

(Issued subject to correction upon revision.)

IN THE WARDEN'S COURT

BEFORE:

Mr. K. L. Hall, Warden
Mr. I. Balks, Manager of the Lambton Colliery and Chairman
of the Newcastle Mines Rescue Station, New South Wales
Mr. D. Rowlands, Senior Lecturer in Mining, University
of Queensland
Mr. N. Monger, General Manager of Queensland Coal Mining
Company Ltd., and Chairman of the Central Queensland
Mines Rescue Committee
Mr. J. Murphy, President of Queensland Collieries
Employees Union of Employees.

IPSWICH, 23 OCTOBER 1972.

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IN THE MATTER OF an Inquiry (pursuant to
Section 74 of the Coal Mining Act
1925-1969) into the nature and cause
of an accident at the Box Flat Colliery
on 31 July 1972.

Mr. S. Given (instructed by Mr. Roy Sammon of the Crown
Solicitor's Office), assisting the Inquiry.
Mr. D. Derrington (instructed by Mr. Morris L. Williams,
Ipswich), for the widows of Walter Michael Murphy,
John James McNamara, Mervyn Verenkamp, Daryl Trevor
Reinhardt and Brian Henry Randolph, and for the
Queensland Collieries Employees Union of Employees.
Mr. I. Callinan (instructed by Messrs. Walker & Walker,
Ipswich), for Wm. McQueen & Co. Pty. Ltd., owners of
Box Flat Colliery.
Mr. K. Townsley (instructed by the Crown Solicitor), for
the Chief Inspector of Coal Mines, Mr. W. Roach,
and for the Inspector of Coal Mines, Mr. R. N. Hardie.
Mr. T.H.E. Palmer of Messrs. Hargreaves and Palmer,
Ipswich, for Mervyn Hans Jensen.
Mr. G. Ramage for the Australian Collieries Staff Association.

THE WARDEN: This is a matter of inquiry into an explosion
which occurred at the Box Flat Colliery on 31 July 1972 whereby
17 people were killed.

MR. GIVEN: I am briefed to assist the Inquiry. Perhaps
I should refer you to section 74 of the Coal Mining Act
1925-1969 in relation to my position. No doubt you are familiar
with the provisions of that section. It provides that persons
who are obviously interested may appear, and it goes on to
provide that any of those persons is entitled to be present at
the Inquiry and to call, examine and cross-examine witnesses,
etc., but persons in the position I am in at the moment do not
seem to be covered by those provisions.

For the record I might say that Mr. Sammon who is
instructing me and another representative of the Crown Law
Department and I attended on you some two or three weeks ago
when your wishes - and after all it is your Inquiry - were
sought, and I think it is a fair statement to make that you
intimated that you would like the members of the Board of
Inquiry to be assisted.

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I would also indicate, for the record, that there have been intimations from the owner of the colliery where this unfortunate accident occurred and from the union, in one case in writing and in the other case orally, that, in effect, they would welcome some such representation as is being offered in this case. So I would not anticipate any opposition to my appearance from those quarters. However, in view of the wording of the section I think I should ask leave to appear to assist the Inquiry.

THE WARDEN: Yes, Mr. Given, leave is granted. 10

MR. DERRINGTON: I appear on behalf of the widows of the following men who were killed in this disaster -

Walter Michael Murphy,
John James McNamara,
Mervyn Verenkamp,
Daryl Trevor Reinhardt and
Brian Henry Randolph.

I appear also for the miners' officers who have received notice, and the Queensland Collieries Employees' Union of Employees. I am instructed by Mr. Morris L. Williams. May I indicate at this stage that we welcome and appreciate the appointment of officers of the Crown Law Office instructing Mr. Given who appears as an independent assistant to the tribunal. 20

THE WARDEN: Yes, Mr. Derrington.

MR. CALLINAN: I appear for the Colliery owner, Wm. McQueen & Co. Pty. Ltd. I have no objection to Mr. Given assisting the Inquiry. 30

THE WARDEN: Yes, Mr. Callinan.

MR. TOWNSLEY: I appear for William Roach, the Chief Inspector of Coal Mines for the State of Queensland, and for Reginald Norman Hardie, Inspector of Coal Mines.

THE WARDEN: Yes, Mr. Townsley. 40

MR. PALMER: I have been instructed to appear on behalf of Mervyn Hans Jensen.

THE WARDEN: Yes, Mr. Palmer.

MR. DERRINGTON: I do not wish to presume to take over the matter of the practice of the court, but I understand, and I thought you might appreciate knowing, that there are some widows of the men who wish to ask questions themselves, and for that purpose they did not wish to be represented because they wish to frame the questions themselves. I thought you might wish to call for any appearances in that connection. 50

THE WARDEN: No, I had not been advised of that.

MR. DERRINGTON: That is why I raised the matter.

THE WARDEN: Is there any other person in the court who desires to enter an appearance? 60

MR. RAMAGE: I appear on behalf of the Australian Collieries Staff Association.

THE WARDEN: Very well, Mr. Ramage. Now, apart from Mr. Ramage, are there any ladies present who wish to have their appearances noted? Mr. Derrington said that some of you would like to ask questions. 70

MRS. MARSHALL: I am Mrs. Mary Marshall. I would like to ask some questions.

THE WARDEN: Very well. Are there any other ladies present who would like to ask questions?

MRS. REINHARDT: I am Mrs. Val Reinhardt. If there is anything I can ask that I feel I want to ask, I would like to do so.

THE WARDEN: Very well.

MR. GIVEN: I see little purpose in opening this matter at any great length. As you indicated when this Inquiry was opened, it is an Inquiry into the disaster in which 17 men lost their lives.

It would seem, for want of a better word, that there were two groups of these gentlemen, and the first group comprised the late Mr. Williams, the late Mr. Cobbin and the late Mr. Drysdale. The evidence will disclose that they were at the time of the explosion which caused their death near the mouth of what I might call the No. 5 conveyer tunnel, probably about 30 yards in.

The other 14 gentlemen were carrying out duties under-ground in the No. 7 tunnel. I believe it would be impossible to say in yards where they were at the time, but they were a very substantial distance underground at that time.

I have been provided with a large number of statements in relation to this matter, and I would indicate right at the outset that I do not think it is anybody's desire - certainly not my desire - that this Inquiry should be in any way inhibited; that any evidence in any way relevant should be excluded. However, a lot of these statements are somewhat repetitive, and I think that I can safely say at the moment that it will not be necessary to call all of these witnesses.

We have in fact been advised by the representatives of the mining union of the names of the particular witnesses that they desire to be called. I think I can say at the moment that certainly a substantial number of those gentlemen will be called to give evidence; and I have not had the opportunity to date, but I will certainly take the opportunity of discussing details of the necessity for calling all of those particular witnesses.

Parties interested have been asked to furnish statements by witnesses whom they desire to give evidence. I use the term "desire to give evidence" advisedly at the moment. It is thought that, perhaps, as a general procedure, it might be best that the witnesses be called by me, and they can be further examined and cross-examined by the persons representing them or, if they are members of the union, by the person representing the union.

However, it would seem to me, on a reading of the Act, that it cannot be insisted upon that that procedure be adopted. If a particular person who is entitled to be represented here wishes, rather than to have evidence called through me, to call a witness himself and examine that witness, that person is entitled to do so. However, I do repeat the invitation already extended to persons interested to provide to me, or to the Board, or to Mr. Sammon, instructing me, statements of evidence by persons whom they desire to call to give evidence.

Although this may not be absolutely necessary, it might save a little bit of time if I formally tender the Inquest File in relation to an inquest which was held into the manner and cause of death of these gentlemen by Your Worship on 24 August 1972. I understand that the original file is not in Ipswich; it is in Brisbane. So, unless there is particular objection, I would tender a photostat copy of the Inquest File. I hear some talk at the table. As I understand it, the holding of this inquest was of course quite important; in any event, it was particularly important in view of the fact that the bodies of 14 of the 17 gentlemen had not been found. So, for obvious purposes, you had to hold an inquest as soon as possible. That inquest was limited to the one fact of establishing that these 17 gentlemen were dead. I think that is a fair statement of the position.

THE WARDEN: That is so.

MR. GIVEN: I tender a photostat copy of the Inquest File.

Ex.1. (Admitted and marked "Exhibit 1".)

MR. GIVEN: The approach then that I propose to adopt is this: no doubt we are all aware of the fact that the colliery concerned was a colliery of some size, and it is essential to a proper investigation of this disaster that we have a fairly good understanding of the set-up of the colliery. So I propose calling Mr. Hardie, an inspector of coal mines stationed at Booval, from whom I have been provided with a fairly comprehensive statement in relation to the events

leading up to, at the time of, and subsequent to this disaster. I understand that there are some fairly good plans of the colliery available, and I hope Mr. Hardie and I - certainly Mr. Hardie - will be able to explain these plans and give us all a fairly clear indication of the set-up at the colliery.

MR. CALLINAN: We thought that it might facilitate the hearing, and perhaps expedite it, if we had a very large plan prepared, which we have done, and we would respectfully suggest that this could be affixed to a blackboard, or perhaps a rigid sheet of ply, and a pointer provided, and the plan put somewhere in the courtroom where everybody could see it, and the witnesses could point as they gave their evidence. I have no doubt that it would shorten matters. I see that we have a specially illuminated table. I can see difficulties about that because people would have to go around to look at it, and congregate around it. It could be quite difficult. If that course should commend itself to my learned friend and to you, I would suggest that this be used. If there are any alleged inaccuracies on it, they can be pointed out.

MR. GIVEN: On a very quick look at that, I have a copy of that on a smaller scale.

MR. DERRINGTON: It superimposes one upon the other.

MR. CALLINAN: It does. As my learned friend Mr. Derrington points out, there is some superimposition on this plan, but it is the only way to show it clearly, to draw it in this fashion.

MR. DERRINGTON: I do not know that that is necessarily so.

MR. CALLINAN: I do not know, but it is available, and I suggest its being used.

MR. DERRINGTON: I have no objection to its being used, but with the observation that I do not agree that it is the best way of portraying it. We have no alternative.

MR. CALLINAN: If there is no alternative-----

THE WARDEN: The question is: where are we going to put it?

MR. CALLINAN: I am trying to have some produced.

MR. DERRINGTON: What about hanging it along the front of this desk for the time being?

MR. GIVEN: I think it would be very useful to have that. I have two other plans, non-superimposed - if I can use that expression - one for No. 5 tunnel, and one for No. 7 tunnel, and I was hoping to put in plans of each, and the superimposed one.

MR. TOWNSLEY: My clients have a couple of Caneite boards, they tell me, which are of dimensions sufficient, possibly, for that to be attached to, but they have not got them immediately. Later in the morning, I am told, those could be made available, and in the meantime there would appear to be no option but to just manhandle it as necessary.

MR. GIVEN: Would it be possible to put drawing pins into the front of the witness-box, or sticky tape? Perhaps while this is being investigated, I could start by calling Mr. Hardie.

REGINALD NORMAN HARDIE, sworn and examined:

BY MR. GIVEN: Your full name is Reginald Norman Hardie?--
Yes.

What is your address?-- No. 11, South Street, Ipswich.

Are you an inspector of coal mines stationed at Booval?--
Yes, I am.

I was going to say briefly, but perhaps we should go into
some detail of your reputation and qualifications for this
particular job?-- For this particular job?

For the position which you hold?-- Well, prior -
post leaving Ipswich Grammar School in 1931, I commenced
mine work at Riverside Collieries, and worked at that job
until 1936, working underground as rope rider, surface boy,
borer, and chainman duties until which time I then joined the
Ipswich Electric Supply. From 1936 to 1940, I worked with
Ipswich Electric Supply, who subsequently became the City
Electric Light, and worked on the basic survey of overhead
mains for the Ipswich, Gatton, Lockyer and Brisbane Valley
areas, and this particular part of the State, and then went
further north to the Nambour area en route to Gympie.

During that period, or perhaps a little earlier, did you
do some special study in industrial chemistry?-- Yes, I
had a year of industrial chemistry immediately after starting
work at the mine.

Then during my time at the Electric Light Company, I completed two years of a diploma in mechanical and electrical engineering. This, of course, was halted by the fact I was travelling north and was not able to attend college.

In 1940 did you move to another sphere?-- Yes, in April 1940 I joined the A.I.F. I went to training at Redbank with the 2nd 10th Field Regiment, an artillery unit formed of Queenslanders, and by August I was given the rank of Acting Sergeant and sent away to the School of Gunnery at Holdsworthy, did a number of months course and graduated to officer's status.

You left for overseas in February 1941 and were taken prisoner of war in Singapore in February 1942?-- Correct.

You spent some years at various places until you were released in September 1945?-- Correct.

After leaving the army in December 1945, what duties did you take up?-- On leaving the army I went back to the City Electric Light Company and worked for them for a period of ten months, after which I retransferred myself back to Ipswich and went back to work in the mines. This was in 1946. From that period forward I have worked in the mines in various capacities, but from 1946 to 1951 I studied for a Diploma in Coal Mining, completed it in 1951, and then took over management and some direction of Riverside Coalmines at Moggill. In 1953, on 24 September, I was appointed Inspector of Mines, initially to be stationed at Booval and I inspected those mines in the Ipswich - West Moreton field. This I did from 1953 until November 1955, at which time I was transferred to Rockhampton to inspect the northern and central district, and also one mine in the Maryborough district, which was the Selene mine at Monto. During my period in the north I was involved in inspecting mines at Bluff, Selene, Callide, the Styx coalmine, the Collinsville mine, the Bowen Consolidated, the State mine there, the Mt. Mulligan State mine, the King mine at Mt. Mulligan which was some eight miles outside of Rockhampton.

That takes us up to about 1961 would that be right?-- Yes.

What have you been doing since 1961?-- In late 1961, in August, I was transferred back from Rockhampton to Ipswich and was reappointed then to my old occupation, the Ipswich - West Moreton area and allocated a group of mines within this district which I inspected from that time until now, and that list of mines included the Box Flat Mine which I commenced to inspect from that time up until the time of the disaster.

From about 1961 onwards?-- Yes.

Did you know Box Flat before that time?-- Yes, I inspected Box Flat during the years 1953 to 1955.

Would this be the situation: that you have a valid claim to a fairly good knowledge of the Box Flat mine?-- Yes, I could claim a reasonable knowledge of Box Flat Mine, its organisation and its development.

Just have a look at these two documents, if you would? The first headed, "No.5 Tunnel, Box Flat Extended Colliery, Bluff Seam" and the other is, "No.7 Tunnel, Box Flat Extended Colliery, Wright Seam"?-- (Shown to witness). Yes, I recognise those.

Have you seen some such documents as those before?-- Yes, I have. These are 4-chain-to-the-inch plans showing ventilation of Box Flat No.5 and No.7 mines, showing in position, as certified on the plans, the various positions of stoppings

and doors as they were tendered on certified plans to me during my investigation of the accident.

MR. GIVEN: Before I tender these, I am wondering how people at the table are situated?

MR. TOWNSLEY: Yes, I have them.

MR. CALLINAN: I will use my learned friend's copy.

MR. DERRINGTON: I do not have any copy.

MR. GIVEN: Perhaps I should tender those documents at this stage - perhaps separate exhibits?

THE WARDEN: Yes.

MR. GIVEN: No.5 Tunnel, Box Flat Extended Colliery.

Ex.2

(Admitted and marked "Exhibit 2".)

MR. GIVEN: And No.7 Tunnel, Box Flat Extended Colliery.

Ex.3

(Admitted and marked "Exhibit 3".)

MR. GIVEN: It will certainly be necessary for Mr. Hardie to keep at least a copy before him. I think I can provide the Board with two extra copies at the moment.

THE WARDEN: That will be sufficient.

BY MR. GIVEN: You will have to bear with me; I am a layman in these matters. Are these two seams, the bluff seam and the wright seam, on the same levels?-- No, the bluff seam is the upper of the two seams worked at Box Flat Colliery and the bluff seam is that seam which is worked in that colliery which we term No.5. The bluff seam is a thick seam of coal aggregate of approximately 33 feet thickness in the area with which we are dealing. The wright seam is separated from the bluff seam, approximately 60 to 70 feet below it - which does vary - by sandy shales, and that seam is from 14 feet to a maximum, in some areas, of 22 feet thickness throughout the Box Flat area.

Looking at the two plans we have, so that we can read them in the normal fashion, I note that at the right-hand edge of it there is a stream called Oaky Creek?-- Yes.

So that if we superimpose, as it were, No.5 on No.7, which makes the seams coincide, we get a coincidence, as it were, of the two seams?-- Yes.

Are the seams level in the sense of being horizontal?-- No, the seams are anything but level, and this must be impressed. These seams dip west to south-west in an anticlinal influence, to the east of your entries.

Perhaps I was a little bit amiss there. As we are looking at those maps, I do not think there is any sign to indicate north or south?-- The direction of drive of these panels is approximately on a western bearing. So, therefore, anything showing to the left is south, anything to the right is north, and under those conditions the panels drive south and north in their various numbers.

The south part is the bottom of the drawing; is that right?-- On the direction of travel from surface to dip, the southern portion is on your left; the northern portion is on your right.

I am sorry to interrupt you. For those who do not understand, what is the term "anticlinal"?-- It is a continuous folding of the strata disrupting the lay of the measures, and from which disruption our Box Flat area shows its dip steeply towards the west, whilst mines on the eastern side of that anticline do show their directions of dip towards the east and south east.

Does either the Bluff seam or the wright seam reach the surface or come approximately to the surface?-- Box Flat mines are driven beyond what we term the outcrop of the seam at the surface. That outcrop from what we term its local dip is very steep in its passage to depth. The grades on this portion vary from one and a half, one in two, one in two and a half, one in three, until approximately 500 yards to 600 yards from the entry we get some easing of that grade back towards the one in five; but we do not have the incidence of any flatness or any flat working within the areas worked by Box Flat Mine. They are steep workings and steep throughout the whole of the area.

Generally on these two exhibits, so that we can get our terminology correct, we have the legend of the shafts - squares half shaded in, and also a circle. I think I can see some shafts. I am looking at Number 5 tunnel. You see circles up towards the left-hand top - the north west. Would that be correct?-- Within the Box Flat workings all of the entries from the surface are tunnels or incline shafts, excepting that there are shown within some of the plans of Box Flat shafts which are underground shafts and are termed by the miner as staple shafts, which interconnect portions of the seam, or seam to seam through the stone measures dividing them. But they are underground shafts and do not reach the surface. They are staple shafts.

The ones I was referring to up towards the north west are circular ones. Can you pick out any with the square part shaded in?-- Would you repeat that, please?

On the legend we have some shafts, up on the top right-hand corner - squares half shaded in?-- Yes.

I cannot pick any offhand?-- No. There are none there.

The next legend is "Intake air: blue arrows." Is this the situation: that all the parts marked in blue represent in ordinary operations avenues for the intake of air?-- Correct.

And those shaded in red represent the avenues for returning or exhausting air?-- Correct.

It is clear enough even to a layman that mining operations have been carried out to the south and to the north, and apparently have been mined in a particular area at a time?-- Correct; in what they call sections.

If we look at Number 5 just by way of example, the last one to the west before you get to the red exhaust returns, we have four - what would you call those? Drives?-- That is what you would term a four heading entry, in parallel roads, as you see by the plan, in bearing, and interconnected by cut-throughs, or throughers, angled between roads, the angling being to give facility to the turning of vehicles and the easing of the ground which is encountered in the working.

In that particular area lines are drawn across. What is the significance of that?-- That indicates that that particular panel, which is designated Number 8 south - correct - was driven out to its limits of boundary - of a geological or physical boundary - and then retreated back towards the dip.

In such a retreat further coal is taken, leaving a greater height of mining described than was perpetrated back towards the section. Either bottoms were lifted or tops were dropped; or in this particular case in the bluff seam where the normal work there is in the bottom of the seam, it would be the middle that was dropped or worked in the middles, or picked up in the bottom.

That is in the areas where the lines are hatched?-- Hatched.

The other parts of the worked areas where there is no hatching indicate what I might term normal mining operations that have been carried out - without bottoms, tops-----?-- Yes, with a coloured code on the coloured plans indicating by the colour of the hatching just which particular section of that seam was taken in that retreat - by the colour of the hatchings. But this is a ventilation point.

We also have from the legend brick and stone stopping. Where do we find examples of that?-- All the way down the junction of those sections which we described, and of the air courses which we have coloured.

The purpose of that being to seal off the area that has been mined?-- Seal off and exclude air.

In case I forget to ask you, where that stopping has been put up, is it permanent in the sense that it requires no further maintenance or assistance?-- In a mine of this magnitude, or any mine, stoppings have got to be explored and maintained from time to time. They are normally made of concrete bricks hitched into the ribs, floor, and roof, and mortared together in their construction, and are subject to all sorts of deteriorations throughout their life, and these deteriorations must be maintained. You have weight and crush, deterioration, perhaps, of bricks, and these things must be plastered to maintain an air-tight condition of that particular stopping; and to that purpose our mine officials and sub-officials do patrol the areas and constantly look out for any fall-down of this stopping which we have erected around the mine to conduct air into these passages into which we want to direct air.

By "constantly patrolling" may we take it that it is a day-to-day job?-- We could say week to week we would be seeking to patrol. A conscientious mine management will exceed that minimum and do it more often.

Also on the legend we have stone pack stopping?-- You won't find any of those at Box Flat. They are not used here any more.

Doors maybe of some importance. Have we some doors here?-- Yes. You will find those doors between intake and return at various places, either single or double.

Are they normally shaded in on, say, No. 5?-- Yes. We can look to that section on the southward portion of 5 where it heads back to the parallel return airway with the intakes, and then travelling back towards the surface, two cut-throughs on the left. You will see a single door between the blue and the red. That is intake and return.

Yes, I see. What function does that perform? I appreciate it is in connection with the ventilation. Would you elaborate on that, please?-- The doors between intake and return are maintained in certain positions to allow ease of access between that which is intake air and the return airways, both of which are travelling ways for inspection and maintenance.

That certainly saves a considerable distance: is that the idea - or is there something more to it?-- No, that is about it - access at various places. If they were solid stoppings it would entail perhaps the walking down of the whole of the airway and back up, which would be miles of walking against roads.

While we are at that spot, where there was a door we also see nearby a concrete stopping. Is that what it would be? Or some sort of stopping?-- It would be a brick stopping.

The brick stopping there that we see seems to be pretty much a row of it. What purpose does that serve?-- The brick stopping between intake and return separates those two airways which do operate under different pressures. The pressure of the air on the intake side is atmospheric, whilst the influence of the fan reduces it to a pressure below atmospheric - that is, on the fan itself - causing a flow then from the intake to the fan and return which has got to be conducted into the passages which you require them in, and these stoppings do separate those differences of pressure between intake and return and the flow in opposite directions there.

Towards the eastern side of the No. 5 tunnel plan we have shown No. 5 tunnel?-- Yes.

I appreciate that that is a tunnel through which air is taken into the mine. What other function does that tunnel perform?-- The tunnels we are looking at on No. 5 represented two entries, one some 100-odd yards further west than the furthest east piece of blue you see there.

One hundred yards further east?-- Yes. This is the entry to the conveyor tunnel or the conveyor drift, and this tunnel further west, that entry which is marked then, this is the entry to the No. 5 man and supply tunnel. These two tunnels are in the same plane and do converge in the vertical plane to a point at which we have marked - or do we? We don't have it marked on this particular plan, but they converge on the vertical plane to what we term the bridge, from which point on they become the one tunnel. From that point forward to the furthest depths of the mine that particular tunnel contains both a conveyor - now we must qualify this. To a point which we term the pit bottom that one tunnel contains both a conveyor belt and a man and supply haulage which finds its entry in the man and supply tunnel.

What finds its entry?-- The man and supply haulage from the pit bottom, which can be noted in the vicinity of a cable bore which is marked above an intake stone drive from Wright to Bluff on the mid-right of the drawing (indicating).

I am having a little difficulty locating it. There is a cable bore?-- "Cable bore" is marked around about that area (indicating).

That is about the pit bottom?-- That below there (indicating) represents the pit bottom on the conveyor tunnel, and from that point in, by, or towards the depth of the mine in that man and supply and conveyor tunnel which has now become the one, the conveyor belt continues on and collects the coal or produce of the mine and takes it up to the surface

via the conveyor tunnel entries, which is the beginning of the blue marking on this plan, east - on the eastern end.

For my benefit, even if for nobody else's: the term "pit bottom" is not necessarily the lowest point?-- Not at all, no. It is a point of termination of our man and supply haulage in this case at which we transfer men, stores, or other materials - a collecting point.

Before we leave No. 5, the ventilation that is serving No. 5 is the same one which serves No. 7; is that correct?-- This requires quite a bit of explanation.

You can do it now, if you like. I was going to bring you to it after; but as you please?-- No. 5 and No. 7 being in seams vertically separated by approximately 60 to 70 feet of strata accept their intake air from the surface from four separate entries. Two of those entries which converge to one in No. 5 are the man and supply tunnel in No. 5 to the conveyor tunnel of No. 5. Then further south across the road the entries come into the Wright or four feet seam 60 to 70 feet below the Bluff occurs, and we see the two blue marked intakes of No. 7 man and supply tunnel and No. 7 main. Into these entries courses the intake air to the mine. No. 5 intakes travel down the main and then, as you will note, splits to a companion or parallel tunnel, and these travel to the extremities of the workings and split north and south. Fresh air then courses along the intake roads of the innermost working sections in each direction and returns then via a return road, which is normally the top road of each section, back to the main return, which then travels on the northern and southern sides of the main intake entries. In the particular case of No. 5, the south return up-road can be followed to a point where there is a return stone drive marked, and you will see a rightangle in the red return. At the stone drive it is driven at a grade of approximately one in one and connects the Bluff seam with the Wright seam, and that returns up, travels down to a stopping, and then is forced down on the stone drive to the Wright seam where it joins the red seam return and makes its way to the air shaft. The no. 7 intake entries, being the man and supply and the No. 7 main, accept their intake air through those entries (indicating) and then travel towards the dip. At a point some 500 yards from the surface you will note on the No. 7 plan a telephone number marked "41". It is "41" encircled. To the left of that (indicating), you will note a drive then running obliquely away from the direction of dip towards - back towards, if anything, the dip, and at the head of that drive or the left-hand end of that drive will be noted "bin" (indicating). This is a drive which has connected the lagoon seam, which in the Box Flat area has not yet been worked, but this drive did connect back to that, and that seam exists some 70 to 73 feet below the wright or four feet seam.

It then travelled up under the intake to the Wright, some 15 feet below it, and separated from the floor of that drive by 15 feet of sandstone. Then it intersects the return drive, and then travels over the top of the next Wright drive, and makes its way up ultimately to the bin site which is in the top of the Bluff seam, and therefore some 30 feet above its pavement. This particular drive accepts intake air from the No. 7 entry, and transfers the intake air back and up to the intake of No. 5. In other words, the intake flow is from 7 to 5 via that drive. As we proceed further down, say, 100 to 110 yards-----

You say from 7 to 5. 5 is the upper?-- Yes, 5 is the upper. As we proceed further down, say 100 to 110 yards, we find the telephone number encircled, No. 42. At this point we will see the blue intake leave the No. 7 ventilation plan and travel in the direction of the dip up a further stone drive, and connects the Wright seam up to the Bluff seam in the vicinity of that area in No. 5. That is to say, the pit bottom area or the underground haulage area. This drive accepts intake air in over from the Wright seam, up the stone drive, to the junction from the intake air flowing further down the dip within the Bluff seam or No. 5 tunnel. As we trace our plan further and some 40 chains further west we see a further stone drive from right to Bluff, and travelling in the approximate direction of the dips for the traffic in the main direction of Box Flat.

This stone drive is of a lesser grade and also does then transfer the intake air again from the intake to the Wright seam up to the Bluff seam where it joins the No. 5 intake out to the section and then returns to the air shaft.

It must further be mentioned that in No. 5 mine the north return also will be noted to proceed to a similar stone drive to that to the south but further to the dip by some 16 chains, and it in turn then by stopping and drives goes to the Wright seam, returns and joins that Wright seam return on its way back to the air shaft.

So far as ventilation is concerned, are the collieries equipped with fans?-- Yes.

What types of fans?-- On the ventilation plan it will be noted that there are two fans marked. There is the No. 7 air tunnel, and at the head of that tunnel there is a fan which is not in use, and that particular air tunnel is not in use as a return tunnel for that fan, but this particular fan is an axial flow type of fan. The air travels through that fan in an axial direction through the blades. At the head of that parallel return we have 114 double width double inlet aerofoil type of centrifugal fan. This centrifugal fan varies in operation from the axial-flow type in that air enters the centrifugal pump and is thrown off the tips of the blades, and these blades are of the aerofoil design as used in aeroplanes.

They are exhaust fans?-- They reduce the pressure at that point whereby the air flow is reduced from atmospheric pressure to the reduced pressure to a point of low pressure which is the fan.

You have referred to the ventilation plan which I think is a big plan. We have not been able to get that big plan set up yet-----

MR. GIVEN: As we have not been able to get the big plan set up yet, I have some to a smaller scale, and perhaps the members of the Inquiry could have a look at these copies.

THE WARDEN: Very well.

MR. GIVEN: Perhaps I should tender that ventilation plan at this stage.

Ex.4. (Admitted and marked "Exhibit 4".)

(Copies of plan on smaller scale handed to members of the Inquiry.)

WITNESS: I do not have a copy of the Bluff seam.

BY MR. GIVEN: This is the head of the Bluff seam. I may well be wrong, but my understanding was that this showed the ventilation for both seams. Am I right or wrong?-- Wrong, but there is included on the right-hand or eastern end of that plan those returns which take this through to No. 7, and that is the shaft situated at the head of the air tunnel which is No. 7.

If we could come back to this document, Exhibit 4, I appreciate now, with regard to ventilation for the Bluff seam, that this plan does in fact involve a superimposition of part of No. 5 on to No. 7?-- That is correct. It shows the skeletal intakes and returns of No. 5 right to its extremity without detailing the intakes and returns for the sections which are foreshortened, and it shows then the transfer of the return down to the Wright seam, and then, of course, via the Wright seam to the shaft which is necessary to show the full picture.

I wonder if you could briefly take us through from the intake from No. 5? Where does it go to to get right back to the exhaust fan?-- Commencing at the surface of the conveyor tunnel at No. 5-----

Pausing there for a moment, this plan, incidentally, is round the wrong way because south is to the top?-- South is the bottom and north is the top, and it is designated along the top. The air enters the No. 5 entry which is marked farthest to our right on this plan, the No. 5 conveyor tunnel, and then further to the west the No. 5 man and supply, and these in fact do a "V" course to the Bluff plan and converge at that point some inches in from where you have designated "bridge". This is a vertical intersection of the conveyor drift and the No. 5 man and supply from which point you may also note that we travelled towards the bottom of the plan, as it were, or across one cut-through in blue and travelled then in parallel with that to the bottom of the mine. This is what we term a companion intake which might also be noted, and at the head of the companion intake there is a stopping.

That is at the end of the blue?-- At the right-hand end of the blue in the companion intake. This stopping was against an earlier incidence of fire about 1955. This fire was sealed away, and this intake was available as a companion to that which we now know as the man and supply and conveyor tunnel.

Now, we do have a further intake occurring across to that side opposite to the main or companion. That is on the right side going in, and we get a short circuiting into the third intake over a length of about half a dozen pillars as we go down; reconverging then with the reconveyor tunnel itself intaking still, and also is its companion on its left as we go forward to the dip.

That further intake is the one down from lagoon seam? Is that the one?-- We have inspected the intake via the bin down to the main intake which is in the bottom of the seam, and the bin comes from the top of the seam. This staple shaft gives us that duct which puts us into the bottom of the seam, or the conveyor tunnel which is there. That is accepting the intake down there from that bin, from the bottom of the bin which came up across the measures drive which we term "41", or the telephone number at the base of it. Further down some couple of hundred yards we see this other stone drive from the Wright seam which we term "42" on that telephone number on the Wright plan, extending to our Bluff. Then on the Bluff seam are intakes and accepting intake air from the lower Wright or "41" seam on to the Bluff seam. These join our intake supply, and is travelling to the dip from the No. 5 workings. As we get to the bottom of the dip, or the left-hand extremity of the plan as I am looking at it, we see this final drift of the telephone from "49" as we designate it. That in turn is carrying a flow which again is ascending intake air from the Wright seam or "41" seam to the higher Bluff seam, and joining that intake and splitting north and south before returning via the north and south Bluff returns to the Wright seam and the fan shaft and the fan.

Is there anything further that you care to add at this stage, generally speaking, on the ventilating system? I am not thinking specifically of what happened on this particular day, but generally as would lead to an explanation?-- An explanation - and our panel who are mining men would appreciate this, anyway - we have four major splits of air from two separate intakes, returning north and south in both sets of workings, they being the upper Bluff and the lower Wright, with interconnection on the intake side of the three stone drives explained, and in which stone drives the flow of air is from the Wright seam to the Bluff seam, that is, from the lower seam to the upper seam. There is only one other thing which I should add for the benefit of the panel and the Court, and that is to give some explanation of the fan control which is exercised on the 114 D.W.D.I. fan. The fan is powered by a 335 horsepower 415 amp. motor of 1,485 revs. Its speed control is by hydraulic scoop coupling which allows windup or windback of revs on that fan without any of the fiddling and changing of pulse or any other mechanical gear. This scoop coupling then transfers to a gearbox to the fan shaft, and the fan itself, so that we do have a rapid change in water gauge speed and quantity available at this fan at reasonably short notice. That is all I wish to say on the ventilating system.

At the time of the events with which we are here concerned - it is probably quite apparent from these plans - what workings were going on in the mine? I do not mean at the very instant, but what part of the mines, the two seams, were being worked?-- We were working those sections of the mine which are shown on your four chains to the inch - which are easier to handle, and they are marked as current area splits. In No.7 we were working No.7 and No.8 north, a rare occasion at Box Flat where there are two sections on the one side being worked at the one time. Normally, it is one north and one south, but in this instance we have the two, and then, from time to time, of course, there was some deep working in seven, No.5 deep drivage being discontinued because of the convergence of the Bluff seam towards the horizon of the Wright seam from 1100 feet to 1600 feet. Then in No.7 tunnel we have the position which I described as being No.9 south and No.9 north sections being worked under normal production day and evening shifts.

On No.7, the Wright seam, what number south was being worked?-- No.7? The two north sections. I switched my tunnels on you; two north sections in No.7, north and south in No.5. I must correct that.

That is 6 and 7 north on No.7. Is that right?-- No, 7 and 8 north.

I beg your pardon, yes?-- And Wright, No.9 north and 9 south.

In No.5, yes?-- Yes, No.5.

Those are the only areas of the two seams which were being mined at the time?-- Yes, and we term mining production through the sections which are being worked at that time.

As you have already indicated, there would be the regular maintenance work going on?-- In various places as it was required, yes.

Was there any other so-called work being carried out in the mine apart from that maintenance and the actual mining production?-- No, not at this stage of proceedings. It was not normal mine work. The last foreign work that had been carried out was the driving of these stone drives which we described in No. "41", the stone drive between 7 and 5 which was carried out by a contracting company called The New Process Company, and you will hear it termed - perhaps applied to that stone drive, you will hear three terms, and that would be the "41" stone drive, in accordance with the telephone number; the New Process stone drive, after the name of the contracting company who drove it; and the local boys might term it Alwyn's drive. Alwyn Grulke is the under-manager in the mine whose duty it was to look after these contractors who were contracting to drive this particular drive at the time, and the local boys designated it Alwyn's drive.

At this particular time how was the mine worked? Was it one shift, three shifts a day, or what?-- There were normally three shifts worked a day, yes; two full shifts, and a dog-watch coming in.

I think those are all the general questions I wish to ask you about the set-up of the mine. Is there anything else of a general nature that you feel might be of assistance to the Board?-- Yes. I feel that we should explain the mine area in prolongation to the panel of the number of seams over and above those to which we refer as Bluff and Wright, which were worked in and around this vicinity. Working from the plan which we do have in front of us to date, we go to our right.

There has been a little bit of confusion here, I think, in that the ventilation plan is upside down from the other plans. There may be a bit of confusion at times -----

THE WARDEN: I think we should restrict it to "north" and "south", rather than "left" and "right".

WITNESS: If we go south from the conveyer tunnel, or roughly south, we see No.6 tunnel.

BY MR. GIVEN: What plan are you looking at now?-- I am looking at the four chains to the inch, No.5 tunnel.

1
10
20
30
40
50
60
70

Yes, it goes south from Number 5 tunnel to-----?-- To Number 6 tunnel. Now, this is a separate entity mine-----

I am sorry, I have not got that. Yes, I beg your pardon?-- Not connected in any way with Number 5 or 7, but did work in the bottom of the Bluff seam, the bottom middle. Between the entry of Number 6 tunnel and the Number 5 and Number 7 tunnels and not yet shown on the plans available to the Court - but on their way to the Court - we do find that there were aberdare seam workings in two tunnels which were numbered Number 3, the aberdare seam, of course, being some 80 to 100 feet above the Bluff. Then as we move further towards the north, and looking at the Number 7 four-chain-to-the-inch plan, we see Number 8 tunnel in the Wright four feet seam of drive, roughly in a direction almost at right angles to the Number 7 drives. In turn, Number 8 tunnel, which is the new mine, is not in any way connected with 5 or 7; travelling further north and to the entry of Number 4 man and supply, and looking at the Box Flat Number 5 four-chain-to-the-inch, we see Number 1 tunnel crossing its dip obliquely under the Number 5 tunnels. The reason for this is that Number 1 tunnel was driven in the bottoms of the thick Bluff seam. The higher or rise areas of Number 5 tunnels, as we see them on this plan, were driven in the tops of the Bluff seam in which they get down to the four two drive area or some distance above that when they were driven down through the middle to the bottom of the seam. Now, there was in the history of Box Flat 5, a physical connection by staple shaft between Number 1 Bluff bottom's working and Number 5 Bluff top's.

What is a staple shaft?-- A staple shaft is a vertical shaft driven between two seams or two separate sections of a seam, an underground shaft, as it were, not emerging to the surface. Normally these shafts are connected for ventilation purposes over the history of the mine. It must further be noted that the bin at the head of four one stone drive, which we are describing, does in fact connect the bottoms and tops of the Bluff seam. That in turn has a staple shaft which becomes a bin to contain coal as part of its duty when necessary. There also does exist further back down this four one stone drive a further staple shaft between the bottoms of the Bluff and that stone drive. In other words, the companion intake area is connected by that shaft to the drive and then back down to the conveyer tunnel via that bin which, in turn, is also a staple shaft. There further does exist, but not marked on the plans which have been produced as exhibits to date, further staple shafts on the northern side of the working in this particular area to which we are referring. That is the four one stone drive area. Slightly to the north of that there do exist further staple shafts which do connect the bottoms of the Bluff and tops of the Bluff in these bottom and top workings which are shown on this plan with the criss-crossing lines as you see on the northern side.

Excuse me, you said, "Connect the bottoms of the Bluff and tops of the Bluff"?-- Yes. There is an air connection existing between the bottom workings in the seam of 33 feet and the tops which work five feet to the roof of the seam. Intervening from that five feet or eight, ten, eighteen feet is the residue of 33 feet of coal which forms the roof of the bottoms through to the floor of the tops which forms an air connection between the workings top and bottom of the one seam. Then further, and not disclosed on this plan to date, slightly to the north of Number 5, there does exist what we term the Number 2 tunnel workings which are in the Aberdare seam, and again at a higher level in the strata than the Bluff seam. This Aberdare seam tops and bottoms works to the dip and away to the north of this area and does, in its course of working, have connection between its Aberdare seam by shaft down to the tops of the Bluff seam. These Number 2 tunnel Aberdare seam workings then

further to the north make connection to the feet of the evassee or new aberdare air shaft, in excess of 600 feet in depth, as a result of which we do now have further connection to the working of evassee which were vertical shaft workings in the aberdare seam. Then again, further to the north and the west, and to the rise of the evassee shafts, the evassee workings in the aberdare seam have connection to the aberdare extended workings in the aberdare seam and perpetrate from the aberdare extended vertical shaft. In short, we have physical connection between the aberdare seam, the top of the Bluff seam, the bottom of the Bluff seam and the Wright seam of the four foot seam over a period of one and a half to two miles along its largely worked area, and it was commenced long before the turn of the century.

You would appreciate that at the moment I do not appreciate the significance of that. Are these connections open or are they closed off?-- They are not capable of being examined on the present working, but they do exist and, subject to sufficient pressure or forces, then that section could be re-opened or could not be re-opened; we do not know, but they do exist.

Anything else of a general nature, general information, you think should be put before the Board at this stage? No doubt we will all think of something later on?-- The only information that I think the Panel should be aware of is that Box Flat is a bitumenous coal field, the Wright and the Bluff seam, just black, streaming coal, and has no coking propensity within it which dictates that it will coke to any commercial degree at all.

The coking index of Box Flat coal varied from nought to our maximum of 2½.

For the benefit of some of us laymen, what do you conceive to be the significance of that?-- The significance is that under conditions of explosion, fire - particularly explosion - we could have the production of coke in this flammability factor; but we are taught that coals with little or no coking propensity, such as your lignites and your sub-bituminous coals, and your very low volatile coals which will not coke whatever, if exploded - if they did explode - if the low volatile coal did explode, they would not produce a coke; and that would, perhaps, in the future of this Inquiry, have some little significance.

THE WARDEN: Mr. Monger would like to interpose a question.

BY MR. MONGER: What was the normal ventilation current in the mine - volume and -----?-- Quantity?

Yes?-- The normal ventilation of Box Flat mine has been informed to me, and I have on occasions noted and measured, to have been currently at its closure 267,000 cubic feet per minute on the last measurement of which I was informed, on a water gauge of approximately five inches, and on an amperage of 390 amps on the loadings.

BY MR. GIVEN: There were in fact two fans; they are the normal fan and an auxiliary?-- The auxiliary fan is merely in the life of Box Flat an ornament in case of its being required. It is not used and it is not connected, and it is there in case of.

What was the first information you had that something may be wrong out at Box Flat on this occasion?-- At some time of the approximation of half past 7 to 20 to 8 I received a relayed phone call informing me at my position away from home on this Sunday morning, 31 July -----

Sunday was the 30th?-- I beg your pardon: Sunday, 30 July that there was some incidence of fire at Box Flat. This was a relayed message. I in turn went to my home and spoke to Mr. Lawrie on the telephone.

Mr. Lawrie being?-- Mr. Lawrie is the manager of Box Flat Nos. 5 and 7 - Mr. Alex Lawrie - who said that there was a small but unimportant fire in the mine in No. 5 return.

No. 5 return?-- Yes. This was rough information. And it was only a glow of four to six square feet in area, and that they were planning to handle this fire with Polyrack and fire hoses.

For the benefit of some of us laymen, what is Polyrack?-- Polyrack is a synthetic cloth, or what we term in the mine brattice, which we use to divide an airway, thus providing an intake side and a return side by the use of this synthetic sheet, whose trade name is Polyrack. It is a white fibreglassy-base material.

Fairly heavy?-- No. It is comparatively light, easy to handle, and easy to put up as compared with the previously-used hessian or brattice cloth which was heavy, hard to handle, hard to unroll. This stuff is much quicker put into position and equally as effective, if not more effective.

With a fire there, you put up a Polyrack screen with what end in view?-- Fire produces toxic and other gases, and men without breathing apparatus cannot approach a fire and work on it unless protected in a clean intaking air current. Therefore,

with the use of Polyrack they can provide themselves with clean intake air at their position and work with the fouled return running away from them and not coming in contact with their noses.

The use of fire hoses to put out a fire - I suppose that speaks for itself?-- Yes. The fire hoses provided at Box Flat and various places are one and a half inch diameter with normal fire-fighting nozzles.

In case I forget to ask you this question later on: the mine was provided with fire hoses?-- There are fire hoses provided around Box Flat, and fire hydrants, and in particular, and under law, down the line of that road which I indicated on these plans, for fire-fighting purposes should a fire break out on the conveyor line.

So far as you had been able to see before this fire occurred, was there any inadequacy in relation to the provision of fire hoses or hydrants?-- Initially there had been complaints that certain things had been provided and other things had not been provided, but there had been a catch-up with that lag. The actual condition of the positioning of fire hoses in their required positions on that particular night I could give no information on.

Incidentally, prior to this particular evening when you received a phone call, when were you last in the mine, and in particular in the area where you now believe the fire took place?-- I just couldn't answer that without looking at records.

Would it be very hard?-- (Witness looks at documents.) In respect of that question, the records of the dates of entry and inspection I do not appear to have with me. They will be available. The full reports from 1954 forwards to 1972 will be available to you. But also the mine record books are somewhere within the court. They will give that. They are here, but they haven't yet been tendered.

Perhaps we could come back to that at a later stage?----

MR. DERRINGTON: Could we have those reports tendered officially so they will be available for us to see? It will save time later on. The sooner we have them there, the better.

MR. CALLINAN: They are in my possession, but I am not prepared to tender them at this stage. There are some matters I want to check in them. Certainly, I will tender them at the first opportunity.

MR. DERRINGTON: I was really referring to the department's records.

MR. CALLINAN: I do not know what the position is there. I would have thought the department's records would have been in the department's possession, although, of course, we have duplicate records.

MR. DERRINGTON: These are not available to us.

THE WARDEN: These documents are required to be kept by the mine owner; not the department.

MR. DERRINGTON: I am speaking about the reports to which this witness has referred; and any of these materials that we can have at an early stage, because of the volume of them, will perhaps assist so far as time is concerned.

THE WARDEN: Perhaps Mr. Given can arrange that?

MR. GIVEN: The mine's records are not available at the moment - the Mines Department records. In regard to the mine itself, Mr. Callinan says there may be a lot of irrelevant matter in there, and if that is so, I am sure none of you gentlemen wants that; you only want the relevant things.

BY MR. GIVEN: Perhaps we can pass on over that for the time being?-- If you can explain the purpose of your question I might be able to give you to answer without the records.

All I am interested in is: how recently before the evening of 30 July you had personally been in the mine, just in case you had made any observations yourself?-- Up until reasonably recently before this I would have been in the mine, but in this particular area with which we are concerned, it would be many, many months. We don't particularly look at these areas regularly when going into the mine. Our main concern is in and around the working places - the ventilation and the conditions pertaining thereto - rather than these places situated - and they are important - situated, say, one-third of the way into the mine, and this is where troubles occur.

That was the only point. I thought perhaps you may have had some personal and up-to-date observations about which you could tell us?-- Not recently, no.

I think we had reached the stage where you said they intended using Polyrack and fire hoses in an endeavour to control the fire. Would you just take things up from there, please?-- Following that conversation with Mr. Lawrie per telephone, I pulled my overalls on, got into my mine's car, and travelled approximately 4½ miles from my home to my office to collect some draeger tubes, of which I was short, for the purpose of gas testing, if such were necessary. Outside of my office and at 8.25 p.m. I spoke to Kenneth Sbegghen, a son of the superintendent of the Booval Mine Rescue Brigade, who said to me, "What's wrong at Box Flat, Mr. Hardie? I have had a call for the brigade." I said, "I don't know, son. There's a fire, but it was not considered serious."

Yes?-- I left Ken Sbegghen, got into my car, and headed to Box Flat, which is a distance of some 5 to 6 miles from the office - between 5 and 6 - and a travel of around about seven minutes. I arrived at Box Flat manager's office foyer at approximately 25 to 9. I spoke to Mr. John McQueen who was there, and very briefly to Mr. Alex Lawrie who was very busy and had to attend to telephone calls. Very shortly after my arrival, and by approximately 20 minutes to 9, Merv. Jensen, acting brigade superintendent, and John Roach, a Box Flat under-manager and trainee of the Mines Rescue Brigade, arrived at the office.

The office we are talking about is situated just some short distance from the pithead? A matter of - what - 100 yards or thereabouts?-- The manager's office is situated right over the top of No. 5 man-and-supply tunnel and

30 to 40 yards from its mouth, and nearby its mouth.

I think reference will probably be made to a surveyor's office and a crib room?-- They are all incorporated within that office which we term the manager's office. You have the crib room, the engineer's office, the surveyor's office, and three manager's offices, around the manager's and under-manager's, and a foyer entrance.

I am sorry; I interrupted you?-- Merv. Jensen mentioned a foam-making machine for use below ground to me and said, "I have got either six or seven drums of detergent. What do you think?" I said, "Well, if we are going to use it" - when we had got it down to a quick calculation which I made of the closed section around all the drives - "you haven't got half enough", and he said, "Then should I send back for more?" I said, "Yes. It is no use taking it down at all with that quantity" - that quantity being, of course, subject to an expansion of a thousand to one.

In brief, what function does the foam perform?-- It forms a foam of bubbles over the top of a fire area and cools and also quenches and extinguishes it by excluding air.

As a matter of interest, on what did you base the view that the supplies mentioned to you were inadequate?-- Well, if you have a gross sectional area of, say, 300 square feet and a possible length which you have got to fill of 40 feet, then you multiply 40 x 300 cubic feet, and since you have an expansion rate of five gallons of a thousand to one, then you are either plus or minus of your mark, and we were minus.

I think I might have put you off a little when I interrupted you before. I think it was about 8.40 p.m., and you had mentioned Mr. Roach was there and Mr. Jensen was there. Did you see Mr. Alex. Lawrie in his private office at this time?-- Mr. Alex. Lawrie was busy on the phone just at this particular time - I don't know to whom he was speaking but then also at that time arrived more rescue brigade members. There was Len Rogers, one of our most senior blokes, Allen Berlin, Ron Hodgson, John Hall, and Noel Busch. They arrived in the rescue van. Allen used his own transport. They came into the foyer, and we had a very quick conversation, a very deep conversation, at which time Alex. Lawrie then came into my view again for conversation. He had been in his own office and doing other things, and I said to Alex, "How is your fan?" He said, "I have reduced her. She is ticking over." I said, "Right. Fair enough. I have got to get a look at this fire."

May I ask you: the fan had been cut back; ticking over. What would be the idea behind that, would you think?-- Well, we had a competent official below ground who was making observations and transferring his requirements, and I have no doubt that you will find out in evidence that this did occur, and Mr. Lawrie did, under the instructions of someone who was on the job, did make a reduction in the velocity or the quantity of that fan. I know that hearsay, but I can't give it as factual evidence given to me.

This will all come out in due course. You understand the officer below was Mr. Marshall?-- Yes. We then - the whole party, including Mr. Jensen and the other rescue members, proceeded into the mine surveyor's office. That is the office in which all of the plans are kept.

Remember this, that this was a Sunday night, getting on to 9 o'clock, and the surveyor was not there. The plans are well filed, and they had to be brought out from their files and perused. You have seen the Box Flat plans and the complexity of the arrangements of this ventilation system. We do not have a charter to distribute such plans to our Mines Rescue brigade, and therefore each member is not familiar with the layout of the ventilation and the layout of the mine around the field, other than by an occasional visit. So we then had the task of producing to Len Rogers and other rescue boys who needs must know the layout of the mine's ventilation before they could lead a rescue team into that mine in conditions that could be hazardous. We spent quite a time trying to get to this point of their being familiar with the situation of just what they were going into and for what purpose.

You say "familiar with the situation". Are you referring to the fire that was then burning or to the general set-up of the mine?-- The general set-up of the mine. These men had seen quite a number of fires and had handled them.

We may be at cross-purposes. Were these men familiar with the Box Flat mine?-- Some would be, and some would not. We must remember that Mr. John Roach was the under-manager of Box Flat. He would be familiar with it and would not need education. Mr. Berlin would not need much education on Box Flat although he might need details of the overall principles. Mr. Len Rogers was the manager of Southern Cross No.10. He had not visited Box Flat and these plans were not available to him to become familiar with them. Mr. Noel Busch the electrical inspector would not have recourse to this plan and set-up as such. Mr. Ron Hodgson and Mr. John Hall were mine deputies in occupation at Rhonda Colliery. None of these would be familiar with the mine set-up and the ventilation layout. Therefore they had to study this. In particular the mines surveyor, Mr. Len Rogers who was capable of picking this up much quicker than most people in the mining industry took some time to get himself familiar with it.

Whereas some of these gentlemen who did not work at this mine would not be familiar with it, the same could be said of some persons who worked at this mine in relation to others?-- That is quite correct. But of course I must further explain---

BY THE WARDEN: If you confine yourself to answering the questions we will get along further. Every question you have had put to you, you have been qualifying your answers.

BY MR. GIVEN: We got to the stage where a number of responsible officers were looking at the maps and plans to familiarise themselves with the ventilation system?-- Yes.

Before we proceed further with that, did you offer some information earlier on about the set-up of the foam machine or the phone operations in relation to an underground fire?-- Yes.

What did you say?-- That I would be hesitant to use it on a large deep-seated fire, but it would have a purpose in forming an insulating plug behind which to work, and therefore it should be taken down to see if we could use it for that purpose.

After inspecting the plans where did you go?-- Then at approximately 9.35 a party of men assembled and descended the No.5 man and supply tunnel to the pit bottom. This party included Mr. Alex Lawrie, the manager of the mine, and myself. It was reported to me that Mr. Harold Reinhardt, a Box Flat deputy, had also joined that rake. The rescue men under the captaincy and supervision of Len Rogers, captain, Mervyn Jensen, acting superintendent, plus John Hall and Ron Hodgson

and Allan Berlin and the later arrival of Pat Farrell stopped at the pit bottom with the foam machine.

With regard to that pit bottom we have been talking about, you went down No.5?-- Yes.

The pit bottom is about telephone 35, is it?-- Yes, but in the main man and supply conveyor entry, and in excess of 600 yards from the surface entry.

What did you see down there? What happened down there?-- I saw the rescue men unloading the foam machine and their gear and transporting them across the pillar on the pit bottom between the conveyor entry or man and supply entry and the underground man and supply which is the intake companion on the southern side of it. I saw Mr. Tom Marshall the superintendent of that colliery and I spoke briefly to Mr. Marshall. Mr. Lawrie and I then headed down the underground man and supply tunnel entering that man and supply below the haulage which operates the rack in that particular tunnel.

Can you pinpoint that on one of those maps?-- Yes.

You have a cable board?-- That haulage is marked on the plan to the scale of two chains to the inch, the Bluff seam ventilation plan. It is at telephone number 35 approximately.

That is the haulage near 35?-- Yes. From there Mr. Lawrie and myself descended this downgrade tunnel of about one in five for a distance of 380 yards on what we term No.6 belt road entry. During our hurry down this dip we stopped and spoke to two workmen, two mine deputies, Bill Abrahams and Brian Levitt. They were working at a stopping between the intake and return which contained a trapdoor or which had contained a trapdoor.

Had contained a trapdoor?-- Yes. The trapdoor they had taken out, and they had put a covering of Polyrack to exclude air from the return area and they were applying a hose to a fire which showed a glow through the translucent Polyrack.

Looking at Exhibit 4, the ventilation plan at the Bluff seam, can you identify that particular spot for us?-- I won't identify that particular spot because I think it will come into discussion at some later part of this Inquiry as to its actual position. To the best of my knowledge and from identification from this plan that trapdoor would be the trapdoor which is shown at the top of the arrow indicating the 80 yards and that entry which we know to be the location of the fire and No. 2 South Belt Road. The conveyor did in its turn run that road when it existed.

No. 2 South Belt Road, coming back from that position which you reached on that road, 380 yards down?-- No. 6 South.

That is 6 South?-- Yes.

Which is 2 South from there?-- That is 2 cut-throughs above that.

You say you think that is the area where they were hosing?-- I think that is the area where they were hosing. It was identified to me as that, but it has since been questioned.

I appreciate your problem and I am not being critical in any way. You are not too sure whether it was that one or the adjacent one?-- That is right.

Would you take it from there?-- We entered No. 6

the south belt road via the trapdoor which exists in the stopping, and as is shown there, and travelled across that 40 yards which is that distance across the pillar between the intake and the return, and we did in turn travel back up the dip towards the location of the fire which was clear and apparent to us above us.

On that Exhibit 4 someone has marked the location of the fire, and there is an arrow. Is that the arrow you are talking about?-- That is the arrow.

10
20
30
40
50
60
70

Yes?-- We then travelled up that approximately 80 yards, and there we saw Lloyd Jones, a production foreman at Box Flat, a long experienced rescue man, and Brian Rasmussen, a long experienced under-manager, and these two men were using fire hoses on a fierce fire flaming back up dip from their position at approximately No. 2 south belt road entry.

Up dip?-- That is away from them.

And away from you?-- Away from us, yes.

What about the volume of water? Can you say anything about that?-- No, the volume of water was there, a high pressure which does exist out on the conveyor, and with the fall that it has got through inch and a half fire hoses, a quite capable hose or feed occurs in each main, and it would be squirting water up that fire to its best capacity.

Take it up from there again?-- I said words to Mr. Lawrie which indicated that this was not a small fire; it was a pretty big one.

What about ventilation or movement of air?-- The movement of air was brisk - very brisk. The fire was flaming in what I term clean. There was no fume or smoulder hanging on that fire. It was a clean, fierce fire, but it was a floor fire. There was a heap of coal extended away to the roof from this point, and it was burning fiercely. The roof had not caught at this time, but there was a floor-to-roof fire.

You mentioned heaped coal?-- It was coal in heaped form. It was coal on the floor which may have come from anywhere - roof, sides, anywhere - but there was coal on the floor. There was fuel there.

May I take it from what you have just said that you realised there was a heap of coal there, but there was nothing to indicate to you precisely where it came from?-- No, nothing at all.

Carry on?-- I was considering what was the necessary next step to get to this fire which was apparently clean. We had no water gas trouble with the hoses. That was apparent. It was clean brisk burning. Gases were going away from it at a very fast rate. The ventilation was such that even though there was a Polyrack screen across the return side of this fire, it would just burst away from the pressure, and the pressure of air was going through at a high velocity, such that I could feel my overalls flapping against my leg. In other words, air was flowing at a great quantity and velocity. It was apparent from the few minutes I was there watching the men that they would certainly not put that fire out.

This Polyrack screen that was proving effective was positioned where?-- Down below the fire. I described our entry in through the trapdoor through No. 6 south belt to the screen, or just above that.

Just-----?-- Just above it.

Above is in what direction?-- To the rise, or back towards the surface. We were in perfectly clear air on the return side of that fire.

I think you have indicated that you said something to Mr. Lawrie to the effect that this was not a small fire; it was quite a sizeable one?-- Yes.

What was done? What was said?-- Mr. Lawrie and myself probably were both busy doing that which we thought we had to do;

thinking of what our next move was to be to keep air from this fire. It seemed apparent we had too much acceleration of fire. We were thinking this out, doing various things-----

Never mind telling us about Mr. Lawrie's thoughts. These were your thoughts?-- Yes. Whilst we were doing and thinking of any constructive action towards this, mines rescue man and captain named Pat Farrell poked his head through the trap-door of No. 6 south belt road and yelled to me, "There is smoke coming down the intake, Reg. You had better get the men out." I went in by, but before doing so yelled out, "Get ready, Pat. I want you and Lennie to come in and have a look at this." Remember that Len Rogers and Pat Farrell were both team captains, and should look at that which they were handling. I went in by with Mr. Lawrie. We gave warning to Lloyd Jones and Brian Rasmussen to withdraw immediately, and we saw them down from their position at the fire to our position down closer to No. 6 belt road, from No. 6 south belt road saw them through the trap-door and on their way out, and then Mr. Lawrie and myself came through the trap-door and out into the underground man and supply haulage way, in which we found smoke descending the intake.

You took it that that was where Mr. Farrell was saying that the smoke was descending?-- Yes. We walked our way back up against this descending smoke in which we had some visibility - it was not completely opaque; we had some visibility of some yards, one to the other - a few yards - for 380 yards to the pit bottom, passing the underground rake at some point on the way up, and at which we saw Box Flat men and mines rescue men sitting. I saw one mines rescue man giving one of the Box Flat men - at least one of the Box Flat men - a puff of oxygen. I did not accept this to indicate that the Box Flat man was in distress, but it did indicate that a long pull of oxygen under such occasions is very beneficial.

What about your own experience, say, at that time with breathing? Did you notice any ^{change} ~~thing~~?-- I received some form of hotness and restriction between the chest and the backbone after 380 yards of one in five, but then getting the fresh air and a feed of oxygen on the surface, it does help. That ultimately leaves you after a number of hours.

Perhaps I did not put my question clearly. When you were down there moving back to the pit bottom, that 380 yards, did you smell anything or notice anything?-- Yes, the air was full of fire stink and smoke - fire stink.

Yes?-- We assembled at the pit bottom, all men, and that included the Box Flat boys who were down there prior to our arrival, and they were checked off for identity in my presence, and we all loaded aboard a no. 5 surface to underground man and supply rake and ascended to the surface and fresh air.

Yes?-- This would have been at approximately 10.20. I was with Tom Marshall on the surface, the superintendent, and in my presence he told one of the senior electricians at Box Flat, Jim Foreman, that he wanted all underground power out.

Were you consulted about that, or that procedure?-- I was not. Mr. Marshall made that decision. I did not have to be consulted. It would have come out, anyhow.

You had no part in the making of that decision. What was the significance of that?-- We already had in the mine a fire, which is undesirable in a coal mine. We had a power which is subject to failure by, perhaps, fire.

Did it also give off sparks?-- Sparks, yes. They are securing the burning of coal. You might get a flash from that.

An order to cut off power, is that a safety precaution?--
My word, yes. It is a necessity.

Take it up from there. What happened after you got to the surface?-- All officials, including Mr. Marshall, Mr. Lawrie, myself, the mines rescue boys, inclusive of Len Rogers and others, went round to the surveyor's office to look over this matter of this re-circulation of smoke which we found coming down that underground haulage in the intake down to us in our fire fighting position.

The fact that the smoke was coming down the intake, was it a necessary conclusion that there was re-circulation? Is there any other explanation for it?-- No, we considered this in plant and said that the only - decided that the most apparent reason for this was some change in pressure differential along that return airway which gave us a pressure additional to atmospheric in the return which opened a pair of doors situated some 40 yards out by of the underground haulage, and these are marked on the plan.

Outbound of the underground haulage?-- Haulage, yes.

That is the haulage near telephone 35?-- Yes.

About 40 yards?-- One cut-through up.

Up towards the surface?-- Yes. On these considerations, any further underground attack on this fire on No. 5 was subject to our eliminating this short circuit.

Before we go on from there, what made you think about that particular pair of doors?-- Mine manager, Mr. Lawrie, Mr. Marshall, John Roach, Brian Rasmussen were familiar with the area, knew the doors, and they had told me they had checked those doors earlier in the night and they were closed. They were not doors, from their information, that were fastened with a handle. They were dependent on the pressure difference on the two sides of the doors - that is a greater pressure on the atmosphere or intake side as against a lesser pressure on the return side.

As you came up, you have already told the Board that you noticed smoke in the air?-- Yes.

In the intake section?-- Yes.

How far up do you recall you noticed smoke?-- I explained to you that our visibility was limited to a few yards as we came up. I could see Mr. Lawrie as I can see Mr. Hall. I wouldn't see him further away than that. So that we had no gauging or estimation of how far in front the smoke did exist and then fresh air existed in front of that. We had no information at all.

This is right up to the surface, was it?-- No. We did know that this smoke was coming down behind the haulage. We could see that when we got to that point; but when we crossed over one pillar width to that main intake, which is the conveyor road, and in which we had fresh, clean air, smoke was coming into the companion intake and not into the main.

But from that particular section up to the surface, the air was clear; is that the situation?-- Perfectly clear.

What happened after that?-- After discussions - a conference - Mr. Marshall and myself and the No. 1 stand-by rescue pair of teams went back over to No. 5 man and supply and boarded the rake. By this time it would have been quarter to half past 11, somewhere in that period of time. Now, the teams in this case included a number of fresh rescue men who had come to the mine subsequent to our first descent to No. 5. So that we had with us as our No. 1 team, again Captain Len Rogers, Pat Farrell, Ronnie Hodgson, Johnny Hall, a new man Ronnie Hollett, Arthur Hutchins, Alan Verrall, Ray Verenkamp and Max Petie. We descended No. 5 until we came to that position in the tunnel which is marked on this plan as "bin".

Yes?-- Which is approximately 150 yards short of the pit bottom. At this point we found dense smoke descending that staple shaft of the bin from the intake above intake air above 2 conveyor tunnel in which we were travelling. This, of course, stopped our progress and we bell-stopped. On reconsideration, we belled the driver back up dip approximately 10 chain to the bridge, which is marked on the plan. At this point we made the decision that we would drop down six cut-throughs or approximately six cut-throughs and make an attack or recognisance via the companion intake. Mr. Marshall and myself travelled across with the No. 1 team who coupled up and went into the companion under instructions and advice that the double doors giving trouble would be found if possible

approximately nine chains below our position. The team was not away long and came back to Mr. Marshall and myself, squatted in fresh air in this companion intake, and said that the greater progress they made, the thicker was the smoke and they could not advance any further into it than they had done. In other words, they couldn't get to the offending doors. It was then decided that Len Rogers and his No. 1 team - it was his decision to make a run below this bin down which smoke was coming, and attempt to get to the doors again in breathing apparatus via the pit bottom area. The stand-by team came into the companion and brought Polyrack. It will be noted that in drive, which I had indicated, that there are two stopping remnants left in the companion open, but they were at one time stoppings. The stand-by team then proceeded to put Polyrack across the upper of that pair of stoppings, or the higher, for the purpose of diverting fresh intake air from the companion across to the main conveyor dip carrying intake air for the purpose of further perhaps diluting that smokey atmosphere from the bottom of the bin down. In turn, Len Rogers and his team, who I did not mention, including Clarrie Wolski - who is an old, experienced under-manager of Box Flat No. 5 - went to the foot of the bin, coupled up their breathing apparatus, and travelled down, telling us their intention of going down to the pit bottom and fastening their lifeline to the conveyor structure of the conveyor door before proceeding across in an atmosphere which they knew would be smokey towards the pit bottom area. Neither Mr. Marshall nor myself saw our team again until our stand-by team had completed their job of air deviation from the companion and had boarded the rake with us and we had dropped ourselves down to the fresh air side of that bin position which you see marked on the side of the plan.

The No. 1 team under Len Rogers came out of the smoke and reported to us that things were hot at the pit-bottom area, pretty warm, smoke was very thick, the roof was a bit sweaty, and there was a little bit of pickling and flaking there. This was the report we got at that time; but they were unable to penetrate back up the dip from that position to get to the double doors which we were anxious to close and return as closed. At this juncture it was apparent that our underground attempts to get around this fire in No. 5 were finished. We had to try another avenue.

Would you bear with me a moment? Mr. Rogers's team would go down the intake beyond the bin. I am looking at Exhibit 4?-- All right.

To get to the double doors?-- They had to go to the pit bottom below that haulage.

Down to the pit bottom which would be where that spot is marked "680 yards to the surface", or where-----?-- Yes.

That spot "680 yards to the surface"?-- Yes.

Then they would go where?-- Across the pillar to that haulage dip in which you have got the haulage marked, and then back up that 40 yards up the dip to the position where those double doors are marked on the plan. We boarded the rake at the bin site and came back up to the surface.

Did they give any indication of how close they got to the double doors?-- No. They didn't get up past the haulage area. The smoke was thick. We came up to the surface, and by that time it would have been somewhere between a quarter-past 12 to half-past 12.

I think you had indicated that the conclusion was drawn that you could not make any further underground attempt?-- We were finished in 5 as far as underground approach to that fire was concerned. We actually were in retreat from the fire rather than advancing on it.

That is as far as 5 is concerned?-- Yes. We had further discussions at the office, inclusive of all the officials present and the rescue captain and senior men, and decided that, since No. 7 was a separate, intact entity, travelling its intake air from 7 to 5 where we had encountered smoke, it was possible and feasible to do an investigation of these stone drives with a view to planning an underground approach to cutting off the intake air from 7 to 5, and which was feeding that fire in 5. On this particular run Mr. Lawrie accompanied me, and we boarded the No. 7 man and supply rake. Again this time we had a No. 1 team and a standby team. The No. 1 team this time was led by John Roach, remembering that John Roach was a Box Flat official of a lot of experience, and was also a highly trained mines rescue man, and part of the brigade. On this particular occasion our standby team included the previous-mentioned members who were there, Pat Farrell, John Hall, Allan Berlin, and Ronnie Hollett. The No. 1 team, which was going to be the No. 1 active team, was led by John Roach. Len Rogers didn't go on this trip; he stayed behind to make a further study of the Box Flat plan in the surveyor's office. John Roach, Noel Busch, Max Petie, Allan Verrall, one of the Vemenkamp boys, Ron Hodgson-----

Mr. Livermore?-- Don Livermore. He was also on the previous run - the last run of the five. We dropped the 500-odd yards to what we see on the plan as 41 telephone, and which we term 41 stone drive, which connects the Wright seam, or the four-foot seam with the top of the Bluff seam - Turn 14. y/9

telephone 41. From the man-and-supply intake of seven there is direct entry to that stone drive which is an intake drive, and we examined that drive in both directions expecting to find smoke up at the head of that drive or the Bluff-seam level, but looking for any possibility of using that avenue. A conveyor structure was in the course of erection for that particular stone drive. Our rescue boys went forward up the drive, but after travelling some distance up the drive towards that bluff scene, returned to tell us that the smoke was too thick to make further advancement into No. 5, or Bluff seam area. We expected smoke to be there. So did our rescue men. We wanted to know what thickness there was of it. There was no smoke descending that drive. It was intaking up that drive, and the smoke was off No. 5 scene, or fire scene at the top of it.

Whereabouts is that in the----?-- In the 41 drive up its top towards that bin or staple shaft area - staple shaft which is marked there. We came back out of the 41 drive to the No. 7 man and supply and reboarded the rake and dropped approximately 110 yards down to that next stone drive which travelled to the Bluff seam which we term 42 in accordance with its telephone number. The standby team remained at the foot of this area in clean intake air provided by the No. 7 man-and-supply intake. Mr. Lawrie and I preceded the team up this drive up towards the Bluff seam level until we could see smoke up ahead, but the air was still intaking freshly across us, and that smoke was up at the head of the drive or the Bluff seam level of that drive. Our No. 1 team came up to us at this position, and we gave them and discussed with them our instructions or their endeavours to retrace their tracks under that overcast which is marked on the return crossing intake across to the No. 5 underground man-and-supply and then see what they could do regarding another shove back at these doors, but also know the condition of things in the Bluff seam area at the head or top of that drive. I also notified John Roach and the boys up on the drive that the position at which we had jettisoned the foam-making machine in the No. 5 underground man-and-supply haulage in smoke on our first trip down was just somewhere in the vicinity of the intersection of the intake road with the underground man and supply, which position I am indicating on the plan below the haulage - somewhere there. The foam-making machine was in dense smoke. I instructed him to get it out if it were feasible without undue risk to any person. The boys disappeared into the smoke up and around the corner in the No. 5 seam, and after being away some time came back struggling along manhandling this foam machine which they had got off this rake where we left it.

Alex. Lawrie and I went up to meet them and called the standby team up to give them assistance. They in turn did so. I must tell the Court that whilst Lawrie and myself were up in this drive and whilst the team were up in the No. 5 area we heard three roof bumps at that position - "bump, bump, bump." It might sound like sound effects, but that is approximately what that roof does. Mr. Lawrie and myself discussed this. We had both heard it before at night time - stress release bumps high in the strata - and to us it didn't indicate within the fire locality or the Bluff seam roof area locality, but was high in the strata, and in all probability induced by that stress release caused by mining. On returning to the bottom of the stone drive with the foam machine, we loaded it back aboard the rake, belled away, and came out to the surface. Our rescue boys had reported to us that the smoke was very, very thick now in and around that area which we have termed the No. 5 underground man and supply and in which the rack stood which contained the foam machine. They all say that it was pretty warm, and this was the report that we got at that time after the run by the captain - it was pretty warm coming back over the overcast. The overcast is that on this No. 5 seam connection which connects the door of 42 stone drive with the underground man and supply, and it is this overcast which we mentioned. It is a reinforced concrete overcast, to the best of my knowledge. Well, it is a reinforced concrete overcast. We travelled back out of No. 7 and got to the surface at approximately 1.20 a.m., 31/7. Men assisted in getting the foam machine off the rack, and we officials and rescue men left them and went to the office again. By this time there was quite a number of people moving and assembled around the surface who we knew to be the normal oncoming dogwatch personnel who were timed to start for midnight. They already were at the mine for normal duty. On reaching the office we further discussed that situation which we had observed, and Mr. Marshall, Mr. Lawrie, myself, John Wright, Len Rogers, Pat Farrell and the remainder discussed these things - some people took a cup of coffee - and said on the evidence we had obtained on our runs into 41 and 42 we observed that the normal course of ventilation as it occurred in Box Flat - that is, intaking from 7 up to 5 and keeping those stone drives clear - was to normal conditions. In other words, there was no smoke backing against that intake air in its designed route and direction of travel. It was therefore decided by all persons there that it was feasible to make a last attempt at an underground attack on this fire by attempting to temporarily seal off those intervening stone drives from 7 to 5 and described as 49 in the dip area, 42 stone drive approximately a third to halfway down the tunnel, and 41 stone drive approximately 500-odd yards from the surface.

The Inquiry adjourned at 12.55 p.m. till 2.15 p.m.

The Inquiry resumed at 2.15 p.m.

MR. GIVEN: I have two very short witnesses here who will give pretty much the same evidence. I do not want to call both of them, but I would like to call one and let him go on his way if I could interpose him.

THE WARDEN: Yes.

ALLAN EDWIN KIRK, sworn and examined:

MR. GIVEN: Your Worship, it has been drawn to my attention that quite a number of persons who have been subpoenaed are in court. I am not in a position to identify them. It is probably not desirable that they should be here unless they have some special function by way of instructing their representatives, I would think.

THE WARDEN: No.

MR. GIVEN: There is also the problem that there maybe others in court who have not been subpoenaed and who maybe called as witnesses, but I am afraid I cannot help very much in that regard.

THE WARDEN: No. Would you prefer they be asked to leave? Actually, as you well know, the only effect it has on their evidence is on the weight we give to it, of course.

MR. GIVEN: That is so, yes.

MR. CALLINAN: I must say, Your Worship, that I would prefer to have them out.

THE WARDEN: To have them out?

MR. CALLINAN: Yes. I might say that I have two people in court with me from the mine management and it is conceivable that they will be called as witnesses. I think one of them has been subpoenaed. I have discussed the matter with my learned friends and they have raised no objection to it because these gentlemen are here to instruct me and assist me. I would respectfully submit that it is undesirable that these other witnesses be in court unless they have this special function.

MR. DERRINGTON: Yes, I would join with that. I might mention before this began that Mr. Callinan and I discussed the matter with our other Brothers here and we all agreed that we would have no objection in the case of Mr. Callinan's officers from the management. I think he has some expert witness who is sitting in on it all.

I had no objection to that. Mr. Townsley is in the same boat. I have one of the miners' officers with me at the present time. This is by arrangement. Apart from that, I think it would be desirable to have the witnesses outside.

THE WARDEN: Yes, I agree. It is normal practice that witnesses should not be in here.

MR. DERRINGTON: Mr. Given was inside at the time and we did not mention that to him, apparently; but there was no objection from any of us at the Bar table to each other's clients.

THE WARDEN: Yes. I agree it is normal for witnesses not to be here. I did not know if there were any in here.

MR. DERRINGTON: Neither did I.

THE WARDEN: If there are any people in the Court other than those mentioned by counsel and who have been subpoenaed to give evidence, would they please leave.

MR. GIVEN: I was simply informed there were such people. I have no idea myself.

ALLAN EDWIN KIRK, examined:

BY MR. GIVEN: What is your full name?-- Allan Edwin Kirk.

Where do you live?-- 8 Ruskin Street, Eastern Heights, Ipswich.

What is your occupation?-- I am a Metropolitan Security Services officer.

You know what this matter is about?-- Yes.

You know it involves an explosion at the Box Flat mine some time in the early hours of 31 July this year?-- Yes.

Were you anywhere near the scene at that time?-- I was sitting in the guardhouse at the Swanbank Power Station, which is approximately 350 yards from the mine.

Being a bit more specific, are you generally familiar with the set-up of the mine?-- No. We are not real conversant with the mines at all. We know where they are situated. We know that No. 7 is on one side and No. 5 is on the other side, but other than that we do not patrol in the mine area at all; only up to the edge of the mine area.

No. 7 and No. 5 are areas of the mine that you know of?-- Yes.

In the course of your patrolling, how close do you get to the windlasses or winches?-- Actually, I don't patrol at all; I am at the gate all the time; but we have two guards that are continually patrolling, and they patrol right up to the belt tunnels that lead from Box Flat and Southern Cross, and they patrol right from those tunnels, which is about 50 yards from the mine mouth.

While you do not do patrolling, may we take it that you yourself have been up that close to it?-- Yes.

The hut where you were is about 350 yards from the five and seven areas?-- Yes.

In which direction?-- The mines are directly west, I should say, basically. The guardhouse is here, and the No.7 mine would be straight there (indicating), and five would be just on the other side of the road.

What was the first that you knew that something was wrong at the mine?-- The two guards - they had met at T.P.1. That is the turning point of the belt tunnel which we call T.P.1 coming from Box Flat and Southern Cross. From there they rang me and they said they had noticed volumes of smoke coming from the mine mouth, and I said to them to come straight back to the gatehouse because it could be dangerous up there. They came back immediately, and as they were coming back I rang my headquarters, because we ring them a quarter of an hour or so just before each hour; and they arrived back approximately a quarter to 3, and they had walked in the gate and closed the door and sat down ----

Walked in the gate of your ----?-- Of the gatehouse - and sat down, and immediately they sat down the first explosion took place.

Now that was right on, right between 2.46 and 2.47, so that was according to our clock, and there was one - the first explosion shot dirt and debris into the air. There was just a small flash at the bottom, and then the second was a double explosion - was a double explosion which I couldn't work out which was first, the heavy dull explosion or the huge double explosion which sent flame and smoke and coal dust straight, I would say, 500 feet into the air. Well, from where I could see, I could see the top of the corner of the power station, and the flame was well above there and it was right from the power station - appeared to come right out towards the fence and in through the switchyard of the power station.

I am sorry; the flame was above the height of it?-- Yes. Oh, yes. It was huge - rolling red and black smoke and flames.

So we can be quite clear, it is not what you took to be a reflection of some type?-- No, no reflection, no; definitely flame and smoke.

Up to a height of ----?-- I would say between four and five hundred feet.

Ignoring the dull thud, there were two noises, were there - explosion noises?-- There were three explosions from the top side of the road from No.7. There was a single one first, with the double-barrelled one that came after with all the flames and the smoke that belched into the air.

"Three"?-- Three.

Why do you say the three came from No.7?-- Well, we were looking directly at ----

Never mind about "we". What were you doing?-- I was looking directly at No.7.

You mentioned about material going up in the air. Material went up? Did you notice any material come down?-- Well, there was a lot landed on the road opposite the guard-house, right up towards the powerhouse on the opposite side of the road.

- That is between you and the ----?-- And the mine. We also picked up bricks on the other side down towards the bottom end of the carpark, on the eastern end.

How far beyond your office would that be?-- That would have been another 150 to 200 yards.

Bricks?-- Bricks; white bricks.

Clay; 9 x 4?-- Well, they were the broken half bricks, you know?

Apart from bricks, did you notice any other object about the place?-- Yes. There were pieces of timber. One we picked - well, I would say "we". I don't know which one of us it was that picked it up - but I did later find out by one of the boys that worked with us from Box Flat now that it was called a bell wire insulator, I think, and arm. Well, I gave that to Mr. Hardie some weeks afterwards.

I do not know the object, but have a look down on the table here (indicating). There is something down there that conceivably could be an arm?-- (Shown to witness). Yes, that is the piece of timber, yes.

Did you pick it up?-- One of the three of us. We were out on the road after the explosion, and this was just out a bit from the gate in the middle of the road.

Whether you or someone else picked it up?--?-- It was one of the three of us.

You are in a position to identify it?-- Yes.

As being picked up on the road?-- Yes. //

// On the road leading past the gate house but in the front area just outside the gate in the middle of the road. There was a terrific amount of other debris outside it.

MR. GIVEN: I tender that object.

(Admitted and marked "Exhibit 5".)

BY MR. GIVEN: You say these three explosions came out of No. 7?-- Yes.

Did you see anything come out of any tunnel or diggings connected with No. 5?-- All I heard was the dull heavy explosion below the road which later I noticed had hit into the dam bank. This bank goes down pretty steeply and it is behind J.T. 1 which is junction tower 1. This belongs to Swanbank, but belts bring coal from the mines up through there. Earlier on in the morning about five we noticed that there had been an explosion down there, and it ripped through the belt tunnel, through the iron on the belt tunnel, and hit into the bank on the other side.

As I understand it you observed enough to tell you that there had been three explosions out of No. 7?-- That is right.

Never mind what you found out later, but did you at the time see anything to indicate an explosion in No. 5?-- I didn't at that time, no.

MR. DERRINGTON: We are wondering about the order of cross-examination.

THE WARDEN: It is immaterial to me.

MR. DERRINGTON: It could constitute a serious problem if any of my friends ask leave to raise questions on material I have not covered. We all seem to be in much the same boat. Perhaps it might be possible to permit any of us to re-examine upon any fresh material that might be raised afterwards.

THE WARDEN: Yes, I would be prepared to allow that so long as it does not go on for ever.

MR. CALLINAN: I submit it would be undesirable to happen every time something arose; otherwise we could go on for months.

MR. DERRINGTON: In that case I would ask for a ruling. I represent the next of kin and I claim the right to cross-examine on every matter that is raised.

MR. CALLINAN: I have been given to understand by my learned friend that some allegations will be made and are almost certain to be made against my client. I want to be in a position to answer those. Obviously it would be quite impossible for me to do so if I am compelled to cross-examine at an early stage. As I understand it, I do not know of any magic attaching to an appearance on behalf of the next of kin. I have never heard that that dictates the order of appearances. I would suggest that

we go down the table.

MR. TOWNSLEY: I support those submissions. Common sense would suggest the possibility of some allegations against the chief inspector and inspector of mines occurring from the direction of Mr. Derrington's clients. I adopt my learned friend's submissions insofar as he says that we will be disadvantaged if we have to go first and hear allegations after we sit down.

MR. DERRINGTON: According to Section 74 I think my friend would have the right to re-examine upon any issue I would raise, and if during re-examination he were confined to any further material I raise, that would be exactly the situation I was prepared to accede to in the first instance.

THE WARDEN: I rule now that the cross-examination be in the order in which you are now seated, and if there is any need to re-examine then leave will be granted if necessary.

CROSS-EXAMINATION:

BY MR. DERRINGTON: How long before the explosion did you receive this telephone call from one of your workmates to the effect that there was black smoke coming from the mouth of the tunnel?-- About two minutes.

Have you spoken to him since about it?-- Well-----

Are you able to tell us?-- The first week we talked a lot about it.

Are you able to tell us how long he had observed this smoke issuing from the tunnel or tunnels?-- Not more than a couple of minutes.

So that is a couple of minutes from the 'phone call to the explosion, and he had seen it for a couple of minutes?-- That would be round about 2.42.

And in relation to that issuing of smoke do you know whether he is able to say whether or not there could have been smoke issuing from the tunnels prior to the time when he observed it?-- No. He walked from B station which is on the eastern end along the cooling towers towards T.P. 1 where he met up with the other guard and the other guard asked him to come out and have a look.

Whichever one first observed it, do you know whether he observed the smoke starting to come out or might it have been coming out for some time before he saw it?-- The only way I got it was smoke billowing from the tunnel, and he said, "It doesn't look real good."

Did they say what colour the smoke was?-- They said it was a yellowy grey.

When you were giving your evidence-in-chief in answer to Mr. Given did I understand you to say that with the first explosion you saw a slash?-- Just a low flash, but mainly it was what appeared to be dirt.

That was the first explosion of all the explosions?-- Yes.

Which one did that come from?-- From No. 7.

And then you subsequently heard another combination of explosions?-- That is correct.

First of all a dull one?-- I couldn't - I wasn't able to pick out whether it was the dull one that came first or the double second one.

They were almost instantaneous?-- Yes.

But you heard three reports?-- Yes, after the first explosion, which made four altogether.

And you saw this large billowing of flame and smoke?-- That is correct.

Smoke also?-- Smoke and flame.

What colour was that smoke?-- Black with red flame billowing in amongst it. It appeared to be coming straight at us.

And that appeared to you, of course, to be an extremely large explosion, did it not?-- Yes.

Did you feel any ground shock at all?-- Yes.

Severely?-- I have felt severer ones.

CROSS-EXAMINATION:

BY MR. CALLINAN: Did you observe black smoke billowing out at all yourself before the explosion?-- I had not noted that, no.

MR. DERRINGTON: I think he said it was yellowy grey.

BY MR. CALLINAN: Yes, yellowy grey smoke. Did he indicate where it was actually coming from?-- He said it was coming out of the mine tunnel. But, as I say, we do not have anything to do with the workings of the mine. We only go up to the edge of the power stations.

Do you know yourself which are the fan shafts or fan tunnels?-- There is a fan shaft just outside T.P. 1. I do not know what it is used for.

You do not know whether in fact this smoke was coming out of one of the fan tunnels or fan shafts or whether it was coming out of one of the other shafts?-- No. They rang me and said it was coming out of the mouth of the tunnel. The fan near where they were standing would not have been from here to you.

Which fan is that? Is it numbered or has it any identifying feature?-- I do not know, but I think they call it No. 8.

CROSS-EXAMINATION:

BY MR. TOWNSLEY: As you were facing these mine openings did you know that the fan expelling air out of No. 7 was on your far left and the entrances for people to go down were on your right as you look?-- No, I did not know about any other fans but the one up near T.P.1. I did not know of any other fans.

What do you call T.P.1?-- It is the belt tunnel turning point.

Were you able to distinguish out of which tunnels particular explosions issued?-- I have often noticed of a night the coal coming up this beltway. In trolleys, it comes up.

Yes, it comes up in trolleys to a big wheel on top - structure?-- Yes. That is the one it appeared to come out of.

And, of course, did you know or did you not that quite close to it is yet another tunnel; to the right of it, as you were looking is another tunnel for men and supplies to go down?-- No, I didn't know how many tunnels were there. I just knew there was a mine there, and men went down to work.

Did you notice at the time or subsequently what damage, if any, was done to the Swanbank Powerhouse?-- Yes, immediately we got up we noticed that the windows had blown at this end.

When you say-----?-- On the eastern end, that is, on the end where our gatehouse is situated, and we all noticed the plastic windows had blown out; not completely blown out, but big chunks had blown out of them, and later in the morning when I took the fire engine around to the back to show them where the fire hydrants were in case they needed them, I noticed that all the windows were blown completely out of the end of the power station, and out of the demineralisation plant at A station.

Directly between your guard house, where you were sitting or standing, and this tunnel that you think the explosion came out of, there are certain structures attached to Swanbank, are there?-- Yes, a switch yard.

What erections are in that switch yard? What do you call them?-- Huge insulators.

How high?-- They stand around about, I would say, between 30 and 40 feet high.

Did any of them suffer damage?-- No damage at all.

Did anything strike any of them as far as you could see?-- No, no sparks, no damage was done, although debris landed on the other side and on our side of the gate.

Are there a number of those insulators?-- Oh yes.

How many, roughly?-- Oh, I would say 300 to 400.

Are they connected by wires?-- Yes.

There were no flashes, flames or damage apparently to them?-- No, it was just a sort of short blackout, and lights went out and came straight back on again.

Would you agree that those insulators were pretty well directly opposite this tunnel out of which you thought the explosion came?-- I would say they would be, yes.

Would you agree that the force, apparently, of the explosion would appear to have gone over the top of them?-- From the direction, I think it would have, but the flame appeared to be coming straight through the switch yard.

Straight through the switch yard, the flame?-- Yes.

You mentioned some bricks being found some 150 to 250 yards even further east of your guard house?-- On the edge inside of the gate, yes, in the car park.

In the car park which is adjacent to the dam?-- Yes.

What colour were those bricks?-- They were a whitey colour.

Did you see any structure of white brick in and about the mine entrance?-- No, I never went up near the mine at all.

Was there any discolouration of any of those - I think you called them - half-bricks?-- There was. I would say there would have been a quarter of an inch or half an inch of black coal dust settled all around the area.

What, right down as far as you found those bricks?-- Not quite down as far as those bricks, but right down at, say, 15 or 20 yards past - well, more because all our cars were covered thickly in coal dust.

Perhaps, to tidy up the geography of it a bit, to the right of your guard house there is a dam?-- That is correct. In between the dam and our gatehouse there is the car park.

The car park and a road?-- Yes, and a road.

And it was in that car park, or back to the east of your guard house that you found these bricks?-- That is correct.

You said there were four explosions altogether?-- Yes.

My note of your evidence was that the first was a small flash?-- Small in comparison to the second one. Well, it was just like in the form of a huge mound of dust and that that went into the air.

Is that at the same place you are speaking of?-- With the second explosion - no, it was a huge ball of flame that went into the air the second time.

But coming from the same point?-- From the same point, and it was a double explosion. There were two distinct explosions, but then there was a dull, heavy explosion that was there besides.

THE WARDEN: Mr. Ramage, have you any questions?

MR. RAMAGE: I have no questions.

CROSS-EXAMINATION:

BY MR. PALMER: You mentioned that you felt this shock, severe shock?-- Yes.

Then you described it to a minor degree by saying that you have felt severer shocks?-- Yes.

What type of shock have you felt that would be more severe than this shock, or close to it?-- Well, during the war I have been bombed pretty severely in different areas, even during action and while I was in Japan and was being bombed by the Americans.

There again, could you give me something a little closer than that, because there are bombs and bombs?-- Yes.

There is the H bomb, and a 500 -----?-- That is correct.

I would like, if I can get it, how severe a shock it was. Was it just like a tremor of the earth, or a violent shock?-- Well, from where I was, it was more concussion. You could see the windows go in like that, you know, like. We have a very thick concrete floor, and although we did feel the vibration it was not - well, it was severe, but it was not as severe as I say as I have felt.

But you felt the vibration through that concrete floor?-- Yes.

Do you have any idea of how deep that concrete is?-- Oh, I would say maybe two feet in places, but I do not know whether it is solid concrete.

No, quite so; and about how far were you from the tunnel mouth of No. 7?-- I would say approximately 350 yards.

THE WARDEN: Mrs. Marshall, do you wish to ask any questions?

MRS. MARSHALL: No, but is Mr. Hardie going back on the stand?

THE WARDEN: Yes. What about you, Mrs. Reinhardt?

MRS. REINHARDT: No.

MR. DERRINGTON: I would like to ask a question about one matter. It is just to clarify one point that Mr. Townsley raised, or it came out in his examination.

THE WARDEN: Yes.

RE-CROSS-EXAMINATION:

BY MR. DERRINGTON: This thick black coal dust that you found deposited all over the area, you said a quarter to half an inch thick -----?-- Yes.

Was that soot or raw coal dust?-- It could have been soot; it could have been coal dust, but it was very fine.

MR. GIVEN: In the light of one matter that was raised, can I call briefly Mr. Mischke?

THE WARDEN: Yes.

REGINALD MISCHKE, sworn and examined:

BY MR. GIVEN: Would you state your full name?--
Reginald Mischke.

Where do you live?-- I live at 5 Norford Street,
Ipswich.

What is your occupation?-- Security officer of
Metropolitan Security Services.

And on the night of 30 July to 31 July this year, where
were you working?-- I was at the Swanbank Power Station.

Were you there at the time the explosion or explosions
that we have heard about occurred?-- Yes, I was.

What was the first indication you had that something
might be amiss at the mine?-- The first indication we had
was when I was patrolling in the weighbridge area; I could
smell, like, tar burning.

We have some evidence that there is a gate and gatehouse
which is about 350 yards away from the No. 7 area of the mine.
Do you know that No. 7 area?-- Yes, I am familiar with it now.
I was not just at that time.

Whereabouts in relation to the No. 7 area were you when you smelt the tar burning?-- I was on the weighbridge side, which is practically due south from the gatehouse, and it is perhaps the highest point in that particular area, I would say.

Coming south from the gatehouse - that would be about how far away from the entrance to No. 7 shaft?-- That would be very hard to gauge, but straight across I would say approximately 600, 700 yards.

You could smell something; could you see anything?-- I could see smoke rising but it was, you know, just that you could make it out in the light, and that was all.

Any idea in which direction you were looking when you could see it rising?-- I was looking back to Box Flat and it appeared at that particular stage to be coming out of the bins under the gantry where the big wheel is on the top of it.

There may have been more than one bin and more than one gantry. Do you know which gantry?-- I would say now it was definitely No. 7, the shaft where the bins come up to be emptied.

How many wheels has it got on top of it?-- Two.

It seemed to be coming from that area; what did you do then?-- I went back down towards the contower area and then I walked to the T.P.1 area and that's where I met up with Keith Beardmore.

Did you have some conversation with him?-- Yes, we had a conversation.

Never mind what it was; what did you do then?-- We walked through the T.P.1 and out towards No. 8 fan. We were very close to No. 8 fan and we were just observing the smoke.

Is No. 8 fan on your premises or outside?-- Outside.

In the colliery premises?-- I would say so, yes.

You made some observations there, and then what did you do?-- We walked back inside the T.P.1 junction and we rang the gatehouse.

And after that phone call did you go back to the gatehouse?-- That is true.

Having got back to the gatehouse, did you see and/or hear an explosion or the effects of it?-- When we arrived back at the gatehouse, we had more or less just settled down and got a cup of tea in front of us and that is when the first explosion occurred.

Could you give the Board an approximate idea of how much time elapsed between when you first smelt the smoke and when the first explosion occurred?-- That could be very hard. I would say 2 o'clock.

I am sorry, you think that is about the time when the explosion occurred?-- No, that is when I was up at the weighbridge and smelt the smoke, this tar smell, at about 2 o'clock.

Apart from what you have heard, did you appreciate at the time the time at which the explosion took place?-- I know the time the explosion did take place.

Do you know that from your own observations at the time or from what somebody has told you since?-- I didn't actually look at the clock but I know it was very shortly after quarter to 3.

All I am trying to get at is this: are you sure it was shortly after quarter to 3?-- I am pretty sure of it because Allan, the chap on the gate, rang in at about quarter to 3. We normally do this. It is normal always to ring at quarter to 3. I know it was very shortly after this that the explosion occurred.

So, in effect, what you are saying is that it was about three-quarters of an hour between when you first smelt smoke and the explosion?-- More or less, yes.

CROSS-EXAMINATION:

BY MR. DERRINGTON: You also saw smoke, I take it, about 2 o'clock at the time you smelt it?-- Yes.

Are you able to tell us whether or not the smoke may have been issuing out of that tunnel even before you saw it there?-- It is a possibility because the only thing that drew my attention to it was the smell. I could smell this tar burning and I was sort of trying, you know, to find out where it was coming from. That's when I noticed this smoke billowing out from Box Flat.

It was fairly dark over there, was it?-- Yes, reasonably so, but there is a certain amount of lighting from the powerhouse which reflects on that particular area.

I understand, but as you say it may have been issuing forth earlier than your having seen it?-- Could have been, but I didn't see it.

CROSS-EXAMINATION:

BY MR. CALLINAN: Where precisely was the smoke issuing from?-- That is hard because looking from the weighbridge also the T.P.1 area. It appeared to be definitely coming out of the gantry with the wheels on top.

You were what, 600, 700 yards away?-- That is the first time I noticed the smoke, but I did go close in the T.P.1 area.

What was the closest you came to the area where there was smoke, approximately?-- I would say from the T.P.1 to No. 7 would be approximately 60 yards.

What time did you get to the T.P.1?-- We were at the T.P.1 at about approximately 2.40.

And was there a pall of smoke in the area generally?-- Yes, it was really billowing, going straight up.

Was the whole area virtually covered in smoke?-- No, it appeared to be going more or less straight up because the air seemed to be still and it was going up - I would say, at a rough guess, it was well above the stacks at Swanbank.

You did not actually go over to the gantry to inspect where it was coming from?-- No, we didn't go across to it.

And when you were 60 to 70 yards away, were you paying any particular attention to it then?-- Keith, the chap that was with me, made a bit of a comment. He said, "I think there's a lot of gas in that smoke. I think we had better get out of this area.", and that is when we decided to ring Allan at the gate.

Did you think you could smell gas in the air yourself?-- No, I couldn't do that myself.

But he made the observation that it seemed to him like gas?-- Yes. Of course, we were watching it and the miners' lights were shining - some of the blokes were looking up at it and you could see their lights reflecting on the smoke.

CROSS-EXAMINATION:

BY MR. TOWNSLEY: Just to clear up one matter - you said you walked to No. 8 fan; what do you call No. 8 fan?-- No. 8 is the tunnel which, from what I could see of it, anyway, just from observations on top of the ground - it is the tunnel that goes more or less towards a south direction.

South?-- Towards the south.

It is a very big fan?-- When you are out in T.P.1 you can hear it going. That is what more or less drew our attention to it - that it is a fan.

You walked how close to it?-- Might have been, say, 10 yards from it, approximately.

That close - 10 yards?-- Yes.

And I suggest then that that would take you very close to where this smoke was issuing out into the air?-- Yes. As I said before, we would be approximately 60 yards from where the smoke was coming out of the tunnel.

From that point you then retreated back into Swanbank?-- Yes.

You say that smoke was going up in the air?-- Yes.

It was going straight up higher than the stacks of Swanbank?-- Easily.

The stacks or chimneys of Swanbank themselves give out smoke?-- Yes, that is correct.

How high would they be?-- The chimney stacks would be approximately 400 feet.

Did you hear any particular number of explosions?-- I would say there were definitely four explosions.

Could you describe them in order?-- I would say the first one was when we were sitting down with the cup of tea, as I said before. There was the explosion and I think we all jumped to our feet at the same time. The first remark was made by the chap Keith. He said, "Box Flat has exploded."

Where did that seem to come from?-- I would say it came from where we seen the smoke coming out. That is the general explosion it was in when it exploded.

How high did it go?-- I was sitting back close to the refrigerator, and there is an awning out over the gatehouse

and the flame appeared to pass that. How high it went above that, I couldn't say, but I could see it over that particular awning.

Just tell us very briefly about the rest?-- The next explosion was, like, I would say, two very close together, and it was on this occasion that we seen this terrific flame which appeared to me, like, a big wall of flame rolling towards us, and it was at this moment that we hit the deck. I got in behind the refrigerator and the other two chaps hit the floor.

That was a double one?-- Yes.

What was the next explosion?-- We heard another explosion when we were on the floor.

Did you notice if it lit up the countryside?-- Yes, it was a terrific flame. To me, having seen this for the first time, it was a tremendous explosion.

Any rough idea of how much countryside it lit up - how far you could see?-- It all happened so quick I couldn't really give you a description on that.

THE WARDEN: Mr. Palmer?

MR. PALMER: No, thank you.

THE WARDEN: Mrs. Marshall?

MRS. MARSHALL: No, thank you.

THE WARDEN: Mrs. Reinhardt?

MRS. REINHARDT: No, thank you.

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REGINALD NORMAN HARDIE, further examined:

BY MR. GIVEN: I think before lunch we had reached the stage where some discussion had taken place, and the proposal was made to shut off the No.7 and intake air from No.5, and make a last effort; is that it?-- Yes.

Could you take up the story from there, please?-- The first elements of this discussion occurred in the manager's office. All the responsible people, including team captains, management, officials, and ourselves were there together. It was agreed by all that this was feasible in fresh air, to carry out this attempt to deprive our fire in the higher Bluff seam No.5 of air which was intaking from the lower Wright seam; and it was further discussed as to how and when it could happen. In the course of that discussion, team captain Len Rogers had said after his hour or more perusal of the plans he had the grip of the situation, knew the system, and could see what had to be done. He said, "Reg, would not that be for fresh air?". I said, "Yes, Len. It will be fresh air work, all things being as we know them." He said, "Could not that be done with fresh air personnel?". I said, "Yes; but provided that protection to those fresh air personnel is given by the accompaniment by closed breathing apparatus men and the presence of the rake on site for the purpose of giving relief to men without breathing apparatus, and nothing occurred in this dip bottom area where the ventilation is getting close to the balance point, and the rake is then available for quick exit from that area should this eventuate." He said, "Right." During this period there were a lot of men present at the mine, including the full dogwatch, the tradesmen, and others had come on at 10 o'clock, the remainder at 10 to 12 or so. Mine officials were busy detailing men for various jobs, because the elements of this job were to first, in retreat, stop 49 stone drive with a temporary stopping, quickly back to 42 stone drive, temporary stop, thirdly back to 41 stone drive, temporarily stopping, and out of the pit. In the meantime, preparations still had to be made for the final stopping of the air feed to that fire which was still occurring, which is via the No.5 conveyor entry and the No.5 man and supply entry. Mine officials had done certain detailing by having those men taken off in parties or sent off in parties to make this preparation work. Other people were driving around in utilities and vehicles collecting materials such as sandbags, bricks, cement, and so on. Other people were busy in the workshop preparing for other materials required for stopping. Some of the rescue men were having a cup of coffee in the crib room of the manager's office during this time; and I went from there over to No.7 where some preparation was being made towards going down the mine. The rescue men were assembling there, and certain mine personnel were assembling there. There was an end-loader poked into the tunnel mouth area from the northern side at the portal with its scoop full of loam. Some men were filling sandbags from this filled scoop. Men boarded the rake, and I myself at this stage of proceedings was standing at the head with my foot on the rake. I was talking to Wally Murphy and Jimmy McNamara.

Who is Wally Murphy?-- Wally Murphy is a Box Flat workman who I have known for many, many years, both at Caledonia and Cornwall. He is the brother of Ron Murphy, the chief inspector. Jimmy McNamara was his workmate - and buddy mate, I should say, too. They travelled together and they worked together. It was my intention at that stage of proceedings that I would step aboard the rake with the remainder and go with them. Harold Reinhardt walked around the back of the rake and spoke to me, and I spoke briefly to Harold; and I saw Harold, who is also deputy at Box Flat, get aboard the rake. As I was standing there at that rake I was looking at Maurie Tait and Andy Heywood, and I think Len Rogers was there. I saw Ron Hollett performing certain rescue duties

in the checking at the tunnel mouth. I didn't know as well as others some of the men at Box Flat who went below that night, and I was informed later as to who they were.

What about Mr. Drewett?-- Bill Drewett also was on the rake. I knew Bill quite well, and I immediately recognised him and I spoke to Bill. Lloyd Jones I saw on the rake, because I have been associated with Lloyd Jones for many, many years in mine work and rescue work, and he is as familiar to me as my own brother. Brian Rasmussen also - I saw him on the rake. Whilst the men were assembled and sitting on the rake, I spoke to them there. In the meantime, of course, manager Alex Lawrie mentioned to me, "Tom and I intend to have another look at the plans.", and that immediately changed my opinions as to what I should do, and I said, "Well, if you are going to look at them, I had better put my head there with you."

What did you do then? Did you leave the rake then?-- No. I stood by on the northern side of the rail track as the men lowered away, but I spoke to them before the rake went down; and Johnnie Roach was there looking at me when I spoke to them. Len Rogers, Andy Heywood, Maurie Tait, Billy Drewett, and quite a few others.

Was there any particular instruction given?-- I am going to mention that. I spoke to Len, and I said, "You have got to lower no further in the first instance than 42 stone drive, Len, and get off the rake, couple up, go up," and I said, "John Roach, of course, was down with me on the previous trip there and had led the team. Have a look and examine the top scene and 42 stone drive and assure yourselves that there is no change of condition other than that which we saw on the last trip down some hour ago." If happened at least some hour ago. He said, "Right." The boys knew this. John Roach was perfectly aware of what that condition was. The rake departed-----

Did you give any further instruction?-- Yes. I did make the facetious remark that Fowler the engine driver had hiccups. I said, "Watch it." I explained to them that this was a brand new rope that they placed on the haulage the day before. It hadn't settled down to its complete book for smooth roll-out and roll-in, and I had experienced a couple of jerks on the way up which, to someone not inured, might have been alarming, so I said, "You will get a couple of jerks, but she's a new rope. Don't worry about it. It's right."

I was not thinking so much of that. Was there any instruction given to the men if any change in conditions was observed - change in conditions from when you and Mr. Roach and others had been down there earlier?-- Len Rogers and John Roach and Andy Heywood and Maurie Tait and Billy Drewett and the rest of the rescue boys took that as read, that any change in condition was immediate withdrawal from the mine because if they-----

I do not want to know what they "took"; I am wondering if any instruction other than this was given?-- Not in so many words, but this is generally covered completely in discussion, in that any change in condition meant exit quickly on the rake with protection of oxygen to men not wearing breathing apparatus. That was fully understood.

We take it that the rake with the men on board did in fact leave?-- Yes. The rake was re-allowed down the tunnel, and I watched the rope go by my feet as I stood on the side of the track.

Incidentally, at what speed would the rake ordinarily travel down?-- With men aboard, probably round about four miles an hour; and this was a 600 yard travel to 42.

The rake left the surface, and what did you do?-- I stood there and watched the rope reel out; and so the rope stopped. I remarked to someone alongside of me, "They must be down about 42 because they have stopped. They have got to examine 42."

You at that time were where? At the entrance to the pit?-- The entrance to No. 7 man and supply tunnel.

The winch driver was not positioned there, was he?-- No. The winch driver was on the winch which actuated the rope up and down No. 7 man and supply, but was further east from that portal somewhere in the vicinity of three to four chain - three chain, say - and at a lower level than the tunnel mouth itself.

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Having passed that remark, what next did you notice?-- The rope stopped only for a very brief period, and I can't give evidence whether it was a half a minute, one minute, or a minute and a half, but it was brief, and it started to reel back. I immediately took some alarm, knowing that there was a reason for coming back, because this brief look at 42 had decided the men to pull back; therefore there was something awry at 42.

And these were the inferences you drew?-- Yes, immediately; and since 41 is only approximately 110 yards above 42, I briefly watched this short ascent until the rake looked as if it was stopping again at 41. It stopped at 41, and I immediately went to the telephone which would have been somewhere - that is telephone 43 at the tunnel mouth, some few yards from where I was standing.

Can we get this clear? Your recollection is that it stopped somewhere, and the indication of the rope was that it stopped about 41?-- In my judgment it was 41. I was not watching the indicator because I was not at the winch. This is only my judgment and knowledge of the pit. I immediately went to the telephone. It is an automatic telephone system in the mine, and dialled the engine driver, Edgar Fowler, and since I was not aware at that stage of the proceedings-----

Fowler is the man on the winch?-- Edgar Fowler; and since I was not at that stage of the proceedings aware that the telephone number of the new process stone drive was actually 41, I said to him, "Edgar, what is the 'phone number of the new process stone drive?" He replied to me, "Extension 32." I immediately dialled 32, and the 'phone rang at that particular number, and it was ringing for some little time - perhaps for two to three minutes. I could not vouch for the period of time. Whilst it was still ringing, and waiting to hear from John Roach, and becoming rather concerned why I was not being answered, Edgar Fowler came half way over that distance between the haulage plant and the tunnel mouth to a bridge across the conveyor and yelled to me, "Reg, put your 'phone down. John Roach wants you on 43." "Right!" I immediately put the 'phone down and immediately got a ring, and immediately picked up the receiver, and I said, "Now, John, what is it?" The 'phone reception to my ear at this point of time was rather scratchy and "Donald Duckish", and I didn't immediately get the message that John was passing to me, and I asked him to repeat. I said, "Now, what is it, John?"

Pardon my ignorance, but what do you mean by "Donald Duckish"?-- From the back of the throat rather than forward in the mouth. After a couple of repetitions I received the message from John that the smoke was coming down 42 drive. This is from the Bluff Seam to the Wright Seam, which was against the normal ventilation of the mine, which travelled the intake air from the Wright Seam up to the Bluff Seam, and it was then turning into the main No. 7 man and supply dip and intake and travelling further into the mine by that drive. This to my mind was a complete change in the ventilation condition in Box Flat No. 7 Colliery, but in this short period of time Alex Lawrie, the manager, who was standing just beyond me somewhere, said, "I want to speak to John before you put the 'phone down, Reg." I said, "Right" - "Alex wants to speak to you, John. Here he is." I handed Alex Lawrie the 'phone and stepped outside the door. This is the door on the corner of the surface deputy's cabin at the entry to No. 7 man and supply, and I placed myself approximately two to three yards from that door whilst Alex was speaking to John Roach,

and was looking over towards No. 5 man and supply tunnel where there were lights moving about in there.

That office at the entrance to No. 5 man and supply tunnel, that is right at the very entrance?-- Right at the very entrance, and its southern wall would be a continuation of the concrete structure which makes the lip of the No. 7 man and supply tunnel - completely adjacent.

What do you call the lip?-- The lip or the portal around that concrete work that forms that scoop to that rectangle which is the tunnel mouth.

What is that structure made out of - the hut; the office?-- Brick; terra cotta brick.

What sort of floor?-- Concrete floor.

The roof?-- Corrugated iron.

And the door to it faces-----?-- East.

You moved some few paces out from that door?-- Yes. It must be added at this juncture that quite a number of the standby Rescue Brigade Members were in that deputy's cabin and resting in various positions around the walls at this time.

You, I take it, heard nothing of the conversation between Mr. Lawrie-----?-- No, I heard nothing of what Alex Lawrie said to John Roach or vice versa.

What is the next relevant matter you recall?-- I was looking towards No. 5 man and supply tunnel and heard someone yell, "Reg" - I can swear I heard someone yell, "Reg. Smoke is coming back up No. 5 tunnel." This is what immediately caused that alarm-----

"Coming back up"?-- Coming back up against the intake in No. 5 man and supply tunnel. Since this to my mind was immediate cause for alarm, I smacked Alex Lawrie on the back with my hand - he was in at the 'phone - and said, "Come on, Alex. We have got to get over to No. 5. The boys are getting into trouble over there."

At this particular juncture, for how long had you been above ground?-- We came out of the mine after our last trip into No. 7 - that is, myself - at 1.20 or thereabouts - a couple of minutes.

And this particular time is-----?-- This particular time is plus half past 2, in my opinion.

During that period that you had been above ground had you seen any smoke coming up out of any entry or exit to or from the mine?-- The smoke had been coming out of the mine evassee for the whole of the time I was in the mine. There was a fire there.

And it had been coming out - what was the expression you used - out of the "evassee"?-- Evassee.

And that is an opening?-- This is the chimney from which the air leaves the mine - the fan of the mine.

With the auxiliary fan not being in operation, am I understanding it correctly when I say that I understand it to be that the only place smoke or something like smoke was coming out was through the mine fan?-- The only return exit

open to the mine was the main fan shaft and the main fan.

And smoke had been coming out of there, I think you said, the whole time you had been there?-- Yes.

This is from about 9-----?-- Round about the quarter to 9, 20 to 9, mark. There was smoke coming out.

At any time during that period, quarter to 9, 20 to 9 onwards, and in particular during the last time you had been above ground, had you seen any smoke, or smelt anything coming out of the mine otherwise than through the fan?-- No. There was no smoke coming out otherwise than the fan evassee.

Of course, it is marked on these maps - No. 7 air tunnel main fan?-- Yes.

The fan is situated somewhere in the vicinity of that?-- At the mouth of that tunnel and slightly to the side; it would be the northern side.

And, as it were, set sort of side on?-- The air comes out of the mine in the direction of that drive which you see on the plan, and has ducted connections to those double inlets at right angles and to the north into the main fan situated there (indicating). The air then is taken through those ducts into the centre of the fan, off those double inlets on the tips of the blades, and out through the evassee into the open air.

You said to Mr. Lawrie, "We had better get over to No.5." What did you do then?-- We headed off in the direction of No.5 from the deputy's cabin at No. 7 at a fast rate of walking which from my knowledge of the rate of walking was approximately at least five miles an hour. We travelled a distance which we had since re-enacted a few times, and which we found to be approximately 25 yards in that direction, and the mine exploded. On my recollection, but subject to confirmation, it appeared to me that my first vision of the explosion was from No. 5 conveyor tunnel; but this is subject to confirmation from other evidence which might be given.

Be that as it may, we just want your recollection, and that is that the first sign of explosion was out of No. 5 man and supply?-- As this first explosion occurred Mr. Lawrie and myself then ran in a zig-zag path towards the road, and my observation of the explosions was fairly clear, and on rethinking it the first explosion of note that I mentioned was probably from No. 5 conveyor tunnel. Something seems to register there. I did see in unaccountable order a black explosion come out of No. 5 man and supply. I saw no flame with that, but I do recollect No. 7 man and supply fairly clearly in my mind. The mine exploded -----

When you say "No. 7 man and supply" --?-- An explosion from No. 7 man and supply which we must remember is on an elevation towards a grade of one in two and a half. That is projected to the air, and high over the immediate buildings behind that entry I saw a huge black cloud of presumably dust soot or some other material come flying out of the tunnel entry and high into the air and it flashed dull red as it exploded. This flash was not a bright flash to illuminate the countryside. I do recall an apparent suckback of that material towards the tunnel entry followed by a huge ball of flame rolling out of this highly projected tunnel hundreds of feet in the air, rolling as a ball and brightly illuminant. My estimation of the height of that flame would have been many hundreds of feet. Its illumination was such that the debris flying in the air could be seen. It was thick and it was corrugated iron, timber, steel, and all other manner of debris flying thick in the air and floating around in this brightly illuminated countryside. The illumination was such that I could see the leaves on the trees. I can recall seeing that detail in the almost perfect illumination provided. The colour of that illumination was reddish, bright but reddish. Immediately after that explosion I recall a third explosion similar to that which I described as No. 1 which extended itself again high to the sky with a dull red flash and a report. That to my recollection was the conclusion of the explosion, and in that period shortly after that the debris was still falling in and around the mine. Lawrie and myself fortunately escaped being clobbered or hit by this falling material around us, and I was able to yell, "Run for the office, Alex. Emergency. Police, doctors, ambulance." I myself wheeled in the No. 5 direction and saw men lying about in the almost complete blackness - I was wearing my cap lamp - covered in dust and pockmarked by flying small material. The other men that I encountered in the course of my quick run from 5 and back over to 7 were in a state of shock to some degree. Some were in mild shock, others were in heavy shock, and I expect that did also include myself. I then returned quickly to No. 7 tunnel mouth where I saw Merv. Jensen lying on the ground. I went to him, spoke to him, and it was quite apparent to me that Merv. was badly hurt. I saw Clarrie Wolski and others being extricated from fallen bricks and rubble from that which we described as the mine deputy's cabin at the head of No. 7 tunnel. It was very very severely damaged.

We can take it that it was very severely damaged, can we?-- It was blown in on the southern side. That deputy's cabin was blown in, stove in.

I am just going to try to hurry it along. No doubt there was a lot of detail given in relation to instructions with regard to injured persons?-- Yes.

Suffice it to say that all those able to help were doing their best to look after the injured persons?-- They were.

And quite a number of people were loaded into ambulances and transported presumably to hospital?-- With a base made in the manager's office which had the only light left burning, and the remainder was completely and utterly black.

Did you see Mr. Marshall in the vicinity?-- I had missed Mr. Marshall on my run around, and I thought that perhaps he was missing.

Did you find him somewhere ?-- On walking around and on making inquiries I found Tom over near No. 5. He was all right.

Did there appear to be anything wrong to him?-- Yes, he appeared to be deafened down one side. He did not hear me when I spoke to him on one particular side, and like all the others he suffered as a result of the shocking explosion we had just gone through.

I suppose that after the explosion you were all in doubt as to whether the tunnel had collapsed?-- We had grave doubts after this about the safety of the mine entries as to whether they had collapsed with the explosion of No. 7 main and were in some cases belching smoke. The fire was particularly active, apparently. Smoke was belching out, changing colour, and on that evidence there was a high possibility that we could brew up another explosion below ground which in turn jeopardised the safety of any person in and around those entries.

The police arrived. Would it be fair to say that they carried out a very efficient job in keeping people away and in offering assistance?-- A very efficient job.

Mr. Roach, the Chief Inspector, was notified, but prior to Mr. Roach's arrival at the mine John Lambert and Allan Truloff came to me and said, "Reg, we had three boys in the No. 5 conveyor drift and they are gone. We will show you." I went with Allan Truloff and I viewed that which I knew to be part of human flesh in a couple of instances, and I said, "Well, Allan, that is conclusive. We cannot do anything in pitch dark but in daylight we will do something about it."

THE WARDEN: I do not think there is any point in going through this. There was an inquest.

BY MR. GIVEN: There was evidence at the inquest identifying those gentlemen, and evidence was given as to certain circumstances?-- Yes, there is.

Now, the fan was badly damaged?-- Yes. Mr. Marshall and myself went over to the main fan to examine it some little time after the explosion, and we found that the eastern wall of the fan was blown out, besides other damage, but the shaft, motor and drive were apparently unharmed, and the fan was still ticking over on an almost open fan casing. There was some draw to the evassee by that fan, but it was a whitish vapour apparently being pulled from the upper levels of the No.7 atmosphere and from that area of the mine from which the stoppings would have been blown to the surface and by that which existed at that particular point not far from the entries.

Mr. McPherson arrived, Mr. McQueen Snr., Mr. John McQueen?-- Yes.

Associated with the mine - they all arrived. After dawn, was there some - Inspector Bailey?-- Inspector Bailey arrived after dawn, yes.

Was there some general discussion about the possibility of entering No. 7, the main haulage tunnel?-- Yes, there was.

What were the thoughts about that?-- This was discussed. At the No. 7 main, the ferocity of the explosion had hurled the north alligator or skip from 110 feet down the tunnel to a position of rest up in the bin on the surface, and many, many feet above the surface level. That skip was out of action, but in its reciprocal position and gauged to be approximately 110 feet above the underground bin existed another skip, and it was decided that we would attempt to pull this skip through to the surface in an attempt, perhaps, to re-run back into No. 7 which was the only entry not fallen after the explosion. This was done. The wagon was brought off road to the surface.

What does that mean?-- They were not on the rails - derailed condition. The crane re-railed that skip, and since the severe grades of such tunnel demanded that transport must be provided for any persons in gear to go below, we were attempting to do a trial run into that tunnel to assure ourselves that we did in fact have transport. The wagon derailed shortly after leaving the portal, and at that particular time observation on the emission from the No. 7 fan evassee showed that it started to spew tons of black smoke, indicating that that atmosphere within No. 7 was now contaminated by coal smoke, which it had not been hitherto; whilst No. 5 man and supply had been increasingly belching black to brown smoke in increasing volumes during that morning. In other words, now we did not have one entry which was accessible to a man.

The three gentlemen who had apparently been not far from the surface in No. 5 conveyor tunnel, you had clear evidence that they had been killed?-- We had clear evidence.

So far as the other 14 who were down in the mine are concerned, may we take it that a good deal of thought was given as to the possibility of their still being alive?-- We had every evidence and every thought to that purpose. The ferocity of the explosion/^{which} that observed damage to our boys in No. 5, and to which our boys, we knew, in No. 7 had been subjected, gave clear evidence that there was not one mere remote chance that one of those men could have survived for a fraction of a second.

Was there a meeting of the responsible persons?-- At the pithead at approximately 9 o'clock, a meeting of members of the McQueen organisation, that is, directors Mr. R. B. & J. McQueen, management representatives superintendent Tom Marshall and Alex. Lawrie, Mines Department official Chief Inspector Mr. W. Roach, Inspectors Charles McPherson and D. Bailey, also myself, Coal Board members Messrs. Crowley and Preuss, and Q.C.E.U. representatives President Charles Murphy, secretary Charles Peterson, Check Inspectors Ron Murphy and Steve Morgan, conferred at the pithead and reached unanimous decision that there was no alternative to sealing the mine.

From then on, during the day steps were taken to seal the mine so far as it was practically possible?-- Under such circumstances, equipment and personnel are readily volunteered. This is now Monday morning, and earthmovers volunteered their equipment and men to move inert material from the open cut down to the areas that had to be sealed. This would not have been

available on a Sunday night.

Finally, on 31 July you remained there until about 6 p.m.?
Yes.

And then you went?-- Yes, in the middle of the night till 6.

There are one or two other matters. You heard some evidence given a little earlier this afternoon by Mr. Kirk?
Yes.

In which he said, amongst other things, that some broken pieces of white brick were found, from memory, I think about 550 yards away from the entrances to No. 5 and No. 7 tunnels. Were any bricks of that description used?-- The only white bricks that I know of that went into the construction around Box Flat were at the No. 5 conveyor tunnel entry; the switch room, and other buildings in that particular area were built of white brick.

Were they damaged?-- Severely, yes.

So, conceivably, the white brick or bricks that Mr. Kirk was talking about could have come from there?-- It was reasonable to assume that that was the area from which they came.

You also heard Mr. Kirk identify Exhibit 5, I think it is; this piece of wood with the wire, some sort of an insulating cross-arm, on the table?-- That particular cross-arm could be undoubtedly identified by mine employees, and can be if you wish to call that evidence, that that is a cross-arm bearing the bell wires down No. 7 man-and-supply tunnel, and this evidence will be available to this Inquiry.

We will get that possible evidence. As far as you yourself are concerned, do you recognise it as being similar to the-----?-- Yes, because there is a particular feature to that cross-arm which shows that it had been put to the position which had been asked for by the department to put the bell wires in such position that operation was readily available from a sitting position on the rake, and that bolt hold indicates that.

I think you answered this next question. There is a winch for No. 7 coal transport shaft, and there is a winch for No. 5 conveyor tunnel. Is that right?-- There is no winch on No. 5 conveyor tunnel. The winch is situated outside of the portal and the man and supply; between the portal of No. 5 man and supply and No. 5 conveyor tunnel.

From my observations, one of these winches has one wheel on top and the other has two. Is that correct?-- No, I think you are possibly wrong. No. 5 at one time was the coal haulage tunnel which used the reciprocating alligators, and that was superseded by conveyor transport in No. 5. No. 7 still uses the two reciprocating alligators.

No. 7 is the one with the two wheels, the reciprocating alligators?-- Yes. We are only using one rope now in No. 5

I want you to look at some photographs now. Perhaps if I could do these in order, this is a photograph with No. 1 on the back?-- (Shown to witness.) These are the coloured photographs?

Yes, they seem to be so. Perhaps you could take them. Perhaps if you take them in order - they are numbered on the back. Take No. 1 and hold it up so that everybody can see, and very briefly say what it represents?-- Photograph No. 1

is a photograph taken in the direction south-east to north-west, and depicting the raw coal conveyor from the head of No. 5 conveyor to the raw coal bin which, in turn, feeds coal to the washroom. It also shows the spiral chute which lowers the coal from the delivery end of the No. 5 conveyor tunnel.

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It shows the bent structure and steel over the top of No.5 conveyor tunnel. Bent corrugated iron is also strewn about. I do not think there is a need for any further remark.

MR. GIVEN: They are numbered 1 to 11. Would you like them in as one exhibit with those numbers or do you want them separately? There are numbers on the back of some to describe them.

THE WARDEN: Yes, I think they can be one exhibit.

Ex.6

(Admitted and marked "Exhibit 6".)

WITNESS: Do you still want them described?

BY MR. GIVEN: Yes, just briefly?-- No.2 is a quick shot across the corner of the No.5 conveyor tunnel portal showing the wreckage around the surface and the head of No.5 conveyor.

MR. DERRINGTON: Could he just hold those up as he describes them?

THE WARDEN: Yes.

BY MR. GIVEN: Perhaps if you could go back in the witness box and hold them up so members on the bench and ourselves at the same time can see them?-- No.3 is a view across the No.5 conveyor tunnel portal showing the ruptured reinforced concrete, ruptured by the explosion, the raw coal conveyor from No.5 head across to the bin and the fill which sealed the collapsed area in by the concrete portal. No.4 is again a view of the No.5 conveyor entry area viewed to the north and to the face of the switch room which is on the northern side of entry. It also shows a little of the ruptured reinforced concrete portal - that area (indicating). No.5 is the delivery end of the No.5 conveyor. It shows the wreckage and disruption of the structures around, and it also shows the beginnings of the spiral chute which delivers the coal from this head (indicating) down to the raw coal conveyor to the bin. No.6 is the head of No.7 man and supply portal area. It shows the deputy's cabin in the immediate right with the collapsed wall, the southern wall of that cabin, and the doorway inside of which that telephone 43 is located. A traverser beam remains there out of quite a number. The remainder were blown out. No.7 is a further view of No.7 man and supply entry and portal showing the rails after the change of grade into that portal and the wreckage on the southern side of that main entry area. No.8 is the surface arrangement of the No.7 main coal haulage tunnel showing the pithead, gantry, haulage frame and wheels on top, and the raised position of the alligator skip which was thrown from 110 feet inside the portal to this position at rest outside that area (indicating).

That is where it came to rest after the explosion?-- It came to rest 110 feet from inside the tunnel. That was the evidence that I have got. No.8 is a further view of No.7 man and supply entry viewed across towards the north-west from the south-east and generally showing the wreckage and the deputy's cabin again on the far side of the photo. No.10 is a photo of the disrupted condition of the main fan. This is a 114 Aeroflow double whip. This is the eastern wall of the fan completely blown out with the baffles disrupted. That is the condition in which the eastern side of the fan finished up. No.11 goes back from No.5 conveyor entry showing the broken conveyor belt, the spiral delivery chute from the conveyor delivery end to the raw coal belt to the bin, and the drive head area of that conveyor - the main conveyor.

There is some writing on the back; frankly, I have not read it myself, but it is only a description, is it?-- Only on one

side there is writing.

THE WARDEN: I do not think it matters, does it?

MR. GIVEN: No.

BY MR. GIVEN: There are just a couple of matters with which I would like to conclude. I appreciate a lot of your information is hearsay; I simply say that I appreciate that. On your own observations, as well as on your own inquiries, have you found anything which suggested neglect or fault contributing to this disaster on the part of the mine owners, employees - in the sense of executive employees - or any of the working employees at that mine?-- I have not.

I mean by "working employees" from the lowest eschelon right up to the top executive?-- No.

Apart from fault on the part of persons, did you see any evidence of lack of equipment or faulty equipment - any fault in equipment - that may have contributed to this disaster?-- I saw no lack of equipment - remembering that my trips into the mine were reconnaissance trips. Myself and the teams did not get the opportunity to do one stroke of good towards containing that fire. The equipment that we had with us, we did not use. I saw fire fighting equipment in the form of hoses, with which I could not see fault, being used on the fire in the first instance.

I am sorry, which you could not see ----?-- Any fault.

No fault, in their use?-- The fire fighting equipment was in order and it was being used.

Before I forget - and I realise you would have to rely on hearsay here - so far as your information goes, when did anybody or when was the first that anybody realised there was a fire of any sort in the mine?-- At Box Flat?

At Box Flat?-- From the information gathered by myself, the first realisation that an actual fire was in Box Flat was, on my estimation and reconstruction, approximately 6 p.m. when it was seen, from information, by Mr. Lawrie and Mr. Rasmussen.

When it was seen by those two gentlemen - what was your source of information in relation to that fact? Where did you get that information?-- By a telephone conversation with Mr. Lawrie at some time around 7.30.

That is Mr. Lawrie phoned you?-- I phoned Mr. Lawrie. Mr. Lawrie had sought me to inform me - he is obliged within 12 hours after to inform me - he informed me immediately, and in our conversation, on his last view of the fire he said it was not a severe fire, that it was just a glow in the head, four to six square feet in area.

Am I understanding you correctly: when you phoned him at 7.30 he told you that he had seen a fire of these dimensions at about 6 p.m.?-- He didn't tell me he saw it at 6 p.m. at all. This is my own deduction - remembering, and this Court must remember that every person to whom I have spoken here, implicated in this explosion, has had his timings and his general memories blown out, and reconstruction is more important.

I certainly appreciate that, but I am just trying to get this: when you spoke to Mr. Lawrie at 7.30, he told you that he had personally seen a fire of the dimensions you have given?-- Yes.

Did he tell you what time he had seen it?-- He didn't tell me that. He did subsequently measure it up.

Subsequently he told you he had seen the fire when?-- We agreed finally that it would have been about 6 o'clock.

That he saw it at about 6 o'clock - Mr. Lawrie and Mr. Rasmussen?-- Mr. Rasmussen, the under-manager.

He told you that - you have no first-hand information about this, but your belief is that Mr. Rasmussen was with Mr. Lawrie ----?-- I spoke with Mr. Rasmussen through the evening.

Your understanding on the basis of information from Mr. Lawrie and Mr. Rasmussen is that the two of those gentlemen saw the fire at about 6 p.m.?-- Yes.

I am not being critical; I am trying to get the actual facts. So that, accepting that information as being correct, those two gentlemen saw the fire at about 6 p.m. Have you got any information, be it second-hand, third-hand, or tenth-hand, to suggest that anybody saw a fire in any relevant situation prior to 6 p.m.?-- Not one piece of evidence.

I was going to ask you this: at the time you came on the scene, can you conceive of anything more that could have been done to contain the fire - contain it or put it out?-- We must be careful that we don't speak with hindsight on these matters, but on the amount of effort and energy and thought which was going into that fire, nothing could have been done under the circumstances of a quick call out on a Sunday night. Fire acceleration, we must remember, was more rapid than could have been anticipated.

I appreciate - and far be it from me to be critical - the spread, or the speed of the spread, or the extent of the spread that did occur was not appreciated at the time; no one expected it to be as bad as it was?-- Apparently not.

With hindsight - and this is not being critical of anyone involved - can you suggest anything that might be done in similar circumstances in the future?-- Yes. There are a lot of things in hindsight that can be suggested. Number 1 is that immediate patrolling of all of these areas must be carried out by a responsible official to check the condition with the onset of a fan, remembering that on this particular Sunday we did not have the influence of the ventilating currents in this mine from 5.30 a.m. until 4.35 p.m. In other words, the S.E.A. in their wisdom had cut the power to Box Flat, and therefore, of course, the ventilator and the fan was out for 11 hours. There is another matter.

May I interrupt you for just a moment? In relation to that, had any productive work - production of coal - been going on in that mine since midnight on the night of 29/30th?-- Not to my knowledge at all. There was maintenance work that I was informed of performed in that particular area with which we are dealing during the night of 28/29th - the night/morning - from 11 p.m. till 3 a.m.

The 28th?-- 28/29th - Friday night/Saturday morning - dogwatch.

What is your source of information in relation to that?-- I have spoken to various people concerned with that particular work with the exception, of course, of the late Mr. Rasmussen and, of course, Mr. Drysdale.

I do not want you to go through all of them, as you obviously did not get information from those gentlemen. From whom did you get your information?-- Initially, the manager, that work had been performed there.

The manager being?-- Mr. Lawrie; and then from personal contact with deputy Bill Abraham, who was the deputy in charge of that particular job; miners Alan Truloff, John Lambert, and Jim Setch, who had been involved in that work.

On the night, as far as you are aware, of 28/29th?-- Told to me by all of those people as being the same time - the dogwatch.

They would be on one shift, or two shifts?-- This is on one shift, passing over midnight.

Correct me if I am wrong, but in the light of what was said, is it a fact that you have no information to suggest that miners worked where you believe the fire to have taken place on the 29th?-- 3 a.m., they finished.

And from 3 a.m. onwards up to the time of the fire have you any evidence which suggests that further work was done in that area?-- We have no evidence to suggest that any person visited that area between 3 a.m. on the 29th and 6 p.m. on the 30th.

The power was out from about 6 a.m.?-- 5.30 a.m. on the 30th.

As far as you are aware, it was available for ventilation purposes up till that time?-- At 5.30 it ceased, on the information that I was given.

Do you know if people were forewarned about the power going off?-- I believe that Box Flat was informed that power would be off during those hours, or approximately so.

Is your suggestion, without hindsight, that even when power is cut off, regular patrols should be kept up? Is that the idea?-- Not with the power off and with no ventilation. My suggestion is that immediately after fans start where auxiliary power is not available to keep the fans running, that immediate patrol would be made of those areas to ensure that conditions are O.K. within the mine area.

That is as soon as the power and ventilation comes back on?-- Yes.

I gather from what you have said that that apparently was done?-- No. You have misunderstood me.

Was not power off till 6 p.m.?-- Power came back at 4.30 and the fan was started at 4.35.

At all events, your information suggests that Mr. Lawrie and Mr. Rasmussen were patrolling this area-----?-- No. This visit by Mr. Lawrie of the mine at the onset of power at 4.30 and starting of the fans at 4.35 was just the action of a responsible officer who could have delegated that power, but who chose to do it himself by going to the mine on the Sunday afternoon, seeing the fan started, and attempting to ensure then that conditions at his mine were correct for the starting of the shift which was back in that evening.

Am I not right in thinking that your conclusion is that Mr. Rasmussen and Mr. Lawrie personally observed this fire at about 6 p.m.?-- Yes, they did.

All I am suggesting to you is this: they, in effect, the power having been restored at 4.30, the fan having been started at 4.35, Mr. Lawrie and Mr. Rasmussen could not be in every part of the mine a minute afterwards, so they apparently patrolled the mine shortly after the ventilation was started?-- The fact of the case is that the suggestion made towards patrolling was as routine patrolling, whereas the inspection by Mr. Lawrie and Mr. Rasmussen was a matter for investigating something which they did deem to require investigation; not as a routine matter, but as a matter of some small, at least, emergency.

Fair enough. In the circumstances, whether it was routine, laid down, or whether it was something taken upon themselves by

responsible officers, in fact a patrol was made fairly soon after the ventilation was re-started?-- In fact, yes - an hour and a half.

That is that point. Another suggestion you were going to make with hindsight?-- Was that an auxiliary form of power should be made available to render continuity of the ventilating currents around the mine, remembering that under our Mines Act management is not required to run their fan 24 hours a day unless so decreed by the inspector in the event of some circumstance within the mine making it necessary that such should occur. In this particular case-----

THE WARDEN: This witness is a witness; I do not know that we want this statement on the provisions of the Mining Act.

MR. GIVEN: No. My only purpose in asking this question is for suggestions as to the - it might be better to leave it.

BY MR. GIVEN: Your suggestion is that an auxiliary plant to run your fan when outside plant is not available-----?-- It forms another safety factor.

That is two. Any other suggestions you have got to make? You may care to make them without going into detail?-- The provision of non-flammable doors and stoppings between intake and return; possible provision of bulkhead-type stoppings, openable and closeable in the event of emergency, to contain a fire, and re-circuiting air.

Operated----?-- Within the mine.

By power?-- No; operated manually.

Anything else as a possibility?-- Nothing further.

Finally, there is clear evidence that there was a fire. Have you any evidence - be it firsthand, secondhand, or tenth hand - as to how the fire actually started?-- I only have an opinion based on the evidence which I have received from the persons first seeing that fire and my own sighting at a later date - at a later time.

It maybe of assistance?-- The evidence I received and which I observed was that a fire had commenced in the No. 2 south belt road of No. 5 tunnel. I did in fact see that locality at which fire did start. It was described to me as being this four to six feet of glow placed in by from the main return corner approximately 20 feet. A glow occurred around about 2ft. 6ins. above the floor level in a large elongated heap of rib spalled coal.

I think you have described the heap of coal. I think you described that previously?-- No, I haven't.

Carry on then?-- The stopping and sealing the No. 2 south belt road, a worked-out section, was approximately 40 feet in by of the return corner. This fire was reported mid-way between that corner and the seal. From the other evidence I received from the maintenance crew of the previous night, the lower road and the No. 2 south belt road were sweet, cool, and free of any fume or smell. There were some incidents of warmth on the seal over the top or rise side road, and a temperature around that which was such that induced one workman to strip his overalls off and work in his shorts and singlet. Therefore, since from our readings we do know that the perfect condition for spontaneous heating is in cracked and lumped heap coal and sprinkled over pretty well with accumulated fine dust in an atmosphere which is deprived largely of much air, then we did in fact have that condition prevailing within that area at which Mr. Lawrie found that initial heating. It is my opinion that since we had no previous evidence of heat or fume in that particular road, that we did have an inherent raised temperature in the bottom of that heap cooled by the circulating continuous air current of the fan and not alight, because in the presence of plenty of air this heating did not develop out through in the absence of the fan for 11 hours. The evidence I received from Mr. Lawrie was that he perceived a very faint kerosene or paraffin smell at the evassee, which was so faint that on checking this evidence neither Mr. Kingston nor Mr. Marshall or Mr. Rasmussen were capable of picking it up with their nose, and this was the circumstance which he told me

Which Mr. ----?-- Lawrie; was about to investigate. We do know from our readings that it is possible under such conditions to perhaps have this smell of paraffin or kerosene under conditions which are around about, say, 100 degrees centigrade. During our 10 hours of no fan and virtually no air, remembering that the entire natural draught through that mine would total some 60,000; so then if you follow the deductions on the scaleage of this mine, around about 10,000 cubic feet per minute travel that return fan at that point 20 feet in by of the corner, there would be little or no air getting to that point. Therefore the opportunity to raise that temperature to that of 150 to 175 to 180 degrees centigrade was there, particularly when the draught of the fan was set to it at 4.35, and whereby approximately 50,000 cubic feet per minute was caused to course the south return of the No. 5 tunnel inducing a flue-like draught to that, which would produce a heating in

the first instance and develop it to a conflagration which was a glow at 6 o'clock and a complete conflagration by half past 7, 8 o'clock, under the induction of this fan.

On the basis of the evidence you have been given, that is----?-- It is my opinion.

It is at least a possibility?-- It is my opinion; nothing more.

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I think you were asked for certain reports?-- The mine record book. Now, is there anything you want to ask me from those, because there are dozens of them?

MR. GIVEN: I might leave that to my learned friends because they seem to be the ones who wanted it.

WITNESS: These are public documents available to all mines.

MR. GIVEN: I have no further questions.

THE WARDEN: Do you feel disposed to start now, Mr. Derrington?

MR. DERRINGTON: I do not mind. I am at your disposal.

MR. CALLINAN: It would be convenient for me if you were disposed to adjourn shortly.

THE WARDEN: We will probably know tomorrow how we are going with the Inquiry.

MR. DERRINGTON: Might I have the opportunity of asking a couple of questions now? They will not take very long, and it will assist me in my preparation tonight. I can confine it to one or two questions.

THE WARDEN: Very well.

CROSS-EXAMINATION:

BY MR. DERRINGTON: In your opinion were these explosions coal-dust explosions?-- In my opinion they were, but that is only an opinion and it has to be supported by scientific fact before it is conclusive.

You have taken statements from many witnesses?-- Yes.

And you were present at the time?-- Yes.

And you have seen the ferocity of the explosion?-- Yes.

There really is no doubt in your mind that at least the major explosions heard were coal-dust explosions?-- Subject to evidence to the contrary, I believe that they were coal-dust explosions, or coal dust did take part in those explosions that occurred.

Now will you answer the question. There is no doubt in your mind whatever that the major explosions were coal-dust explosions, is there?-- No, there is no doubt in my mind that that was so.

MR. DERRINGTON: That will save a lot of preparation overnight.

THE WARDEN: We will adjourn now and resume at 10 a.m. tomorrow.

The Inquiry adjourned at 4.28 p.m. till 10 a.m. the following day.