BRIEFLY AND RESUMED AS FOLLOWS:

10 11:27

11 CHAIRMAN: Mr. Greaney.

12 MR. GREANEY: Thank you very much, Sir.

13

14 MS. HAZEL HUTSON CONTINUED TO BE QUESTIONED BY

15 MR. GREANEY AS FOLLOWS: 11:27

16

17 218 Q. MR. GREANEY: So, we were at page 16 of your report and

18 Question 4, which asked you about the design of the key

19 components of the bomb used on 15th August. And the

20 question, the fourth questioned posed by Mr. Suter 11:27

21 invited you to have regard to the TPU toggle switches,

22 batteries and electric circuitry, the two-hour timer,

23 the detonator cord, the booster tubes, and any other

24 relevant parts. And you've touched upon many of those

25 things already but it's important now that we see them 11:28

26 as a whole.

27 A. Yes.

28 219 Q. We are going to be considering the meaning of each of

29 those terms and we're going to be going through your

1 PowerPoint presentation a little bit later in your
2 evidence.
3
4 Did Dennis McAuley reach any conclusion about those
5 items that you described already that were recovered in 11:28
6 the vicinity of the front of the Cavalier?
7 A. He concluded that they were consistent with having
8 originated from an improvised TPU of a type which had
9 been used in explosive devices by terrorists in
10 Northern Ireland. 11:28
11 220 Q. So, again to return to the point that this type of
12 device, he assessed and others assessed, was common to
13 a whole series of attacks?
14 A. Yes.
15 221 Q. And did he list, in his statement of 18th February 11:29
16 1999, INQ 012120, the items that he had recovered?
17 A. He did, yes.
18 222 Q. And you have listed them alongside their exhibit
19 references at page 17, I won't give the references but
20 we will list the items; first of all, did he recover 11:29
21 the damaged toggle switch?
22 A. He did.
23 223 Q. with an associated length of red wiring and a deposit
24 of thermoplastic glue?
25 A. Yes. 11:29
26 224 Q. Is thermoplastic glue, as I said earlier, known as hot
27 melt glue?
28 A. Yes, it is.
29 225 Q. What does that mean?

1 A. So, it's heated and the glue becomes a liquid and as it
2 solidifies it becomes a solid again.

3 226 Q. The second item, the part black, distorted and split
4 blue plastic lunchbox lid, an area of which had been
5 damaged probably in an attempt to remove the brand 11:30
6 name?

7 A. Yes.

8 227 Q. Was it clear to Mr. McAuley that the brand name was
9 Addis?

10 A. Yes. 11:30

11 228 Q. Thirdly, a damaged snap-on black plastic connector
12 complete with two lengths of wiring, one red and one
13 black?

14 A. Yes.

15 229 Q. Fourthly, OS batteries? 11:30

16 A. Yes.

17 230 Q. Fifthly, a number of exhibits, together described as
18 containing fragments of metal consistent in originating
19 from at least one booster charge?

20 A. Yes. 11:30

21 231 Q. And was it sometimes the experience that an ANS bomb
22 might contain more than one booster charge?

23 A. From my knowledge, yes, that has happened at least once
24 on the mainland.

25 232 Q. And would that be, insofar as you can answer, so that 11:31
26 one was a fail-safe, so to decrease the chance of
27 failure, or to increase the amount of boost, or both?

28 A. Difficult to say. It may be to do with the amount of
29 explosive that was used and the position in which those

1 booster tubes OS

2 233 Q. And did Mr. McAuley express the view that at least OS

3 drilled hole was present within the booster tube?

4 A. Yes.

5 234 Q. And did he observe that most of the fragments also bore 11:31

6 tiny pieces of melted and blackened adhesive tape

7 consistent with brown packing tape?

8 A. He did, yes.

9 235 Q. And, sixthly, did he identify the remains of a timer

10 assembly? 11:32

11 A. Yes.

12 236 Q. Consisting of a quantity of white opaque thermoplastic

13 glue embedded into what was a two-hour Coupatan brand

14 electromechanical timer?

15 A. Yes. 11:32

16 237 Q. And we're going to see that that type of timer came

17 from particular batch which were known as Mk 19 timers?

18 A. Yes.

19 238 Q. Also, as part of the same item a toggle switch, a red

20 light emitting diode, electrical resistor, a knotted 11:33

21 length of brown wiring, a length of black wiring, two

22 lengths of red wiring; and did he observe the plastic

23 knob of the timer was missing?

24 A. He did, yes.

25 239 Q. But the collar and grub screw from the knob were 11:33

26 present?

27 A. Yes.

28 240 Q. So, it was obvious that there had been, at one point in

29 time, the knob on the timer?

1 A. Yes.

2 241 Q. And would this be the thing that one would turn in
3 order to dictate the amount of time that would pass
4 before the electrical charge would be passed?

5 A. It would, yes. 11:33

6 242 Q. He also made various observations, which are probably
7 unnecessarily technical for our purposes, about the way
8 in which these various items were connected a to each
9 other?

10 A. Yes. 11:33

11 243 Q. We know that there was a WIS Rep relating to the scene
12 at Omagh, 000986.

13 A. Yes.

14 244 Q. Did the WIS Rep list many of the components listed by
15 Mr. McAuley? 11:34

16 A. It did, yes.

17 245 Q. And was there a particular comment made by the Army
18 expert within that WIS Rep?

19 A. The comment was made that:
20
21 "Due to the complete propagation of the device, it is
22 not possible to determine the exact composition and
23 makeup, but from the items recovered it is indicative
24 that a Mk 19 TPU was used in this attack."
25 11:34

26 246 Q. And did it go on to observe that the Real IRA had
27 utilised these TPU in numerous vehicle-borne IED, Mk 17
28 mortar and IED attacks throughout the province over the
29 last 12 months?

1 A. Yes.

2 247 Q. Listing one particular attack against the RUC Belleek
3 on 9th May 1998?

4 A. Yes.

5 248 Q. Now, I've mentioned already the Peer Review Panel and 11:35
6 as part of the work of that Panel a statement was
7 requested from Dennis McAuley, it was dated 9th January
8 2004 and has the reference 006216. In that statement
9 did Dennis McAuley provide his opinion on the
10 relationship between the main charge and a particular 11:35
11 part of the vehicle?

12 A. He concluded that he estimated most of the boot of the
13 Cavalier saloon would have been filled with the
14 explosive charge.

15 249 Q. This is what I suggested earlier; at least the majority 11:35
16 of the entirety of the boot of that vehicle filled with
17 explosives?

18 A. Yes.

19 250 Q. Did he provide the basis for his opinion?

20 A. He said it was mainly based on a charge involved in a 11:36
21 similar vehicle bomb diffused prior to Omagh, but he
22 didn't specify the location. But it may refer to
23 VB-IED rendered safe in an incident outside Newry
24 Courthouse.

25 251 Q. So, he was referring back to an earlier incident -- 11:36
26 A. Yes.

27 252 Q. -- at which detonation had not occurred, he didn't
28 specify the location of that incident but your
29 assessment was that it might well refer to an incident

1 at Newry Courthouse on 13th July 1998?

2 A. Yes.

3 253 Q. Was there a WIS Rep for that incident, 001031, so for

4 the Newry Courthouse incident?

5 A. There was, yes. 11:36

6 254 Q. And what did that reveal?

7 A. It reported a quantity of homemade explosive, possibly

8 ANS, weighing approximately 286 kgs, that's 630lbs

9 being recovered.

10 255 Q. So, that is what was found and what had occurred 11:37

11 previously. I'm now at the bottom of page 17. And was

12 it your view, for the reasons you've given already,

13 that the main charge was likely to be ANS?

14 A. Yes.

15 256 Q. And that it was likely that that would have been 11:37

16 supplied with a booster and detonator for its reliable

17 initiation?

18 A. Yes.

19 257 Q. Because that is what had been seen in the previous

20 attacks? 11:37

21 A. Yes.

22 258 Q. Was it your view that booster tubes were likely to have

23 been ones with OS drill holes?

24 A. Yes.

25 259 Q. OS 11:38

26

27 A. Yes.

28 260 Q. And covered in packing tape?

29 A. Yes.

1 261 Q. which had been seen before at Blackwatertown Road in
2 Armagh in July '98, the 9th of that month?

3 A. Yes.

4 262 Q. And, indeed, there was clear evidence of packing tape
5 having been used on the booster tube in Omagh -- 11:38

6 A. Yes.

7 263 Q. -- from the very findings on those metal fragments?

8 A. Yes.

9 264 Q. Now, electric detonators, would you give us a
10 description, please, at a high level of what those are? 11:38

11 A. So, they are small metal-bodied devices containing
12 sensitive explosives that can be initiated when
13 sufficient electric current is applied to them, and
14 they produce a shockwave that is required to initiate
15 high explosives. 11:39

16 265 Q. was it your view that a TPU, a timing unit manufactured
17 by Coupatan had been used in the Omagh bombing?

18 A. Yes.

19 266 Q. And that it was of a type classed at the time as Mk 19?

20 A. Yes. 11:39

21 267 Q. And that the device was, therefore, similar to other
22 devices used in previous terrorist attacks in a series?

23 A. Yes.

24 268 Q. Are there materials that show, in detail, the wiring of
25 the TPU device that we're talking about? 11:39

26 A. Yes, INQ 022151 shows TPU wiring diagrams.

27 269 Q. And are those diagrams ones that include from circuit
28 remains of the device used in Omagh?

29 A. Yes.

1 270 Q. Could we have on the screen, please, 022151? We are
2 now going to see some photographs and also this diagram
3 of the device that you have described. And as I
4 promised a number of times, we're going to see how this
5 all fits together. 11:40
6
7 So, could you just talk us through please what we're
8 seeing on the screen?
9 A. So, you're seeing an electric circuit wiring diagram.
10 You have your battery on the left-hand side or 11:40
11 batteries on the left-hand side which obviously provide
12 the power. At letter "A" there is the Coupatan timer,
13 which is a two-hour electromechanical timer, then
14 there's a switch B, and then a red LED and a resistor.
15 So, just above the red LED there's a squiggly line, 11:41
16 that denotes a resistor. And then there's another
17 switch, C, and the two wires lead to the detonator.
18 271 Q. What we're going to see in due course is the Addis box
19 with an ABC pole cut within it. "A" is the dial that
20 that one turns in order to set the time -- 11:41
21 A. Yes.
22 272 Q. -- for the electrical charge. "B" is a toggle switch
23 which is literally as one would expect it to be?
24 A. On/off, yes.
25 273 Q. Associated with that there is an LED? 11:41
26 A. There is.
27 274 Q. A red LED. And then to the right of that, is "C" a
28 further toggle switch?
29 A. Yes.

1 275 Q. And we see written down there a description of what
2 happens if timer A is not set first?
3 A. So, it says:
4
5 "If timer A is not set first then when toggle switch B 11:42
6 is switched on, the red LED..." that light emitting
7 diode "...will light to warn that something is wrong.
8
9 **OS**
10
11 276 Q. So what we're looking at there is the device in the
12 box, the TPU, timer power unit or time and power unit.
13 That is something that you would expect to be, for
14 reasons we'll go into, **OS**
15 **OS** 11:42
16 A. Yes.
17 277 Q. Somewhere within there?
18 A. Yes.
19 278 Q. That would then be linked **OS**
20 **OS** 11:42
21 A. Yeah **OS**
22 279 Q. Sorry, yes. **OS**
23 **OS**
24 A. Correct, yes.
25 280 Q. So, that's how it all fits together and again we'll see 11:43
26 that in due course. Next, we'll look at some
27 photographs of these items. 013791 please.
28 [Photograph shown]. So, what are we looking at in
29 photograph 1?

1 A. We're looking at a toggle switch.

2 281 Q. And the actual toggle just on the left-hand side?

3 A. Yes.

4 282 Q. And are these actual items relating to Omagh?

5 A. Yes. 11:43

6 283 Q. Photograph 2 please. [Photograph shown]. Top of the
7 lunchbox?

8 A. Yes.

9 284 Q. So, when we, the Inquiry and Chairman, come on in
10 subsequent chapters to compare Omagh to other earlier 11:44
11 attacks and see if they are a linked series, we need to
12 bear in mind we have actual parts of the device used in
13 Omagh to enable us to compare and contrast?

14 A. Yes.

15 285 Q. It's not just working out, the physical evidence is 11:44
16 there?

17 A. No.

18 286 Q. 3, please. [Photograph shown]. What do we see there?

19 A. So, we see a battery snap connector.

20 287 Q. And 4. [Photograph shown]. A battery obviously? 11:44

21 A. Yes.

22 288 Q. We know there were OS batteries. So, 5 please.
23 [Photograph shown]. Another toggle switch?

24 A. That's a Coupatan timer remains, hot melt glue, a
25 resistor, an LED and the remains of another toggle 11:45
26 switch.

27 289 Q. 6? [Photograph shown]. What is that?

28 A. That's damaged piece of metal which Dennis McAuley
29 believed came from a booster tube.

1 290 Q. 7? [Photograph shown].
2 A. Similarly, and you can see the drilled hole on top left
3 of that one.
4 291 Q. And 8? [Photograph shown].
5 A. Again, the same sort of remains. 11:46
6 292 Q. Believed by Dennis McAuley to be part of a booster
7 tube?
8 A. Yes.
9 293 Q. 9? [Photograph shown]. Same?
10 A. Same. 11:46
11 294 Q. And 10 and 11 would be the same, so we don't need to
12 look at those.
13
14 If we go to page 12 please. [Photograph shown].
15 Between pages 12 and 26, what do we see within this 11:46
16 bundle?
17 A. A number of other TPUs recovered from other scenes.
18 295 Q. So, these are intact TPUs from other scenes?
19 A. Yes.
20 296 Q. And we're able there in that photograph which draws 11:47
21 them altogether to see the similarities between the
22 Omagh device that we've just seen and the device
23 recovered intact from an earlier attempted attack?
24 A. Yes, it's a different lunchbox but yes, the components
25 are the same. 11:47
26 297 Q. But otherwise materially identical?
27 A. Yes.
28 298 Q. If we go to page 14 please, another photograph of an
29 intact device. [Photograph shown]. And we can see the

1 base of the lunchbox, is that right?

2 A. Yes.

3 299 Q. And it may be shown better in 16. [Photograph shown].

4 And so, we can see holes, is that correct?

5 A. Yes, so there's **OS** holes, one through which the timer 11:48

6 knob protrudes, **OS** toggle switches through the other

7 **OS** holes and a red LED through the **OS** one.

8 300 Q. And marked "A," "B" and "C"?

9 A. Yes.

10 301 Q. And we can see "on" and "off", can't we? 11:48

11 A. We can.

12 302 Q. So, someone has marked up the base of the box, which

13 forms the TPU, with guidance?

14 A. Yes.

15 303 Q. And one would presume guidance for the people who are 11:48

16 to leave the bomb and to prime it to go off?

17 A. I would assume so.

18 304 Q. And should we note, perhaps, that the lid of that

19 particular box appears a familiar colour from the box

20 that we saw in relation to the Omagh bomb? 11:49

21 A. Yes.

22 305 Q. Thank you very much, indeed. Having regard to all of

23 the materials you were provided with - and I'm now at

24 the top of page 19 - were you able to form an opinion?

25 A. So, yes, it's my opinion that the TPU used in the Omagh 11:49

26 VB-IED would likely to have been constructed within a

27 blue lid had Addis-like lunchbox with the components

28 electrically connected together and secured inside the

29 base using thermoplastic glue. The lid would easily be

1 removable to allow access to the components, if
2 required, and some of the components would protrude, as
3 I've already explained, through the base of the box.
4 306 Q. They would likely to have labelled, as we've seen A, B
5 and C? 11:50
6 A. Likely, yes.
7 307 Q. with an additional hole, the OS hole for an LED
8 which was probably red?
9 A. Yes.
10 308 Q. Is it your opinion that the spindle from a Coupatan 11:50
11 brand electromechanical two-hour runback timer would
12 have protruded through the hole labelled "A"?
13 A. Yes.
14 309 Q. with the knob on the outside of the box?
15 A. Yes. 11:50
16 310 Q. And the purpose of that being to set a period of time?
17 A. Yes, up to two hours.
18 311 Q. After which an electrical charge would be delivered to
19 the detonator and booster tube?
20 A. Providing the switches were on, yes. 11:50
21 312 Q. And we'll get to the switches in due course. So,
22 essentially, the timer for the bomb?
23 A. Yes.
24 313 Q. As you put it, it's, in effect, a timed switch?
25 A. Yes. 11:51
26 314 Q. Through the holes labelled "B" and "C," is it your view
27 it would have been toggle switches with labels "on" and
28 "off"?
29 A. Yes.

1 315 Q. And inside the box, as well as other parts of
2 protruding components, a battery?
3 A. Yes, either a OS battery or a battery holder OS
4 OS
5 316 Q. would those batteries be connected to something? 11:51
6 A. Yes, a black plastic snap connector with a red and
7 black wire protruding.
8 317 Q. where does the red LED come into?
9 A. So, the red LED is a warning light, so if you turn the
10 timer, or if you've forgotten to turn the timer and you 11:51
11 flick switch B and the red LED lights up, it tells you
12 do not flick switch C, because if you do, the device
13 will detonate now.
14 318 Q. So, it's something to alert the person --
15 A. It is, yes. 11:52
16 319 Q. -- who intends to cause an explosion?
17 A. Yes.
18 320 Q. Don't do this, you need to set the timer first?
19 A. Yes.
20 321 Q. So, in a sense, it works as a warning light for the 11:52
21 bombers?
22 A. Yes.
23 322 Q. And where does this overall fit into the picture of how
24 the bomb comes to explode? The timer has been set for
25 30 minutes, what then happens in 30 minutes? 11:52
26 A. So, if the timer is set to 30 minutes and it runs down,
27 at the point that it runs down, if the switches are
28 flicked to -- if the switches are already on, then
29 there would be power that runs through that electrical

1 circuit and that would be power going to the detonator,
2 which would initiate the detonator then the booster
3 charges and the main device in one go.

4 323 Q. And is it likely that, in your view, that is how the
5 Omagh bomb was constructed? 11:53

6 A. Yes.

7 324 Q. And what it was intended to do?

8 A. Yes.

9 325 Q. Intended to cause a huge explosion after a period of
10 time? 11:53

11 A. It would seem that that is the way that that was
12 manufactured, yes.

13 326 Q. Now, questions 5 and 6 you've taken together, is that
14 correct, I am at the top of page 20?

15 A. Yes, I have, yes. 11:53

16 327 Q. And Question 5:
17
18 "How was the IED likely to have been fitted into the
19 car in which it was stored (including the likely
20 location of the homemade explosives)?" 11:53

21
22 And 6:
23
24 "As far as possible, please provide a description of
25 the vehicle-borne IED and diagrams to show what it may
26 have looked like when assembled in the vehicle?" 11:54

27
28 A. Yes.

29 328 Q. As a starting point, did you have regard to information

1 about the Newry Courthouse device?

2 A. I did, in INQ 001301.

3 329 Q. That was the WIS Rep. And what did that reveal about

4 the location of the TPU?

5 A.  11:54

6 330 Q.

7

8 A.

9 331 Q. And in relation to that attack, which did not result in

10 a detonation, had those responsible even caused the 11:54

11 spare wheel to be removed so that there was more room

12 for the homemade explosives?

13 A. They had, yes.

14 332 Q. Did you have regard to the fact that an identical

15 method had been used in a vehicle-borne IED destined 11:55

16 for England but intercepted in the Republic of Ireland

17 in Dún Laoghaire on 2nd April 1998?

18 A. Yes.

19 333 Q. And did you have regard to the fact that an identical

20 arrangement had also been used for an intended attack 11:55

21 at Market Square, Lisburn on 30th April 1998?

22 A. Yes.

23 334 Q. were you able to find any definitive evidence to

24 establish whether any amendments or changes had been

25 made to the Cavalier vehicle used in Omagh and, in 11:55

26 particular, to its suspension?

27 A. So in INQ 001620, which is a statement of David Kildea,

28 it refers to the Vauxhall engine and another piece of

29 tangled metal from the vehicle, which showed signs of

1 welding and appeared not to be factory welding.
2 However, in INQ 011649, WJ Armstrong writes:
3
4 "I was unable to find anything that was obviously an
5 alteration to the vehicle. However, as much of it was 11:56
6 so badly damaged, it would be very difficult to
7 determine."
8
9 335 Q. So, some evidence from the scene but some competing
10 evidence, and therefore, nothing definitive? 11:56
11 A. No, nothing definitive.
12 336 Q. Did you have regard to evidence that indicated that
13 remains of a TPU had been found on the OS,
14 as it was described, from a device in Lisburn?
15 A. Yes. 11:57
16 337 Q. And to the fact that in his evidence at the inquest
17 Dennis McAuley had expressed the view that the TPU was
18 likely in OS of the vehicle?
19 A. Yes.
20 338 Q. where, as he put it, it would be convenient for the 11:57
21 occupants?
22 A. Yes.
23 339 Q. with OS the explosive charge
24 in the boot?
25 A. Yes. 11:57
26 340 Q. Having regard to all of that, what view did you form
27 about where the TPU was likely to be fitted?
28 A. So, it's my opinion, from the descriptions of other
29 VB-IEDs, and from a practical view that the TPU would

1 be positioned OS
2
3
4 341 Q. OS
5 A. 11:57
6 342 Q. And did you agree with Dennis McAuley that it's likely
7 that OS
8 OS
9 A. I did, yes.
10 343 Q. Now, we looked earlier at just one page from within 11:58
11 your presentation and I'm going to ask that we work
12 through the presentation now. It won't take very long.
13 And the presentation, would you let me know if you need
14 the reference again. You have it, thank you very much.
15 I'm going to ask that you indicate to Ms. Montgomery 11:58
16 when you want it paused so you that can express a view,
17 otherwise we'll just let it run through. It's going to
18 start with an image of a vehicle.
19 [Presentation played].
20 A. Okay. So, we removed the side doors and you can see 11:58
21 the timing power unit OS
22 OS
23 344 Q. Pause there for one moment please.
24 A. So, you can see it labelled with its switches A, B, and
25 C, with the Coupatan timer knob protruding at A, and 11:59
26 the two switches at B and C, and a red LED somewhere in
27 the vicinity of B. Can you play again please.
28 345 Q. Play on. [Presentation played].
29 A. So, there are two wires protruding from the side of the

1 box which are the wires which provide the power.

2 346 Q. Pause there.

3 A. Inside the box this isn't as wired deliberately, you

4 can see a resistor, battery, the LED, the two switches,

5 Coupatan, body of the Coupatan timer. 11:59

6 347 Q. Play on please. [Presentation played].

7 A. So, the wires are protruding from the side of the box

8 likely and OS e

9 OS

10 OS And if we 12:00

11 open up the boot you can see, I believe it was filled,

12 or almost filled with ammonium nitrate and sugar as the

13 main charge, and then within that was at least OS

14 OS

15 348 Q. Pause there. 12:00

16 A. -- which I've already described, but it's OS

17 OS

18 OS

19 OS running through that as well with PETN

20 and RDX. 12:00

21 349 Q. If you've answered this already forgive me, but why

22 would this be taped up with tape in that way, please?

23 A. Probably to stop the contents falling out.

24 350 Q. As simple as that?

25 A. I think so. 12:00

26 351 Q. Play on, please. [Presentation played].

27 A. So, then the detonating tube is attached to a detonator

28 and here you can see a representation of a detonator, a

29 small metal-bodied device which contains primary high

1 explosives [OS]
2 [OS] It's likely that the detonator was probably
3 taped to the [OS]
4 [OS]
5
6 12:01
7 352 Q. Just pause for a moment. The purpose of the holes
8 being.
9 A. I don't actually know.
10 353 Q. This was a feature that was seen in other devices? 12:01
11 A. It was, yes.
12 354 Q. And we saw the hole earlier in the fragment?
13 A. Yes.
14 355 Q. Play on please. [Presentation played].
15 A. Sorry, can we pause there. [OS] 12:01
16 [OS]
17
18 356 Q. That is a potential explanation?
19 A. That's a potential explanation. [OS]
20 [OS] 12:02
21
22
23
24 357 Q. That brings us to the end of the presentation?
25 A. It does. 12:02
26 358 Q. Finally, then, before you summarise your conclusions,
27 were you posed this question:
28
29 "Please comment on the likely force of the blast from

1 the explosion."

2

3 A. I was, yes.

4 359 Q. I'm now at page 21 of your report and I hope you won't
5 take it as a criticism, I don't believe you will, if I
6 indicate that the information you provide in this part
7 of the report is highly technical?

12:02

8 A. Yes.

9 360 Q. I don't believe it would assist anyone to go through
10 all of the technical detail so could I invite you to
11 set out what was done to make the assessment and what
12 conclusion you reached in relation to the force of the
13 blast, please?

12:02

14 A. So, again, as said previously, there's very little
15 published data on ammonium nitrate and sugar, so the
16 calculations were done using ammonium nitrate and fuel
17 oil, as they were done for the charge size. We looked
18 at the velocity of detonation of ANS because there is
19 data for that within our FEL trials that we did, and we
20 could see from those trials that the velocity of
21 detonation of pure ANS is around 3,500 m per second
22 through that material. And for calcium ammonium
23 nitrate sugar the velocity of detonation is slightly is
24 lower at 3,157 m per second, obviously this is one set
25 of trials, it's not precise velocity of detonation for
26 all improvised mixtures, they're improvised.

12:03

12:03

12:03

27 361 Q. Where does that take us?

28 A. So, it doesn't really give us the force of the
29 explosion so we looked at another property called

1 "overpressure," which is described as sharp
2 instantaneous rise in pressure from an explosion. So,
3 an explosion creates a lot of gas which then creates a
4 lot of pressure. And the overpressure is over and
5 above atmospheric pressure the additional pressure 12:04
6 created by that explosion. So, there CIE and CDM teams
7 calculated the different overpressures at different
8 distances, so at 20 m, 40 m, 60 m, 80 m, 100 m away
9 from the blast and plotted a lovely graph, which shows
10 you that the blast overpressure is much higher nearer 12:04
11 the seat of the explosion than it is away at 100 m.
12 So, by 100 m it's dropped town to not atmospheric
13 pressure but just above atmospheric pressure.

14 362 Q. So, can I attempt to summarise what we take from that,
15 if it's an oversimplification or wrong just tell me. 12:05

16 A. Yes.

17 363 Q. The force of the explosion was considerable?

18 A. It was, yes.

19 364 Q. But, would have dropped off rapidly the further away
20 from the seat of the explosion you were? 12:05

21 A. Yes.

22 365 Q. And does that mean, perhaps, at the risk of stating the
23 obvious, that the victims would have been at increased
24 risk of injury or death the closer they were to the
25 seat of the explosion? 12:05

26 A. Yes, it does.

27 366 Q. I'm now at page 23 of your report, so the final page so
28 far as we are concerned, where you summarise your views
29 and would you do so for us, please?

1 A. So, in summary, the vehicle-borne improvised explosive
2 device at Omagh occurred within a maroon Vauxhall
3 vehicle with the registration plate MDZ 5211, and
4 probably comprised a main charge of ammonium nitrate
5 and sugar, containing a booster charge housed within a 12:06
6 metal tube, and containing further ammonium nitrate and
7 sugar, and a length of improvised detonating cord
8 containing a mixture of PETN and RDX. It's likely that
9 the weight of ANS used in the main charge was within
10 the estimates provided by persons at the scene, that is 12:06
11 between 90 and 200 kgs. Attached to the detonating
12 cord [OS]
13 [OS] a timer power unit in the [OS]
14 of the vehicle. The TPU was housed within an
15 Addis-type lunchbox and contained a two-hour 12:06
16 electromechanical timer, a battery or battery pack
17 connected with a snap connector, a resistor, two toggle
18 switches and red LED. Parts of the TPU protruding from
19 the base would have been labelled "A," "B" and "C"
20 corresponding to the timer and two toggle switches 12:07
21 respectively, which would be operated such that the
22 timer at A would be set and toggle switch at B turned
23 on. If the LED did not light, then it would have been
24 safe to turn on toggle switch C and leave the device
25 armed and in place. And this would have been enabled 12:07
26 time delay of up to two hours before the device
27 exploded.
28 367 Q. You were also able to reach the conclusion that we
29 dealt with a moment ago, that the force of the

1 explosion would have been considerable with people
2 nearer to the seat of the explosion at greater risk
3 than those further away?

4 A. Yes.

5 368 Q. Ms. Hutson, thank you very much indeed for answering my 12:07
6 questions, would you bear with me for one moment
7 please. [Short pause].
8

9 I'm just asked to clarify one matter with you.

10 A. Yes. 12:08

11 369 Q. And it may be that you can't give a definitive answer
12 but one can be inferred; the timer switch that one
13 turns in order to determine the period of time before
14 the electrical charge is sent to the device and the
15 explosion is caused? 12:08

16 A. Yes.

17 370 Q. And one can set it from one minute to 120 minutes?

18 A. Yes.

19 371 Q. And the question is, the point in time at which that
20 time would be set; would you expect it to be set at the 12:08
21 time at which the bomb arrives at the place at which
22 it's intended it should detonate, or at some point
23 ahead of that time?

24 A. I don't think it's possible to say.

25 372 Q. Although it may be that one could bring some -- 12:09

26 A. For safety reasons, it would be my feeling that you
27 would set the timer at the point that you delivered the
28 device to where it was meant to go, but you can't tell.

29 373 Q. No, and it may be that it's just a matter of common

1 sense that if one is driving a vehicle containing a
2 bomb to a location, bearing in mind that one might be
3 caught in traffic or might suffer a flat tyre --
4 A. Yes.
5 374 Q. -- it would not seem remotely sensible to set the timer 12:09
6 ahead of the journey starting, as opposed to setting
7 the timer at the point at which one arrives where one
8 intends the bomb should go off?
9 A. Indeed.
10 MR. GREANEY: So, thank you very much. I don't believe 12:09
11 that anyone else has any questions for the witness, the
12 issue that Fox Law had intended to address having been
13 dealt with. And so unless, Sir, you have questions
14 that will be the end of the evidence of Ms. Hutson.
15 CHAIRMAN: No, I don't. Thank you very much, 12:10
16 Ms. Hutson.
17 MR. GREANEY: Thank you. Sir, we haven't been going
18 for the normal period we would, but because of the
19 arrangements for this hearing, namely that it has been
20 restricted, we will need a break of I'm told no more 12:10
21 than ten minutes to ensure that the YouTube feed and so
22 on are back up and running.
23 CHAIRMAN: All right.
24
25 THE RESTRICTED HEARING THEN CONCLUDED
26
27
28
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